

**NEW ISSUE**

# **Mineral Account, Australia, 1996**

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## PREFACE . . . . .

The Mineral Account for Australia is one of a series of ABS publications reporting on estimates of Australia's naturally occurring resources, in quantity terms. It presents a set of accounts for Australia's mineral and petroleum resources. These accounts form a major component of a broader project being undertaken by the ABS, that of environmental accounts.

Environmental accounts are important for a number of reasons. They can track the use of materials through the economy (as presented in the Mineral Account). They can also describe the release of wastes or pollutants resulting from the economic activity using the resources. Work is in progress to track this flow in the form of a waste and residuals account and will be published when available. The resulting information system of environmental accounts linked to economic accounts can be used to derive indicators, which are used to address a wide range of policy questions relating to sustainable development.

Many individuals and organisations provided data for inclusion in this publication. The use of their published and unpublished material is specifically acknowledged at their point of use and in the reference list.

The ABS is also indebted to many people who willingly provided their time to referee the draft manuscript, and for their efforts in extracting data according to ABS specifications. Special thanks to Mike Huleatt, Minerals and Energy Branch of the Bureau of Resource Sciences (BRS). Thanks are also extended to the Minerals and Energy Branch, and the Petroleum Branch of the BRS.

In Australia, environmental accounting is still a relatively new endeavour. Suggestions and comments on this ABS publication, or environmental accounting in general, would be greatly appreciated and should be sent to the Director, Environment and Energy Statistics Section, Australian Bureau of Statistics, PO Box 10, Belconnen, ACT 2616.

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Australian Statistician  
March 1998



## BACKGROUND

To fully assess the sustainability of economic activities and economic growth, account should be made of environmental impacts and the depletion and degradation of natural resources. For this purpose, an information system which links the measurement of human activities to changes in the environment and the resource base is required. The environmental accounts are an attempt to provide important elements of such an information system.

To do this, there is a need to align environmental accounts and indicators with the System of National Accounts (SNA). Environmental accounts can be incorporated in a satellite account format to present an integrated economic and environmental accounts (United Nations 1993).

The specific environmental considerations included in the satellite accounts of the SNA are:

- i) depletion of natural assets;
- ii) expenditure on environmental protection and repair; and
- iii) degradation of the environment.

The Australian Bureau of Statistics (ABS) has already undertaken some work which provides a useful starting point for the development of environmental accounts, namely:

- balance sheets have been published for a select range of resources, in conformity with principles of the SNA. These estimates are presented in *Australian National Accounts: National Balance Sheet* (Cat. no. 5241.0). The Mineral Account stock estimates have been used as the basis for the valuation of subsoil assets in the 1998 national balance sheets;
- some data have been collected and published relating to expenditures on protecting the environment. The results are contained in *Environment Protection Expenditure* (Cat. no. 4603.0); and
- *Energy Accounts for Australia* (Cat. no. 4604.0) provides information on major energy forms used in Australia and describes various aspects of energy resource use, including production, conversion and consumption.

This year the ABS plans to publish three accounts from the environment accounts series: the Mineral Account; the Fish Account; and the next issue of the Environment Protection Expenditure Account. The Mineral Account for Australia is the first of a series of ABS publications reporting on estimates of Australia's naturally occurring mineral and petroleum resources, in quantity terms. It is a physical account and does not address issues related to economic valuation.

Physical resource accounts (stocks and flows expressed in physical units) track the use of material through the economy and can cover the release of wastes or pollutants resulting from the economic activity using the resources. Work is in progress to produce a set of waste accounts to track these flows. Physical accounts typically embody considerable sectoral and industry detail and often are explicitly linked to the Input-Output tables, a part of the SNA.

BACKGROUND *continued*

The resulting information system of environmental accounts linked to economic accounts, and the indicators derived from the information base, will be applicable to a wide range of policy questions relating to sustainable development. These accounts will also provide a substantial response to national and international recommendations such as those contained in the Ecologically Sustainable Development (ESD) Strategy and 'Agenda 21'. 'Agenda 21' is the action document which emerged from the United Nations Conference on Environment and Development (UNCED) in June 1992.

## FRAMEWORK

This work follows the guidelines in the United Nations, System for *Integrated Environmental and Economic Accounting* (SEEA), a complement to the *System of National Accounts 1993* (SNA93).

The ABS is using SEEA as the basis for the environmental accounts presented in the Mineral Account. SEEA demonstrates an account as starting with an opening stock level, ending with a closing stock level, and presents quantified reasons for the change between the two levels, for example production changes.

The ABS refers to two tables as the core components of an environmental account — the stock table and the flow table. Ideally, production estimates would provide a linkage between the stock and flow tables such that a clear relationship can be observed between the resource and its end-use. However, in this first attempt at compiling a set of physical accounts, this linkage has not been made in this edition. Instead, the stock table (chapter 2), and the flow table (chapter 3) are presented independently. Methodological problems and inconsistencies in data sources for stocks and flows are discussed below. Further detail is provided in the Explanatory Notes at the end of the publication.

## CHAPTER 2

Chapter 2 presents the stock table. A stock table shows the level or amount of a resource at a point in time. The stock table presented in the Mineral Account provides resource estimates for the calendar years 1985 to 1996. The Bureau of Resource Sciences (BRS) was the principal data source.

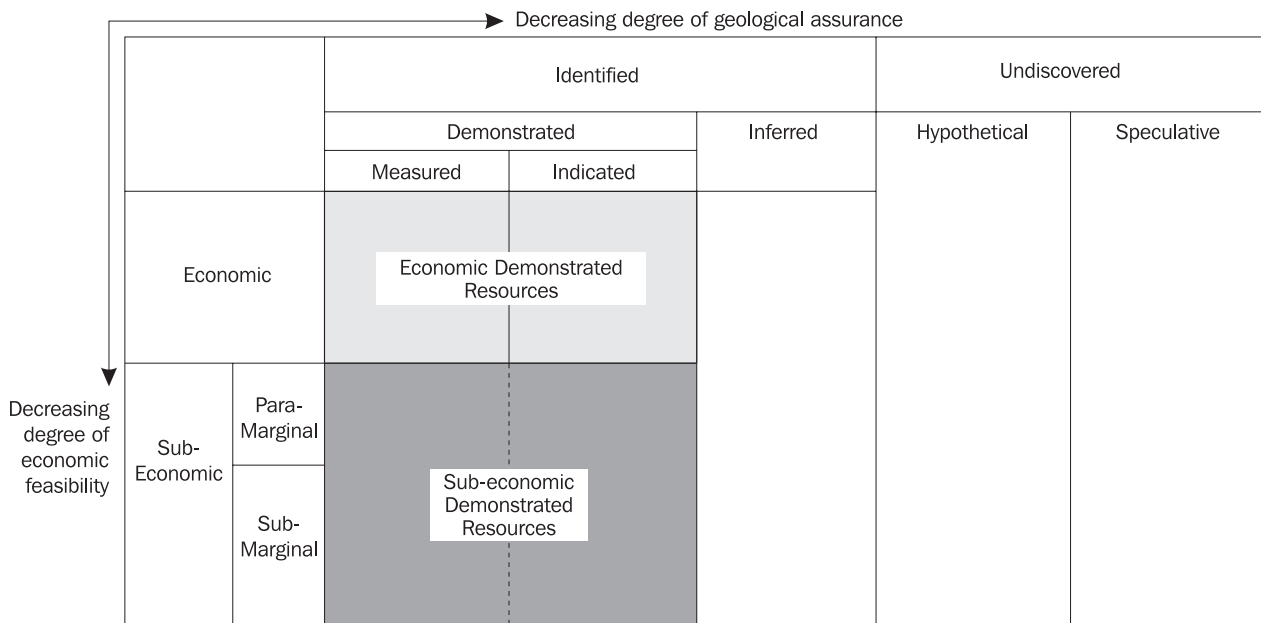
## McKelvey Box

The Bureau of Resource Sciences (BRS) uses an adapted McKelvey Box (diagram 1.1) as the foundation for resource classification. The McKelvey Box (BMR 1984 in ABS 1997)

'...illustrates the classification of mineral reserves and resources. This box cross-classifies subsoil assets according to two characteristics: the degree of geological assurance; and the degree of economic feasibility of reserves. The degree of geological assurance categorises resources as identified (measured, indicated or inferred) or undiscovered. The classification of a particular commodity may change from an undiscovered to identified (discovered) resource as a result of exploration and development, and/or technological improvements. The degree of economic feasibility splits subsoil assets into economic and sub-economic resources according to current economic and technological conditions.'



### 1.1 McKelvey Box as adapted by the BRS



Source: Bureau of Resource Sciences

#### Resource category definitions

Economically exploitable deposits are those that the BRS define as *economic demonstrated resources* (EDR). EDR refers to those resources with a very high degree of geological assurance and for which extraction is expected to be profitable at the price and technology prevailing at the time the assessment was undertaken.

Known mineral assets that are not economically exploitable are known as *sub-economic demonstrated resources* (SDR). SDR refers to those resources with a very high degree of geological assurance but for which extraction is not expected to be profitable over the life of the mine due to high production costs relative to the prevailing commodity price.

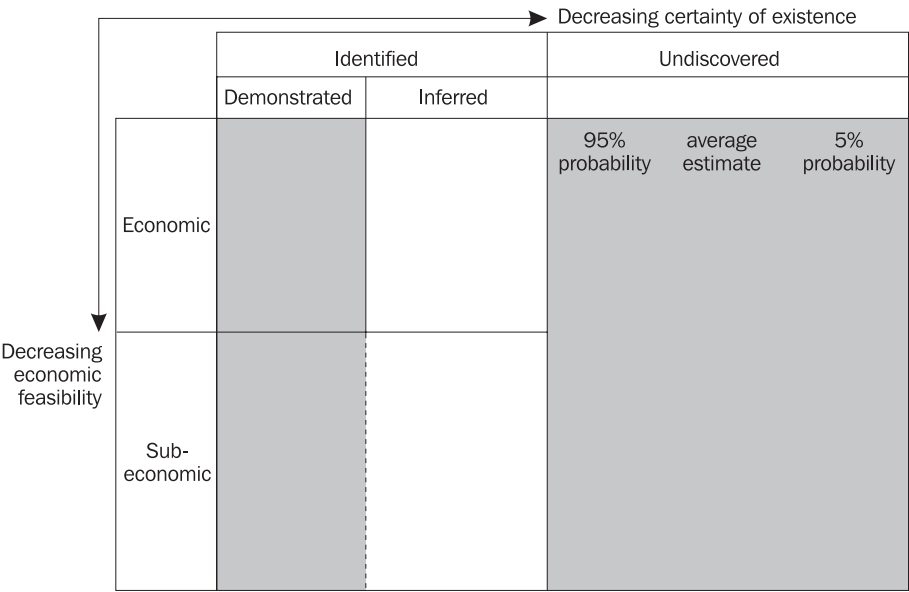
*Inferred resources* (IFR) are (BMR 1984):

'...(r)esources for which quantitative estimates are based largely on broad knowledge of the geological character of the deposit and for which there are few, if any, samples or measurements. The estimates are based on an assumed continuity or repetition, of which there is geological evidence. This evidence may include comparisons with deposits of similar type. Bodies that are completely concealed may be included if there is specific geological evidence of their presence.'

#### Undiscovered resources

The petroleum commodity estimates presented in the Mineral Account are explained using the categories of EDR, SDR and undiscovered resources. The category of *inferred* is not used in reference to petroleum resources (see diagram 1.2). Inferred relates to known resources that have a low degree of geological assurance of their existence. Undiscovered resources refer to what may be discovered in an area, independent of there being a known accumulation of the resource. As undiscovered resources have a lower geological assurance, they are presented with an associated probability (see page 66).

1.2 McKelvey Box as adapted for petroleum resources



Source: Bureau of Resource Sciences

Other volume change

Chapter 2 includes other volume change (OVC) estimates for the calendar years 1994 to 1996. An OVC table provides the detailed quantified reasons for resource change through time. This change is then disaggregated into categories. Different categories are used to describe the reasons for change for mineral and petroleum resources, reflecting the different data sources used to derive these resource estimates. Mineral resource OVC is disaggregated into six categories: production; discoveries; reclassification for technical reasons; reclassification for economic reasons; industry revision; and other changes not elsewhere classified (n.e.c.). Petroleum OVC (both identified and undiscovered resources) are disaggregated into seven categories: production; reclassification for technical reasons; reclassification for economic reasons; changes in methodology; changes in geological knowledge; political changes; and other changes n.e.c. Definitions of the OVC categories are included in the appendix.

CHAPTER 3

Chapter 3 presents the flow table. These estimates were compiled from ABS and supplementary data sources. They relate to the 1992–93 and 1993–94 financial years. A flow table shows the movement of resources from extraction through to productive use. The flow table shows the industries that consume commodities and commodity end-users (referred to as final demand in the flow table).

Compilation

The flow table has been compiled using the Input–Output commodity classification. The flow table contains information on selected input-output commodities. Ideally, the link between the stock and the flow table would be made through the production estimates. In this first issue of the Mineral Account, the tables have not been linked, for a number of reasons: the stock table was derived using calendar year data and the flow table was derived using financial year data; the flow table disaggregation is based on Input–Output tables and at the time of publishing the 1994–95 Input–Output table was unavailable); and obtaining OVC data prior to 1994 was not plausible due to its highly subjective nature.

## CHAPTER 2

## THE STOCK TABLE.....

### INTRODUCTION

This chapter provides details of Australia's mineral and petroleum resources for the years 1985 to 1996. The ABS has adopted the concepts and the classification system used by the BRS in its data compilation.

In the case of minerals, data are presented for twenty-nine commodities, divided into the categories of demonstrated resources and inferred resources (IFR). A detailed description of these resource categories and definitions are provided in chapter 1 and in the appendix.

For petroleum, demonstrated resources are presented for oil, condensate, liquid petroleum gas (LPG) and gas. Following these are data for undiscovered petroleum. Undiscovered petroleum resources are those which have not yet been definitely identified by drilling or recovery at the surface, but instead are quantitative estimates of what might be recoverable (BRS 1997a, p. 1).

### CHANGE IN MINERAL RESOURCES

The level of a mineral resource is subject to a number of variables. Exploration may add to the resource while production diminishes it. Changes in the prices of a commodity may cause a resource to move between the economic or subeconomic categories. New technologies, or better use of existing technologies, can elevate a resource to EDR status. Responses to changed economic conditions may include remodelling of the ore body by, for example, varying the cut-off grade. The availability of extra information about a resource can also lead to adjustments in the figures. If a commodity is found in a multi-element deposit, its resource position may change as a result of the movement of another commodity in the same deposit.

Some reassessments of resources have occurred due to stricter standards of reporting. In 1989, the Joint Ore Reserves Committee (JORC) introduced the *Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves*. The Code was updated in 1992 and 1996 and is currently under review. One consequence of the introduction of the Code was a conservative reassessment of resources and reserves by some mining companies. In some cases, it may have resulted in resources previously listed as demonstrated being reclassified as inferred. In rare cases, a previously demonstrated or inferred resource may no longer be considered an identified resource.

Several State Governments have made efforts to encourage mineral and petroleum exploration. In Victoria, the Government has made comprehensive data available to potential investors and administrative processes have been changed to facilitate approvals for projects. Since the program began in 1994, minerals exploration in Victoria has risen more than 300% in the period to the end of June 1997 (AJM September 1997, p. 38). Other States involved in exploration initiatives for minerals and petroleum are New South Wales, South Australia and Tasmania.

CHANGE IN MINERAL RESOURCES *continued*

Table 2.1 presents a summary for demonstrated resources of average annual rates of change, for each of the minerals discussed in this chapter, up to 1996. Demonstrated resources are the sum of EDR and SDR, i.e. those resources with a high geological assurance. Average annual rate of change for gold was consistently high, with a 15.4% increase between 1985–90, and a 10.7% increase for 1990–96. Most other minerals recorded fluctuations between these two periods.

Antimony, cobalt and copper recorded relatively high average annual rates of change for 1990–96 (18.2%, 11.6% and 9.0% respectively), after virtually no change for the period 1985–90. In contrast, demonstrated resource levels for a number of minerals (namely vanadium, and the mineral sands ilmenite, rutile and zircon) experiencing high average annual rates of change for 1985–90, slowed considerably in the period 1990–96.

**2.1 MINERALS, Demonstrated Resources**

	AVERAGE ANNUAL RATE OF CHANGE	
	1985–90(a)	1990–96(a)
	%	%
Base metals		
Zinc	3.3	1.1
Lead	2.4	–0.1
Copper	1.5	14.9
Nickel	–1.4	7.7
Cobalt	–0.2	15.1
Antimony	–1.3	79.6
Cadmium	0.6	4.2
Tin	1.4	0.3
Tungsten	–1.6	–11.1
Precious metals		
Gold	19.5	12.8
Silver	–0.1	5.7
Platinum group metals (1990–96)	n.a.	3.8
Diamond		
Gem and near gem	4.8	9.5
Industrial	6.8	4.4
Metallic minerals		
Iron ore	0.0	2.3
Bauxite	9.8	0.8
Magnesite (1993–96)	n.a.	–9.3
Manganese ore	–6.5	–5.9
Vanadium (1986–96)	0.1	0.2
Mineral sands		
Ilmenite	31.7	4.6
Rutile	48.2	2.8
Zircon	29.0	2.4
Other minerals		
Lithium (1987–96)	–47.3	10.4
Tantalum (1987–96)	0.0	–2.4
Phosphate	–0.4	6.8
Rare earth oxides (1990–96)	n.a.	33.9
Energy minerals		
Black coal (recoverable)	10.8	–0.2
Brown coal (recoverable)	0.1	–0.2
Uranium	0.3	5.9

(a) Unless otherwise stated.

Source: BRS data derivation from consultancy service

CHANGE IN MINERAL RESOURCES *continued*

The following discussion relates to the calendar years from 1985 to 1996, unless otherwise stated. The various metals are grouped according to similarities in their properties or occurrence. Detailed statistics are presented in tables 2.2 through to table 2.34 at the end of the discussion.

## Base metals

## ZINC

Movements in EDR and SDR between 1985 and 1988 were due to a combination of resource reassessment, production and discoveries. In 1989, one Queensland company's reassessment of its position was responsible for most of the movement. SDR and IFR rose in 1990 due to reclassification and discoveries in Queensland. Production and reclassification reduced the EDR in 1991 and 1992, while further exploration resulted in upgrading of IFR to SDR. A reclassification of resources in 1993 accounted for the significant increase in EDR in this year. The major deposits involved were McArthur River in the Northern Territory and Hilton mine in Queensland (BRS 1994, p. 7). In 1994, EDR rose due to discoveries in Queensland, which were partially offset by reclassification at other deposits. Between 1985 and 1988, IFR increased due to discoveries. Reclassification and discoveries in Queensland in 1995 added to IFR. The slight fall in IFR in 1996 resulted from continuing assessment and reclassification. (See tables 2.3, 3.32.)

## LEAD

Between 1985 and 1988, increases in SDR and IFR resulted from the reclassification of resources and discovery of additional resources. Movement in EDR over the same period was due to the combined effect of production, discovery and reclassification of known resources. The substantial reduction in EDR in 1989 resulted from a major downgrading of resources by companies at some major base metal deposits. From 1990 to 1992, EDR fell with reclassification and production, while successful exploration at known deposits, and the discovery of some minor new deposits, increased IFR. A major reassessment of resources by the BRS in 1993 resulted in a substantial upgrading of SDR into the EDR category. The major deposits involved were McArthur River in the Northern Territory and Hilton mine in Queensland (BRS 1994, p. 7). The increase in IFR was due to discovery of additional resources. Discovery of new resources increased IFR in 1995 (Queensland) and 1996 (Western Australia). (See tables 2.3, 2.15.)

## COPPER

In 1989, BRS reclassified a substantial resource from EDR to SDR. The increase in EDR in 1993 was caused by an upgrading of resource levels, mainly at Olympic Dam in South Australia (BRS 1994, p. 4). There was also some reclassification of resources from IFR to SDR. Between 1993 and 1996, movements in all categories resulted from a combination of production, discoveries and reclassification. (See tables 2.3, 2.10.)

Base metals *continued*

## NICKEL

Nickel experienced considerable activity from 1985 to 1996. EDR and IFR rose for most of the period. From 1985 to 1989, slight movements in resources were largely a result of production and price fluctuations. Increases in EDR in 1990 and 1991 were due to reclassification by the BRS of resources at some Western Australian deposits. Between 1992 and 1995 there was a general rise in resources resulting from successful exploration delineating new resources, and some resource reclassification. Further discoveries at several Western Australian deposits in 1996 added to EDR and IFR, and EDR was further increased by the upgrading of some SDR. (See tables 2.3, 2.22.)

## COBALT

Cobalt occurs in mineral deposits with nickel and is produced as a by-product. In 1990, reassessment of nickel sulphide resources resulted in the changes to resources categories. EDR had been falling to that point due to mining at the Greenvale deposit (BRS 1994, p. 3). From 1990 to 1993, some EDR was transferred to SDR and the Greenvale deposit was exhausted (BRS 1994, p. 13). In 1994, discoveries in New South Wales contributed substantially to SDR. Changes to the level of cobalt resources in 1995 and 1996 came mainly from lateritic nickel deposits and reflect changes to nickel resources for those years (see Nickel). (See tables 2.3, 2.9.)

## ANTIMONY AND CADMIUM

Antimony and cadmium have important industrial uses but can be 'penalty elements' in lead and zinc processing, in the sense that their removal is an added cost in smelting. Thus, for commercial reasons, public reporting of antimony and cadmium resources does not occur for many base metal deposits. However, the BRS has access to sufficient data to enable assessments of Australia's antimony and cadmium resources. As well as being a minor element in base metal deposits, some antimony is mined as the major element in antimony or antimony-gold deposits.

## ANTIMONY

Antimony occurs in both base metals and antimony or antimony-gold deposits. In 1987, the large increase in IFR was due largely to reclassification based on new information. In 1989, extra information and the introduction of the JORC Code caused some resources to be dropped out of scope. Otherwise, movements in antimony from 1985 to 1990 generally followed those of base metals. The inclusion of a new base metal deposit, and new data from another deposit, saw a general rise across resource categories in 1991. There was considerable upgrading of IFR to demonstrated resources in 1992. At the same time, new IFR were included. In 1993, the BRS revised some SDR to EDR. New information from one deposit contributed significantly to the fall in demonstrated resources in 1994. Reassessment by the BRS also contributed. IFR rose the same year when two deposits were reassessed. Demonstrated resources rose in 1995, with new resources being discovered at a number of deposits. New deposits and reclassification led to an increase in IFR also. In 1996, some IFR moved out of scope and some moved to demonstrated resources. EDR fell because increased resources at two deposits were more than offset by a combination of production and downgrading of other deposits. (See tables 2.3, 2.4.)

Base metals *continued*

## CADMIUM

Cadmium movements also reflect changes in base metals. Falls in EDR and IFR in 1989 and 1990 may have reflected the introduction of the JORC. 1991 movements are linked to base metal movements generally. In 1992, the BRS applied a different base grade of cadmium to its calculations, causing a general fall across resource categories. The BRS also made revisions to the 1993 figures, and further refined its parameters for the 1994 figures. New resource data became available in 1995 and 1996, most of it being classified as EDR. Base metal trends also influenced cadmium movements in these last two years. (See tables 2.3, 2.8.)

## TIN

Between 1985 and 1987, the closure of a mine caused a shift of some resources from EDR to SDR. Some IFR were also upgraded to SDR. The major switch from EDR to SDR in Western Australia in 1987 was due to reclassification. In 1988, a reclassification and a price change shifted resources back to EDR. From 1989 to 1992, market forces led to a downgrading of EDR to SDR. In 1993 and 1994, assessment of deposits at Rendeep and Renison in Tasmania led to an increase in EDR (BRS 1995, p. 22). In 1995, some demonstrated resources dropped out of scope (BRS 1996, p. 19). The EDR for 1996 were affected slightly by production at Renison and, more significantly, by reclassification to SDR at some smaller deposits (BRS 1997b, pp. 16–17). There was also some movement from IFR to SDR in deposits in Tasmania and Queensland. (See tables 2.3, 2.28.)

## TUNGSTEN

Movements between 1985 and 1992 were mainly related to depressed world prices for tungsten (BRS 1995, p. 27). Although there were mine closures during this period, some exploration continued and resulted in increased IFR. In 1993, there was a reduction in IFR due to some reclassification into the demonstrated category, as well as some resources falling below the reporting criteria for IFR. However, the effects of this were largely reversed in 1995 as SDR were downgraded to IFR. (See tables 2.3, 2.29.)

## Precious metals

## GOLD

Gold experienced steady, successful exploration over the period, supported by reasonably stable prices. Production was strong and increasing, but was more than offset by discoveries. Fluctuations in SDR over the period resulted from the combined effects of reclassification to EDR and additions to SDR by discoveries. In 1987, there was an upgrading from IFR to EDR. In 1993, there were additions to IFR from exploration, but this was more than offset by the upgrading of IFR to EDR and SDR. Higher gold prices, and the flowthrough from successful exploration, increased EDR further in 1994 (BRS 1995, p. 16). In 1995, EDR rose again due to exploration (BRS 1996, p. 11). (See tables 2.3, 2.13.)

It was reported in the *Australian Financial Review* (AFR) on 4 July 1997, the Reserve Bank of Australia sold two-thirds of its reserves of gold, 167 tonnes. The bank has a remaining reserve estimated at 80 tonnes. Gold has historically been held by individuals, companies and nations as a store of wealth. The following table displays estimates of hoarding which has occurred in Australia from 1986 to 1996.

## 2.2 IDENTIFIED GOLD BAR HOARDING

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	t	t	t	t	t	t	t	t	t	t	t
Bar hoarding(a)	0.1	0.1	0.1	0.1	0.2	0.9	1.2	1.1	1.2	1.0	1.1

(a) Identified

Source: Murray et al 1997

### SILVER

Between 1985 and 1988, overall resources increased slightly. Production was more than offset by discoveries with some reclassification occurring. 1989 saw the downgrading of resources at major base metal deposits. In 1993, following a reassessment of resources, there was a substantial upgrading of SDR to EDR. Discoveries led to an increase in IFR for 1993 as well. In 1994, a reclassification of IFR and SDR to EDR, and production, had the combined effect of causing a modest increase in EDR. Production, reclassification and discoveries combined to cause the movements in 1995 and 1996.

(See tables 2.3, 2.26.)

### PLATINUM GROUP METALS

Platinum group metals include platinum, palladium, osmium, iridium, rhodium and ruthenium. Between 1990 and 1992, EDR fell, due mainly to production, and SDR rose due to exploration and reassessments by companies. IFR increased in 1993 with the inclusion of newly defined resources. The bulk of the increase in SDR in 1994 resulted from the inclusion of resources in a new deposit in New South Wales. However, part of this resource was reclassified to IFR in 1995. (See tables 2.3, 2.24.)

### DIAMOND

All of Australia's diamonds are produced in the Kimberley region of Western Australia. The two broad categories of diamonds, 'gem and near gem', and 'industrial', are mined from the same deposits, and comments are applicable to both. Generally, the downward trend in EDR is due to production. EDR has also fallen due to increased mesh size on screens in the Argyle processing plant. This meant that less diamond was recovered with smaller stones falling through (BRS 1996, p. 10).

Prior to 1990, companies published only reserves data for the Argyle diamond mining operation and these were classified as EDR by the BRS. In 1990, more Argyle resources data were published. Interpretation of these data by the BRS led to the large increase in EDR. Reductions in EDR for 1992 and 1993 were made in response to technical clarification from the Argyle mine. Since 1993 EDR, SDR and IFR have fluctuated as a result of production, resource classification and delineation of new resources.

(See tables 2.3, 2.11, 2.12.)



## Metallic minerals

## IRON ORE

Almost all EDR iron ore resources are in the Hamersley Basin in Western Australia. Australia's iron ore resources remained relatively steady over the period 1985 to 1996. There were small movements due to a variety of factors, including discoveries and production. The main movement occurred in 1991, with a significant increase in EDR resulting from the reclassification of an IFR resource. (See tables 2.3, 2.14.)

## BAUXITE

Australia has some of the largest bauxite deposits in the world in terms of extractable alumina (BRS 1997b, p. 6). In 1988 and 1989, new resources were included in the EDR category. There was a decrease in EDR in 1992, when resources on Cape York Peninsula were reclassified to SDR (BRS 1993, p. 3). Minor adjustments in 1993 were mainly the result of additional information becoming available to the BRS. EDR increased in 1996 with successful exploration and the upgrading of some IFR to EDR. (See tables 2.3, 2.5.)

## MAGNESITE

Resource levels of industrial minerals, including magnesite, are affected by prices and companies' assessments of market requirements. Consequently, movements in magnesite resources reflect industry's perception of the state of the market for magnesite based products. In 1996, EDR fell due to reclassification of resources at the Kunwarara deposit (BRS 1997b, p. 13). (See tables 2.3, 2.17.)

## MANGANESE ORE

The reduction in EDR in 1986 was due to production and a major reassessment of resources by industry. In 1989, some of the reduction in EDR resulted from production. However, the bulk of the reduction, and the fall in IFR, were caused by a reassessment of some resources so that they were no longer considered resources. The fall in 1989 was reversed in 1990, due to successful exploration. The large reduction in SDR in 1993 was due to low grade manganiferous ores being made out of scope. However, successful exploration resulted in an increase in IFR in the same year. Movements in resources between 1994 and 1996 were due mainly to a combination of production and reclassification by the BRS. (See tables 2.3, 2.18.)

## VANADIUM

Resource assessments led to an increase in EDR in Tasmania in 1987. In 1987, an IFR of vanadium was removed from the resource stock in Queensland, but was reinstated in 1991 as additional information became available. The reduction in EDR from 1991 to 1994 was due to production at one deposit, and reclassification of some resources. In 1996, reductions in SDR and IFR were caused by reassessments by BRS on the basis of new data becoming available for two deposits. (See tables 2.3, 2.31.)

Future EDR estimates are expected to be affected due to the vanadium mine, Windimurra, located near Mount Magnet in Western Australia. This mine was given mining approval in November 1997. It is expected that within the next two years Windimurra will be producing vanadium pentoxide. A 30-year mine life is anticipated for Windimurra (Dixon 1997, p. 25).

## Mineral sands

As the different mineral sands commodities tend to be found together, similar resource trends are observed. Production occurred throughout the period. 1991 to 1994 was an active period in mineral sands exploration, with extension to resources at known deposits and addition of new deposits to the resource stock in Western Australia, Victoria and New South Wales. Nine percent of Australia's EDR of ilmenite, 23% of rutile and 16% of zircon are in national parks and cannot be mined (BRS 1994, p. 6). However, from an economic perspective they still meet the criteria for classification as EDR.

## ILMENITE

In 1988, deposits classified as EDR were included in the assessment for Western Australia and SDR rose with the discovery of extensive deposits in Victoria. In 1989, the increase in SDR resulted from the inclusion of a substantial resource in Queensland. There were also discoveries in Queensland in 1990. Movements in 1990 and 1991 were due to production, new resources in Western Australia, an extension of Victorian resources and reclassification of SDR to EDR in Queensland. A fall in IFR in 1996 occurred when a company removed resources from its inventory. (See tables 2.3, 2.19.)

## RUTILE

In 1988, deposits classified as EDR were included in the assessment for Western Australia. SDR also rose in 1988 following the discovery of extensive deposits in Victoria. The increase in SDR in 1989 resulted from the inclusion of a substantial resources in Queensland. The rise in SDR and IFR in 1990 were mostly due to successful exploration at the WIM deposit in Victoria. Successful exploration in Western Australia in the period 1991 to 1994 saw extension to resources at known deposits and addition of new deposits to the resource base. The upward trend for all categories between 1990 and 1996 included the effect of new deposits in New South Wales and Western Australia. (See tables 2.3, 2.20.)

## ZIRCON

In 1988, extensions of several known deposits, including WIM in Victoria and Cooljarloo in Western Australia, resulted in a general rise in resource categories. As with ilmenite and rutile, successful exploration led to rises in 1990, and the upward trend for 1990 to 1996 reflected new deposits. (See tables 2.3, 2.21.)

## Other minerals

## LITHIUM

Most changes to lithium resources occurred as new information became available to the BRS. In 1989, resources were reassessed on the basis of detailed information, with a resultant fall in EDR and rise in IFR. Similarly, change due to reassessment of resources in one deposit resulted in a further decline in EDR in 1990. The fall in EDR for 1995 was due to production (BRS 1996, p. 14). A significant rise in SDR for 1996 resulted from new information on lithium resources becoming available. (See tables 2.3, 2.16.)

Other minerals *continued*

## TANTALUM

Australia has the world's largest EDR of tantalum, all of it located in Western Australia. The largest resource is at the Greenbushes deposit in southwest Western Australia (BRS 1995, p. 21). In 1988, the increase in EDR and decrease in SDR reflected better prices, while the movement in IFR was due to resources in a new deposit in Western Australia. Changes between 1989 and 1996 generally reflect losses to production and publication of revised resource data for several deposits. (See tables 2.3, 2.27.)

## PHOSPHATE

The reduction in the estimate of resources by a company at a deposit in Western Australia led to a fall in SDR in 1987. This was more than reversed in 1991, when SDR in Western Australia rose. EDR and SDR increased in 1996, when new data became available for a Queensland deposit. (See tables 2.3, 2.23.)

## RARE EARTH OXIDES

In 1991, the SDR at a South Australian deposit were downgraded to IFR due to reassessment of available information. This was reversed in 1993 due to successful exploration, which also added new IFR and additional SDR. Also in 1993, there was an upgrade of SDR to EDR in Western Australia. (See tables 2.3, 2.25.)

## Energy minerals

## BLACK COAL

The major variation in EDR in 1987 resulted from an assessment of data published by the New South Wales Department of Mineral Resources, following its major review of the State's resources. The reduction in EDR in 1993 was the result of a comprehensive review of resources by the BRS (See tables 2.3, 2.6.)

## BROWN COAL

The only substantial movement was a reduction in IFR in 1991 as the result of a reassessment of available resource data. (See tables 2.3, 2.7.)

## URANIUM

Changes in EDR were mainly due to extension of known deposits. Changes due to production generally occurred in the Northern Territory. Changes due to resource assessment occurred across several States. Movements in 1987 and 1988 were due to new information at one deposit. Further additions to demonstrated resources were made at one deposit in 1993. Production caused the fall in EDR from 1988 to 1992. This was partially offset by additions to resources. Between 1993 and 1996, some IFR were upgraded to SDR. Discoveries were also made, but these were more than offset by production, causing a drop in EDR. Recent changes to the Commonwealth Government's uranium mining policy will allow more mines to be developed. (See tables 2.3, 2.30.)

## 2.3 MINERAL RESOURCES, Selected Minerals—Calendar year

Resource category	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
ZINC (Mt)												
EDR	21.2	25.1	24.0	26.3	18.9	17.9	16.9	15.0	37.6	42.6	38.8	39.9
SDR	31.8	33.1	33.9	26.3	35.5	43.7	57.4	57.9	34.5	25.4	24.9	24.3
IFR	10.0	10.7	11.5	18.0	9.4	18.6	9.9	11.3	13.5	12.7	22.4	20.8
LEAD (kt)												
EDR	14 449.0	15 749.0	15 550.0	15 796.0	11 503.0	10 728.0	10 031.0	8 885.0	19 371.0	19 716.0	18 249.0	18 669.0
SDR	15 501.0	15 407.0	19 790.0	19 211.0	25 689.0	22 487.0	24 700.0	26 302.0	14 770.0	13 579.0	13 678.0	14 314.0
IFR	4 310.0	6 015.0	6 530.0	7 587.0	2 185.0	6 679.0	11 610.0	11 696.0	16 795.0	14 891.0	17 963.0	21 502.0
COPPER (Mt)												
EDR	16.1	16.0	16.9	17.1	6.4	6.7	6.9	6.5	20.2	20.2	24.0	23.7
SDR	3.2	3.0	3.6	3.2	12.2	13.8	13.4	14.8	18.1	18.1	16.3	17.0
IFR	22.3	22.5	22.0	22.2	22.1	22.7	24.1	25.2	8.1	8.1	11.9	14.2
NICKEL (kt)												
EDR	1 651.0	1 135.0	1 100.0	1 040.0	1 100.0	2 978.0	3 390.0	2 729.0	2 885.0	2 879.0	3 732.0	6 370.0
SDR	6 710.0	6 593.0	6 900.0	6 740.0	6 800.0	4 793.0	4 760.0	5 800.0	5 395.0	5 841.0	6 407.0	5 580.0
IFR	1 750.0	1 808.0	1 800.0	1 840.0	1 950.0	2 020.0	1 876.0	1 273.0	2 989.0	2 901.0	4 389.0	6 620.0
COBALT (kt)												
EDR	32.6	21.5	21.8	21.2	18.5	84.6	79.6	52.6	51.7	51.7	274.0	414.1
SDR	296.5	302.5	297.9	297.9	297.8	240.8	242.0	271.3	288.2	370.0	329.8	302.0
IFR	5.5	7.4	12.8	12.8	12.8	35.3	35.3	35.9	97.8	135.7	228.2	491.9
ANTIMONY (kt)												
EDR	13.9	14.1	n.p.	n.p.	15.2	14.5	39.5	63.5	116.5	88.1	97.9	89.9
SDR	96.1	96.1	n.a.	n.a.	3.9	4.1	5.7	141.0	87.6	66.9	70.1	72.8
IFR	0.0	0.0	118.0	105.4	85.2	86.8	100.4	20.4	13.7	28.7	35.6	26.7
CADMIUM (kt)												
EDR	67.4	68.2	73.3	74.6	58.4	55.7	63.3	50.2	84.7	73.4	140.7	132.1
SDR	77.8	71.4	83.6	82.0	86.7	92.0	75.7	75.0	41.8	28.0	26.5	27.0
IFR	16.0	21.6	23.6	24.0	6.4	2.2	9.1	3.2	8.2	10.2	31.4	22.1
TIN (kt)												
EDR	262.5	249.0	184.9	202.4	191.4	167.9	165.5	99.7	123.3	159.0	136.2	119.5
SDR	75.1	93.1	140.5	106.4	56.4	167.1	151.0	206.4	216.7	214.7	189.0	214.5
IFR	704.6	666.7	688.3	683.3	657.5	642.9	641.5	641.5	419.1	345.7	344.5	308.2
TUNGSTEN (kt)												
EDR	75.7	56.1	36.5	36.5	18.5	5.4	5.1	1.1	1.1	1.0	1.0	0.9
SDR	140.7	152.1	184.0	184.2	186.8	193.1	195.3	199.1	201.3	203.1	62.1	62.1
IFR	115.5	115.9	116.4	116.0	118.5	127.7	130.4	130.5	81.6	81.8	180.1	180.1
GOLD (t)												
EDR	959.3	1 010.0	1 276.6	1 395.4	1 777.8	2 129.0	2 145.0	2 466.0	3 003.0	3 434.0	4 263.0	4 454.0
SDR	241.3	432.7	424.2	388.7	782.2	714.0	702.0	771.0	1 271.0	1 288.0	1 148.0	1 263.0
IFR	1 145.8	1 177.9	1 145.2	1 172.0	1 207.6	1 311.0	1 446.0	1 469.0	990.0	1 317.0	1 378.0	1 887.0

**2.3 MINERAL RESOURCES, Selected Minerals—Calendar year** *continued*

Resource category	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
SILVER (kt)												
EDR	30.5	32.5	32.8	33.7	21.8	20.7	19.2	17.0	33.6	44.6	41.5	43.3
SDR	20.4	21.9	23.9	20.2	33.0	29.7	34.2	44.2	20.1	20.4	20.9	24.4
IFR	14.6	14.7	14.7	17.3	8.6	12.6	13.0	13.0	31.9	18.4	26.1	23.2
PLATINUM GROUP METALS (t)												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	22.6	19.0	17.1	17.7	17.7	17.2	19.1
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	31.2	31.5	37.1	37.4	53.4	45.2	45.2
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	74.5	74.5	74.5	87.4	78.1	81.3	87.9
GEM AND NEAR GEM DIAMOND (Mc)												
EDR	187.2	173.5	160.0	192.7	179.0	223.0	186.0	162.0	147.0	130.0	101.0	85.0
SDR	0.0	15.4	2.0	2.5	0.0	0.6	211.0	205.0	150.0	148.0	157.0	223.0
IFR	47.0	47.0	38.0	0.6	7.0	0.3	28.0	42.0	9.0	9.0	41.0	35.0
INDUSTRIAL DIAMOND (Mc)												
EDR	228.8	212.0	196.4	188.7	214.0	298.0	228.0	209.0	189.0	168.0	128.0	90.0
SDR	0.0	0.3	4.0	4.0	0.0	0.6	258.0	250.0	186.0	183.0	196.0	240.0
IFR	38.0	38.0	47.0	47.0	6.0	1.0	40.0	52.0	26.0	27.0	70.0	51.0
IRON ORE (Mt)												
EDR	16 222.0	14 971.0	14 928.0	15 970.0	14 339.0	14 745.0	17 866.0	17 876.0	17 930.0	17 977.0	17 834.0	17 801.0
SDR	11 832.0	12 176.0	12 176.0	12 120.0	13 455.0	13 281.0	13 026.0	13 114.0	13 345.0	14 215.0	14 215.0	14 239.0
IFR	13 282.0	14 969.0	16 760.0	17 290.0	17 759.0	20 155.0	17 604.0	18 161.0	17 799.0	17 229.0	17 235.0	17 428.0
BAUXITE (Mt)												
EDR	2 889.0	2 854.0	2 825.0	3 205.0	5 543.0	5 622.0	6 354.0	2 379.0	2 582.0	2 538.0	2 540.0	3 024.0
SDR	2 376.0	2 376.0	2 376.0	2 376.0	2 376.0	2 376.0	1 805.0	5 230.0	5 303.0	5 303.0	5 245.0	5 329.0
IFR	1 390.0	1 390.0	1 390.0	2 000.0	1 500.0	1 500.0	2 310.0	2 393.0	2 134.0	2 134.0	2 134.0	1 598.0
MAGNESITE (Mt)												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	218.8	246.9	241.3	179.9
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	473.0	288.5	294.1	327.7
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	9.0	230.0	230.0	108.8
MANGANESE ORE (Mt)												
EDR	326.0	192.0	192.0	192.0	118.0	111.3	110.0	108.2	107.2	123.8	121.2	118.0
SDR	378.0	378.0	378.0	378.0	381.0	383.4	383.4	385.0	193.1	195.5	194.3	194.1
IFR	123.0	218.0	218.0	218.0	132.0	183.8	178.8	175.9	228.0	164.3	166.6	166.6
VANADIUM (kt)												
EDR	n.a.	11.3	46.0	46.0	46.0	46.0	24.3	24.3	19.4	15.0	15.0	15.0
SDR	n.a.	9 913.8	9 913.4	9 913.4	9 913.4	9 913.4	9 913.4	9 913.4	10 164.1	10 164.1	10 164.1	10 044.2
IFR	n.a.	2 235.0	2 318.8	2 318.8	2 318.8	2 318.8	2 314.3	2 314.3	2 282.3	2 282.3	2 282.3	2 263.0
MINERAL SANDS — Ilmenite (Mt)												
EDR	41.1	44.1	44.1	61.2	64.1	87.3	102.4	111.8	116.1	132.5	135.8	136.0
SDR	3.2	3.2	3.2	21.8	37.6	69.0	67.2	67.3	67.3	67.3	67.3	68.8
IFR	11.9	10.7	10.6	11.6	12.6	60.4	59.6	72.5	93.6	99.4	99.1	89.2

**2.3 MINERAL RESOURCES, Selected Minerals—Calendar year** *continued*

Resource category	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
MINERAL SANDS — Rutile (Mt)												
EDR	8.1	9.0	9.0	10.0	9.4	9.9	11.7	13.5	14.0	14.4	15.0	14.9
SDR	0.4	0.4	0.4	3.8	5.9	32.0	33.5	33.6	33.6	33.6	33.6	34.5
IFR	1.7	1.5	1.5	1.5	1.7	23.4	24.3	24.6	26.5	26.3	26.3	25.2
MINERAL SANDS — Zircon (Mt)												
EDR	11.6	12.9	12.9	15.7	15.2	19.8	19.3	20.3	20.9	21.0	22.5	21.4
SDR	1.1	1.1	1.1	6.4	8.6	20.5	24.2	24.5	24.4	24.4	24.4	25.1
IFR	2.4	2.0	2.0	2.2	2.4	18.6	19.1	18.8	21.3	20.9	20.9	20.8
LITHIUM (kt)												
EDR	n.a.	n.a.	568.4	568.4	359.1	150.0	160.1	160.1	160.0	159.0	152.0	166.0
SDR	n.a.	n.a.	2.6	2.6	2.6	2.0	2.6	2.6	3.0	3.0	3.0	82.0
IFR	n.a.	n.a.	0.0	0.0	76.2	76.2	7.0	7.0	7.0	7.0	7.0	7.0
TANTALUM (kt)												
EDR	n.a.	n.a.	0.2	11.4	11.4	8.0	6.0	5.9	6.3	6.2	6.2	8.1
SDR	n.a.	n.a.	17.0	2.8	3.2	8.7	6.6	6.6	6.1	6.1	5.6	5.7
IFR	n.a.	n.a.	0.0	62.4	62.4	63.0	65.7	65.7	65.1	65.1	65.1	64.8
PHOSPHATE (Mt)												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.0
SDR	2 045.0	2 045.0	2 005.0	2 005.0	2 005.0	2 005.0	2 095.0	2 095.0	2 095.0	2 095.0	2 095.0	2 758.0
IFR	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0
RARE EARTH OXIDES (kt)												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	333.0	354.0	361.0	1 010.0	1 001.0	1 021.0	956.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	6 830.0	4 082.0	4 072.0	14 120.0	14 039.0	14 039.0	14 220.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	1 608.0	3 878.0	3 876.0	3 990.0	4 018.0	4 036.0	4 248.0
BLACK COAL (Recoverable) (Mt)												
EDR	33 990.0	34 110.0	49 540.0	50 523.0	50 776.0	51 125.0	51 409.0	51 687.0	49 379.0	49 276.0	49 313.0	49 192.0
SDR	1 330.0	350.0	2 030.0	1 960.0	1 960.0	3 932.0	3 947.0	3 947.0	4 351.0	4 346.0	5 063.0	5 063.0
IFR	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.
BROWN COAL (Recoverable) (Mt)												
EDR	41 900.0	41 900.0	41 900.0	41 820.0	41 770.0	41 725.0	41 692.0	41 347.0	41 309.0	41 259.0	41 219.0	41 172.0
SDR	2 530.0	2 500.0	2 500.0	2 610.0	2 610.0	2 970.0	2 957.0	3 227.0	2 957.0	2 957.0	2 957.0	2 957.0
IFR	182 900.0	182 900.0	182 900.0	183 600.0	183 600.0	183 600.0	165 330.0	165 330.0	165 960.0	165 960.0	165 960.0	165 960.0
URANIUM (kt)												
EDR	465.0	462.0	470.0	480.0	474.0	469.0	474.0	462.0	631.0	633.0	629.0	622.0
SDR	56.0	56.0	56.0	58.0	58.0	60.0	55.0	55.0	76.0	77.0	77.0	93.0
IFR	383.0	384.0	394.0	393.0	390.0	390.0	391.0	394.0	189.0	194.0	194.0	180.0

## 2.4 ANTIMONY RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
VICTORIA												
EDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
QUEENSLAND												
EDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SOUTH AUSTRALIA												
EDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TASMANIA												
EDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
NORTHERN TERRITORY												
EDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.c.	n.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	13.9	14.1	n.p.	n.p.	15.2	14.5	39.5	63.5	116.5	88.1	97.9	89.9
SDR	96.1	96.1	n.a.	n.a.	3.9	4.1	5.7	141.0	87.6	66.9	70.1	72.8
IFR	0.0	0.0	118.0	105.4	85.2	86.8	100.4	20.4	13.7	28.7	35.6	26.7

## 2.5 BAUXITE RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	2 889.0	2 854.0	2 825.0	3 205.0	5 543.0	5 622.0	6 354.0	2 379.0	2 582.0	2 538.0	2 540.0	3 024.0
SDR	2 376.0	2 376.0	2 376.0	2 376.0	2 376.0	2 376.0	1 805.0	5 230.0	5 303.0	5 303.0	5 245.0	5 329.0
IFR	1 390.0	1 390.0	1 390.0	2 000.0	1 500.0	1 500.0	2 310.0	2 393.0	2 134.0	2 134.0	2 134.0	1 598.0



## 2.6 BLACK COAL RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Resource category	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	12 120.0	12 120.0	23 700.0	23 702.0	23 702.0	23 933.0	24 240.0	24 789.0	24 659.0	24 632.0	24 546.0	24 453.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	20 990.0	21 110.0	24 960.0	25 941.0	25 944.0	25 997.0	25 977.0	25 728.0	23 552.0	23 774.0	23 203.0	23 113.0
SDR	950.0	0.0	220.0	150.0	150.0	383.0	368.0	368.0	772.0	767.0	1 324.0	1 324.0
IFR	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.
SOUTH AUSTRALIA												
EDR	150.0	150.0	150.0	150.0	150.0	101.0	101.0	98.0	98.0	95.0	146.0	144.0
SDR	300.0	120.0	1 810.0	1 810.0	1 810.0	3 549.0	3 579.0	3 579.0	3 579.0	3 579.0	3 381.0	3 381.0
IFR	9 310.0	9 410.0	9 900.0	9 900.0	9 900.0	12 310.0	13 330.0	11 548.0	11 548.0	11 464.0	10 788.0	10 788.0
WESTERN AUSTRALIA												
EDR	480.0	480.0	480.0	480.0	730.0	769.0	764.0	760.0	758.0	458.0	1 102.0	1 166.0
SDR	80.0	230.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	358.0	358.0
IFR	0.0	0.0	0.0	0.0	0.0	1 688.0	1 735.0	1 758.0	1 758.0	1 481.0	1 460.0	1 460.0
TASMANIA												
EDR	250.0	250.0	250.0	250.0	250.0	325.0	326.0	312.0	312.0	317.0	316.0	316.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	33 990.0	34 110.0	49 540.0	50 523.0	50 776.0	51 125.0	51 409.0	51 687.0	49 379.0	49 276.0	49 313.0	49 192.0
SDR	1 330.0	350.0	2 030.0	1 960.0	1 960.0	3 932.0	3 947.0	3 947.0	4 351.0	4 346.0	5 063.0	5 063.0
IFR	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.	n.q.

## 2.7 BROWN COAL RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	39 000.0	39 000.0	39 000.0	38 940.0	38 890.0	38 845.0	38 844.0	38 798.0	38 759.0	38 709.0	38 669.0	38 622.0
SDR	1 400.0	1 400.0	1 400.0	1 440.0	1 440.0	1 440.0	1 440.0	1 440.0	1 440.0	1 440.0	1 440.0	1 440.0
IFR	182 000.0	182 000.0	182 000.0	182 700.0	182 700.0	182 700.0	164 430.0	164 430.0	164 430.0	164 430.0	164 430.0	164 430.0
QUEENSLAND												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	2 800.0	2 800.0	2 800.0	2 790.0	2 790.0	2 790.0	1 890.0	1 890.0	1 890.0	1 890.0	1 890.0	1 890.0
SDR	630.0	600.0	600.0	630.0	630.0	630.0	1 517.0	1 517.0	1 517.0	1 517.0	1 517.0	1 517.0
IFR	900.0	900.0	900.0	900.0	900.0	900.0	900.0	900.0	900.0	900.0	900.0	900.0
WESTERN AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	868.0	553.0	554.0	554.0	554.0	554.0
SDR	500.0	500.0	500.0	540.0	540.0	900.0	0.0	270.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	630.0	630.0	630.0	630.0
TASMANIA												
EDR	100.0	100.0	100.0	90.0	90.0	90.0	90.0	106.0	106.0	106.0	106.0	106.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	41 900.0	41 900.0	41 900.0	41 820.0	41 770.0	41 725.0	41 692.0	41 347.0	41 309.0	41 259.0	41 219.0	41 172.0
SDR	2 530.0	2 500.0	2 500.0	2 610.0	2 610.0	2 970.0	2 957.0	3 227.0	2 957.0	2 957.0	2 957.0	2 957.0
IFR	182 900.0	182 900.0	182 900.0	183 600.0	183 600.0	183 600.0	165 330.0	165 330.0	165 960.0	165 960.0	165 960.0	165 960.0

**2.8 CADMIUM RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND(a)												
EDR	63.3	57.7	63.2	64.3	47.9	45.2	42.1	29.0	46.8	47.6	n.p.	n.p.
SDR	32.4	26.0	38.2	36.6	39.0	43.7	27.5	36.7	12.7	8.5	6.3	7.6
IFR	10.0	20.0	22.0	24.0	3.8	0.2	0.1	0.4	0.4	0.1	21.0	17.4
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA(b)												
EDR	0.0	0.0	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	0.0	0.0	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
TASMANIA(b)												
EDR	4.1	10.5	10.1	10.3	10.5	10.5	21.3	21.2	38.0	25.8	n.p.	n.p.
SDR	45.4	45.4	45.4	45.4	47.7	48.2	48.2	38.2	29.2	19.6	20.1	19.4
IFR	6.0	1.6	1.6	n.a.	2.6	2.0	9.0	2.8	7.8	10.1	10.5	4.7
NORTHERN TERRITORY												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	67.4	68.2	73.3	74.6	58.4	55.7	63.3	50.2	84.7	73.4	140.7	132.1
SDR	77.8	71.4	83.6	82.0	86.7	92.0	75.7	75.0	41.8	28.0	26.5	27.0
IFR	16.0	21.6	23.6	24.0	6.4	2.2	9.1	3.2	8.2	10.2	31.4	22.1

(a) Includes New South Wales figures.

(b) Includes Northern Territory figures.

## 2.9 COBALT RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.p.	0.0	10.3
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.8
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	132.2
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	39.6
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	103.3
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.p.	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	0.8
WESTERN AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	281.9
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	203.0
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	267.9
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.p.	n.p.	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	39.1
IFR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	20.5
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	32.6	21.5	21.8	21.2	18.5	84.6	79.6	52.6	51.7	51.7	274.0	414.1
SDR	296.5	302.5	297.9	297.9	297.8	240.8	242.0	271.3	288.2	370.0	329.8	302.0
IFR	5.5	7.4	12.8	12.8	12.8	35.3	35.3	35.9	97.8	135.7	228.2	491.9

**2.10 COPPER RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.2	0.2	n.a.	n.a.	0.5	0.6	0.7	0.8	1.7	1.7	2.2	2.4
SDR	1.8	1.8	n.a.	n.a.	0.5	0.9	0.8	0.9	0.3	0.3	0.8	0.4
IFR	0.0	0.0	n.a.	n.a.	0.3	0.3	0.5	0.3	0.4	0.4	1.1	2.3
VICTORIA												
EDR	0.0	0.0	n.a.	n.a.	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
SDR	0.2	0.2	n.a.	n.a.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
IFR	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND(a)												
EDR	4.2	4.2	n.a.	n.a.	4.8	4.5	4.2	3.8	5.1	5.1	20.0	19.9
SDR	0.2	0.4	n.a.	n.a.	0.4	1.4	1.3	2.6	2.4	2.4	13.1	12.6
IFR	0.9	0.8	n.a.	n.a.	1.1	0.5	0.9	1.0	1.2	1.2	3.4	4.1
SOUTH AUSTRALIA												
EDR	11.3	11.3	n.a.	n.a.	0.6	0.5	0.9	1.1	12.3	12.3	n.p.	n.p.
SDR	0.0	0.0	n.a.	n.a.	9.5	9.9	9.5	9.3	13.7	13.7	n.p.	n.p.
IFR	20.8	20.8	n.a.	n.a.	20.8	20.9	20.9	22.2	4.8	4.8	5.3	5.3
WESTERN AUSTRALIA												
EDR	0.1	0.1	n.a.	n.a.	0.3	0.8	0.8	0.5	0.9	0.9	0.8	0.8
SDR	0.8	0.3	n.a.	n.a.	1.3	1.2	1.2	1.3	1.0	1.0	1.1	2.3
IFR	0.5	1.0	n.a.	n.a.	0.0	1.0	1.6	1.5	1.5	1.5	1.5	1.8
TASMANIA												
EDR	0.2	0.2	n.a.	n.a.	0.3	0.2	0.2	0.1	0.1	0.1	0.5	0.4
SDR	0.0	0.2	n.a.	n.a.	0.2	0.3	0.3	0.3	0.3	0.3	0.7	0.9
IFR	0.2	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4
NORTHERN TERRITORY												
EDR	0.1	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2
SDR	0.2	0.2	n.a.	n.a.	0.1	0.1	0.1	0.3	0.2	0.2	0.4	0.5
IFR	0.0	0.0	n.a.	n.a.	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	16.1	16.0	16.9	17.1	6.4	6.7	6.9	6.5	20.2	20.2	24.0	23.7
SDR	3.2	3.0	3.6	3.2	12.2	13.8	13.4	14.8	18.1	18.1	16.3	17.0
IFR	22.3	22.5	22.0	22.2	22.1	22.7	24.1	25.2	8.1	8.1	11.9	14.2

(a) Includes South Australian figures for EDR and SDR in 1995 and 1996.

**2.11 GEM AND NEAR GEM DIAMOND RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	1.0	1.0	0.7	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	187.2	173.5	160.0	192.7	179.0	223.0	186.0	162.0	146.9	130.0	100.8	85.0
SDR	0.0	15.4	2.0	2.5	0.0	0.0	210.0	204.0	149.3	147.0	156.8	223.0
IFR	47.0	47.0	38.0	0.6	7.0	0.3	28.0	42.0	8.6	9.0	41.3	34.0
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	187.2	173.5	160.0	192.7	179.0	223.0	186.0	162.0	146.9	130.0	100.8	85.0
SDR	0.0	15.4	2.0	2.5	0.0	0.6	211.0	205.0	150.4	148.0	158.0	223.0
IFR	47.0	47.0	38.0	0.6	7.0	0.3	28.0	42.0	8.6	9.0	41.3	35.0

**2.12 INDUSTRIAL DIAMOND RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc	Mc
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.1	0.1	0.4	0.3
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	228.8	212.0	196.4	188.7	214.0	298.0	228.0	209.0	189.0	168.0	128.1	90.2
SDR	0.0	0.3	4.0	4.0	0.0	0.0	257.0	249.0	186.0	183.0	195.3	239.7
IFR	38.0	38.0	47.0	47.0	6.0	1.0	40.0	52.0	26.0	27.0	69.6	51.2
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	228.8	212.0	196.4	188.7	214.0	298.0	228.0	209.0	189.0	168.0	128.0	90.2
SDR	0.0	0.3	4.0	4.0	0.0	0.6	258.0	250.0	186.0	183.0	195.7	240.1
IFR	38.0	38.0	47.0	47.0	6.0	1.0	40.0	52.0	26.0	27.0	69.6	51.2

**2.13 GOLD RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	t	t	t	t	t	t	t	t	t	t	t	t
NEW SOUTH WALES												
EDR	11.6	24.9	27.7	28.5	31.8	88.0	116.0	90.0	130.0	180.0	371.0	409.0
SDR	31.9	23.0	59.6	60.1	70.4	42.0	54.0	98.0	86.0	53.0	106.0	78.0
IFR	8.5	5.6	0.0	5.9	25.4	88.0	64.0	59.0	96.0	204.0	160.0	151.0
VICTORIA												
EDR	3.2	7.5	3.0	10.4	38.9	28.0	26.0	34.0	25.0	67.0	111.0	104.0
SDR	3.0	5.6	58.6	8.8	22.1	27.0	28.0	32.0	26.0	26.0	32.0	39.0
IFR	15.3	18.0	0.0	0.0	8.5	11.0	21.0	58.0	63.0	29.0	35.0	54.0
QUEENSLAND												
EDR	106.9	173.5	183.6	206.9	205.9	217.0	183.0	235.0	218.0	247.0	352.0	327.0
SDR	140.4	109.2	95.3	50.2	99.9	102.0	131.0	211.0	228.0	186.0	124.0	146.0
IFR	36.3	34.6	12.8	0.8	16.8	24.0	27.0	23.0	52.0	53.0	70.0	135.0
SOUTH AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
WESTERN AUSTRALIA												
EDR	439.1	433.9	674.3	768.1	1 074.4	1 333.0	1 300.0	1 585.0	1 979.0	2 133.0	2 489.0	2 706.0
SDR	45.0	230.6	141.2	203.8	459.0	396.0	433.0	355.0	376.0	508.0	377.0	489.0
IFR	127.4	167.7	171.2	179.4	155.7	177.0	320.0	289.0	528.0	799.0	860.0	1 244.0
TASMANIA												
EDR	66.2	55.9	50.5	54.8	51.6	51.0	64.0	59.0	55.0	49.0	89.0	75.0
SDR	0.0	17.0	29.4	21.0	11.7	9.0	6.0	9.0	8.0	18.0	2.0	6.0
IFR	28.3	17.7	4.7	6.6	42.7	33.0	17.0	21.0	21.0	6.0	7.0	6.0
NORTHERN TERRITORY(a)												
EDR	332.3	314.3	337.5	326.7	375.3	412.0	456.0	463.0	596.0	758.0	851.0	834.0
SDR	21.1	47.3	40.1	44.8	119.1	138.0	50.0	66.0	547.0	497.0	507.0	504.0
IFR	930.0	934.3	956.5	979.5	958.5	978.0	997.0	1 018.8	230.0	226.0	246.0	297.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	959.3	1 010.0	1 276.7	1 395.4	1 777.8	2 129.0	2 145.0	2 466.0	3 003.0	3 434.0	4 263.0	4 454.0
SDR	241.3	432.7	424.2	388.7	782.2	714.0	702.0	771.0	1 271.0	1 288.0	1 148.0	1 263.0
IFR	1 145.8	1 177.9	1 145.2	1 172.0	1 207.6	1 311.0	1 446.0	1 468.8	990.0	1 317.0	1 378.0	1 887.0

(a) Includes South Australian figures.



**2.14 IRON ORE RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	n.a.	0.0	1.3	1.3	1.3	1.0	1.3	1.3	1.0
SDR	0.0	0.0	0.0	n.a.	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.0
IFR	0.0	0.0	8.0	n.a.	0.0	9.3	9.3	9.3	9.2	1.0	9.0	9.0
VICTORIA												
EDR	4.0	4.0	4.0	n.a.	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	n.a.	0.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
IFR	0.0	0.0	0.0	n.a.	0.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
QUEENSLAND												
EDR	0.0	0.0	0.0	n.a.	0.0	1.7	1.7	1.2	1.2	1.2	1.2	1.0
SDR	531.0	528.0	335.0	n.a.	545.0	545.2	545.2	551.3	541.0	541.0	541.0	541.0
IFR	48.0	18.0	18.0	n.a.	18.0	78.1	78.2	54.7	63.0	64.8	63.0	63.0
SOUTH AUSTRALIA(a)												
EDR	97.0	87.0	85.0	n.a.	68.0	56.1	81.4	92.3	89.3	89.7	85.2	85.0
SDR	3.0	3.0	196.0	n.a.	196.0	21.0	21.0	21.0	229.0	229.0	229.0	229.0
IFR	0.0	0.0	30.0	n.a.	30.0	1 377.2	1 377.2	1 377.3	1 169.0	1 169.3	1 169.0	1 338.0
WESTERN AUSTRALIA												
EDR	16 121.0	14 880.0	14 839.0	n.a.	14 267.0	14 685.5	17 781.5	17 781.5	17 838.0	17 885.1	17 746.4	17 714.0
SDR	11 295.0	11 642.0	11 642.0	n.a.	12 709.0	12 701.0	12 446.0	12 528.0	12 561.0	13 430.8	13 430.8	13 455.0
IFR	13 234.0	14 951.0	16 704.0	n.a.	17 711.0	18 283.3	15 732.3	16 312.3	16 151.0	15 586.8	15 587.0	15 611.0
TASMANIA												
EDR	n.p.	n.p.	n.p.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	3.0	3.0	3.0	n.a.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
IFR	0.0	0.0	0.0	n.a.	0.0	400.0	400.0	400.0	400.0	400.0	400.0	400.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL												
EDR	16 222.0	14 971.0	14 928.0	15 970.0	14 339.0	14 744.6	17 865.8	17 876.2	17 929.5	17 977.2	17 834.1	17 801.0
SDR	11 832.0	12 176.0	12 176.0	12 120.0	13 455.0	13 281.3	13 026.3	13 114.4	13 345.1	14 214.9	14 214.9	14 239.0
IFR	13 282.0	14 969.0	16 760.0	17 290.0	17 759.0	20 154.9	17 604.0	18 160.6	17 799.2	17 228.9	17 235.0	17 428.0

(a) Includes figures for Tasmania.

**2.15 LEAD RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	5 731.7	5 846.2	5 820.0	5 698.0	4 995.0	4 669.0	4 204.0	3 595.0	3 085.0	4 136.6	4 764.4	4 456.0
SDR	1 335.6	1 036.0	1 600.0	1 372.0	2 538.0	2 383.0	2 686.0	2 708.0	3 097.0	1 314.9	1 385.3	1 431.0
IFR	1 342.0	1 000.0	n.p.	2 240.0	96.0	147.0	477.0	429.0	447.0	604.6	605.5	606.2
VICTORIA												
EDR	0.0	32.0	90.0	94.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	32.0	0.0	0.0	0.0	82.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
QUEENSLAND												
EDR	8 148.0	8 068.0	7 980.0	8 291.0	4 823.0	4 501.0	4 368.0	3 924.0	9 157.0	10 900.7	8 682.9	9 617.9
SDR	1 835.0	1 909.0	1 900.0	780.0	5 224.0	7 201.0	9 196.0	11 304.0	3 742.0	3 905.8	3 885.3	4 264.1
IFR	1 740.0	4 775.0	(b)6 290.0	5 340.0	1 688.0	2 359.0	323.0	300.0	5 353.0	2 045.6	6 424.6	5 207.3
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	5.0	4.0	4.0	4.0	5.0	4.4	4.4	4.4
SDR	22.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	254.0	254.0	254.0	254.0	204.0	85.0	394.9
WESTERN AUSTRALIA(a)												
EDR	0.0	157.3	160.0	280.0	124.0	123.0	93.0	158.0	165.0	491.3	730.0	687.9
SDR	1 691.0	1 835.2	5 650.0	5 530.0	6 294.0	1 430.0	1 372.0	1 196.0	2 293.0	1 118.0	1 218.0	838.0
IFR	177.9	0.0	0.0	0.0	199.0	3 800.0	10 364.0	9 977.0	9 972.0	9 880.0	9 796.0	14 421.0
TASMANIA												
EDR	456.2	1 531.0	1 390.0	1 403.0	1 474.0	1 220.0	1 115.0	937.0	768.0	655.0	539.0	458.5
SDR	33.5	3.5	10.0	780.0	817.0	857.0	881.0	921.0	959.0	801.0	809.0	818.0
IFR	1 050.0	240.0	240.0	0.0	0.0	0.0	0.0	0.0	0.0	260.0	276.0	230.0
NORTHERN TERRITORY												
EDR	113.4	114.5	110.0	150.0	82.0	211.0	246.0	267.0	6 191.0	3 528.6	3 528.6	3 449.7
SDR	10 582.0	10 634.9	10 630.0	10 620.0	10 734.0	10 614.0	10 602.0	10 174.0	4 679.0	6 439.5	6 380.2	6 783.6
IFR	0.0	0.0	0.0	0.0	202.0	118.0	348.0	736.0	769.0	1 897.4	776.4	641.5
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	14 449.2	15 749.4	15 550.0	15 910.0	11 503.0	10 728.0	10 031.0	8 885.0	19 371.0	19 716.4	18 249.0	18 669.4
SDR	15 501.0	15 407.2	19 790.0	19 320.0	25 689.0	22 487.0	24 737.0	26 302.0	14 770.0	13 578.9	13 678.2	14 313.8
IFR	4 309.9	6 015.0	6 530.0	7 587.0	2 185.0	6 679.0	11 610.0	11 696.0	16 795.0	14 891.2	17 962.8	21 501.6

(a) Includes figures for Victoria from 1990.

(b) Includes NSW IFR.

**2.16 LITHIUM RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.c.	n.c.	568.4	568.4	359.1	150.0	160.1	160.1	160.0	159.0	152.0	166.0
SDR	n.c.	n.c.	2.6	2.6	2.6	2.0	2.6	2.6	3.0	3.0	3.0	82.0
IFR	n.c.	n.c.	0.0	0.0	76.2	76.2	7.0	7.0	7.0	7.0	7.0	7.0
TASMANIA												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.c.	n.c.	568.4	568.4	359.1	150.0	160.1	160.1	160.0	159.0	152.0	166.0
SDR	n.c.	n.c.	2.6	2.6	2.6	2.0	2.6	2.6	3.0	3.0	3.0	82.0
IFR	n.c.	n.c.	0.0	0.0	76.2	76.2	7.0	7.0	7.0	7.0	7.0	7.0

**2.17 MAGNESITE RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	3.8	7.5	7.5	7.5
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
VICTORIA												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	215.0	239.4	233.8	172.4
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	473.0	288.5	294.1	327.7
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	4.0	225.0	225.0	103.8
SOUTH AUSTRALIA												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
TASMANIA												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	5.0	5.0	5.0	5.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	218.8	246.9	241.3	179.9
SDR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	473.0	288.5	294.1	327.7
IFR	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	9.0	230.0	230.0	108.8

**2.18 MANGANESE ORE RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND(a)												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
IFR	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.
IFR	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	0.0	0.0
NORTHERN TERRITORY(b)												
EDR	326.0	192.0	192.0	192.0	118.0	111.3	110.0	108.2	107.2	123.8	121.2	118.0
SDR	378.0	378.0	378.0	378.0	381.0	383.4	383.4	385.0	193.1	195.5	194.1	193.9
IFR	123.0	218.0	218.0	218.0	132.0	183.6	178.6	175.7	227.8	164.1	166.5	166.5
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	326.0	192.0	192.0	192.0	118.0	111.3	110.0	108.2	107.2	123.8	121.2	118.0
SDR	378.0	378.0	378.0	378.0	381.0	383.4	383.4	385.0	193.1	195.5	194.3	194.1
IFR	123.0	218.0	218.0	218.0	132.0	183.8	178.8	175.9	228.0	164.3	166.6	166.6

(a) Includes South Australian and Tasmanian figures.

(b) Includes Western Australian figures.

**2.19 MINERAL SANDS (ILMENITE) RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	n.c.	0.8	0.8	0.8	0.9	1.8	1.1	1.1	1.1	1.1	1.1	0.6
SDR	n.c.	0.0	0.0	0.0	0.0	0.0	15.3	15.4	15.4	15.4	15.4	16.7
IFR	n.c.	0.6	0.6	0.6	0.6	1.1	0.7	0.7	0.7	0.7	0.7	0.7
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	17.1	17.1	51.2	51.2	51.2	51.2	51.2	51.2	51.4
IFR	0.0	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
QUEENSLAND												
EDR	n.c.	10.6	10.6	12.6	12.6	20.9	38.7	38.7	38.7	38.7	38.7	40.0
SDR	n.c.	0.0	0.0	0.0	17.8	17.8	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	5.7	5.6	5.6	6.6	13.3	13.3	13.3	13.3	22.4	22.4	22.4
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	5.3	5.3
WESTERN AUSTRALIA												
EDR	25.9	32.7	32.7	47.8	50.7	64.6	62.5	72.0	76.3	92.7	96.0	95.4
SDR	3.1	3.1	3.1	4.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	4.8	4.1	4.1	5.1	5.1	16.3	15.6	28.5	44.3	40.9	40.7	30.7
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.1	0.1	0.1	0.1	0.1	0.0	0.6	0.6	0.6	0.6	0.6	0.6
IFR	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	41.1	44.1	44.1	61.2	64.1	87.3	102.4	111.8	116.1	132.5	135.8	136.0
SDR	3.2	3.2	3.2	21.8	37.6	69.0	67.2	67.3	67.3	67.3	67.3	68.8
IFR	11.9	10.7	10.6	11.6	12.6	60.7	59.6	72.5	93.6	99.4	99.1	89.2

**2.20 MINERAL SANDS (RUTILE) RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	n.c.	2.0	2.0	2.0	2.1	1.4	1.7	1.6	1.6	1.6	2.1	1.0
SDR	n.c.	0.0	0.0	0.0	0.0	0.0	1.4	1.5	1.5	1.5	1.5	2.3
IFR	n.c.	0.0	0.0	0.0	0.0	0.9	1.1	1.1	1.1	1.1	1.1	1.1
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	3.4	3.4	32.0	32.0	32.0	32.0	32.0	32.0	32.1
IFR	0.0	0.0	0.0	0.0	0.0	18.8	18.8	18.8	18.8	18.8	18.8	18.8
QUEENSLAND												
EDR	n.c.	4.0	4.0	4.3	4.3	5.5	5.5	5.5	5.5	5.5	5.5	6.2
SDR	n.c.	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	1.4	1.4	1.4	1.5	3.0	3.0	3.0	3.0	3.0	3.0	2.3
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7
WESTERN AUSTRALIA												
EDR	2.4	2.9	2.9	3.7	3.1	2.9	4.5	6.4	6.9	7.3	7.4	7.7
SDR	0.4	0.4	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.1	0.0	0.0	0.0	0.0	0.7	1.4	1.7	2.0	1.8	1.7	1.3
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
IFR	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	8.1	9.0	9.0	10.0	9.4	9.9	11.7	13.5	14.0	14.4	15.0	14.9
SDR	0.4	0.4	0.4	3.8	5.9	32.0	33.5	33.6	33.6	33.6	33.6	34.5
IFR	1.7	1.5	1.5	1.5	1.7	23.4	24.3	24.6	26.5	26.3	26.3	25.2

**2.21 MINERAL SANDS (ZIRCON) RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	n.c.	2.0	2.0	2.0	2.0	2.2	1.7	1.6	1.6	1.6	2.0	1.0
SDR	n.c.	0.0	0.0	0.0	0.0	0.0	2.3	2.7	2.7	2.7	2.7	3.2
IFR	n.c.	0.0	0.0	0.0	0.0	1.3	1.1	1.1	1.1	1.1	1.1	1.1
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	5.1	5.1	20.5	21.8	21.8	21.7	21.7	21.7	21.7
IFR	0.0	0.0	0.0	0.0	0.0	12.0	12.8	12.8	12.8	12.8	12.8	12.8
QUEENSLAND												
EDR	n.c.	3.9	3.9	4.2	4.2	8.4	8.4	8.4	8.4	8.4	8.4	9.0
SDR	n.c.	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.c.	1.7	1.7	1.7	1.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1
WESTERN AUSTRALIA												
EDR	6.1	7.1	7.1	9.5	9.0	9.3	9.3	10.4	10.9	11.0	12.2	11.4
SDR	1.1	1.1	1.1	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.5	0.2	0.2	0.5	0.5	2.1	2.1	1.9	3.2	2.9	2.8	2.7
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
IFR	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	11.6	12.9	12.9	15.7	15.2	19.8	19.3	20.3	20.9	21.0	22.5	21.4
SDR	1.1	1.1	1.1	6.4	8.6	20.5	24.2	24.5	24.4	24.4	24.4	25.1
IFR	2.4	2.0	2.0	2.2	2.4	18.5	19.1	18.8	21.3	20.9	20.9	20.8



**2.22 NICKEL RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	370.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	203.9	173.3	n.a.	n.a.	110.0	108.0	58.5	58.5	67.0	60.7	60.7	0.0
SDR	385.9	518.2	n.a.	n.a.	520.0	518.2	518.2	518.2	240.7	240.7	240.7	250.0
IFR	0.0	44.5	n.a.	n.a.	40.0	44.5	44.5	44.5	191.5	191.5	191.5	190.0
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	70.5	70.5	n.a.	n.a.	70.0	70.5	70.5	70.5	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.5	70.5	70.5	70.0
WESTERN AUSTRALIA												
EDR	1 447.2	961.6	n.a.	n.a.	990.0	2 869.7	3 331.5	2 670.0	2 818.2	2 818.2	3 671.2	6 370.0
SDR	6 129.1	5 942.0	n.a.	n.a.	6 150.0	4 142.2	4 108.8	5 148.9	5 091.7	5 538.3	6 097.6	4 960.0
IFR	1 660.8	1 763.7	n.a.	n.a.	1 910.0	1 947.7	1 803.2	1 200.1	2 698.8	2 611.4	4 099.0	6 260.0
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	62.4	62.4	n.a.	n.a.	60.0	62.4	62.4	62.4	62.4	62.4	62.4	0.0
IFR	44.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	28.0	28.0	28.0	28.0	28.0	28.0	30.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	1 651.1	1 134.9	1 100.0	1 040.0	1 100.0	2 977.7	3 390.0	2 728.5	2 885.2	2 878.9	3 731.9	6 370.0
SDR	6 710.3	6 593.0	6 900.0	6 740.0	6 800.0	4 793.3	4 759.9	5 800.0	5 394.8	5 841.4	6 407.3	5 580.0
IFR	1 749.8	1 808.1	1 800.0	1 840.0	1 950.0	2 020.2	1 875.6	1 272.6	2 988.8	2 901.4	4 389.0	6 620.0

## 2.23 PHOSPHATE RESOURCES, State and Territory—Calendar year

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.0
SDR	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	1 845.0	2 508.0
IFR	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0	1 036.0
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	200.0	200.0	160.0	160.0	160.0	160.0	250.0	250.0	250.0	250.0	250.0	250.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0	911.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.0
SDR	2 045.0	2 045.0	2 005.0	2 005.0	2 005.0	2 005.0	2 095.0	2 095.0	2 095.0	2 095.0	2 095.0	2 758.0
IFR	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0	1 947.0

**2.24 PLATINUM GROUP METALS RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	t	t	t	t	t	t	t	t	t	t	t	t
NEW SOUTH WALES												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	16.1	6.8	6.8
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	1.7	6.2
VICTORIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.3	0.3	0.3	0.3	0.3	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA(a)												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	22.6	19.0	17.1	17.7	17.7	17.2	19.1
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	30.9	31.2	36.9	37.1	37.1	38.4	38.4
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	74.5	74.5	74.5	87.4	78.1	79.6	81.7
TASMANIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	22.6	19.0	17.1	17.7	17.7	17.2	19.1
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	31.2	31.5	37.1	37.4	53.4	45.2	45.2
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	74.5	74.5	74.5	87.4	78.1	81.3	87.9

(a) Includes Northern Territory figures.

**2.25 RARE EARTH OXIDES RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	12.0	11.0	9.0	9.0	9.0	9.0	6.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	15.0	165.0	167.0	167.0	86.0	86.0	167.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	4.0	352.0	362.0	362.0	362.0	362.0	362.0
VICTORIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	2 280.0	1 830.0	1 830.0	1 923.0	1 923.0	1 923.0	1 923.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	1 350.0	1 073.0	1 073.0	1 127.0	1 127.0	1 127.0	1 127.0
QUEENSLAND												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	63.0	100.0	100.0	102.0	102.0	102.0	118.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	491.0	272.0	272.0	418.0	418.0	418.0	418.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	14.0	38.0	38.0	39.0	39.0	39.0	39.0
SOUTH AUSTRALIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	2 296.0	2.0	2.0	10 386.0	10 386.0	10 386.0	10 486.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	2 250.0	2 250.0	2 146.0	2 146.0	2 146.0	2 380.0
WESTERN AUSTRALIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	258.0	243.0	252.0	899.0	890.0	910.0	832.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	1 748.0	1 813.0	1 801.0	1 226.0	1 226.0	1 226.0	1 226.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	240.0	165.0	153.0	316.0	336.0	354.0	332.0
TASMANIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	8.0	8.0	8.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.a.	n.a.	n.a.	n.a.	n.a.	333.0	354.0	361.0	1 010.0	1 001.0	1 021.0	956.0
SDR	n.a.	n.a.	n.a.	n.a.	n.a.	6 830.0	4 082.0	4 072.0	14 120.0	14 039.0	14 039.0	14 220.0
IFR	n.a.	n.a.	n.a.	n.a.	n.a.	1 608.0	3 878.0	3 876.0	3 990.0	4 018.0	4 036.0	4 248.0

**2.26 SILVER RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	8.1	8.4	8.3	8.3	6.1	5.6	4.7	4.2	3.5	4.7	5.2	5.0
SDR	2.3	2.2	3.2	2.9	4.0	2.9	3.2	3.3	3.9	2.1	2.1	4.2
IFR	3.7	2.6	4.0	5.5	0.4	0.6	1.0	0.9	0.9	1.5	1.5	1.6
VICTORIA												
EDR	0.0	0.3	0.5	0.5	n.p.	n.p.	n.p.	0.0	0.0	0.0	0.0	0.0
SDR	0.3	0.0	0.0	0.0	n.p.	n.p.	n.p.	0.4	0.3	0.3	0.3	0.4
IFR	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	0.3	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	18.1	17.2	17.7	18.3	10.8	10.5	10.1	8.9	18.1	30.1	26.5	29.3
SDR	3.0	3.1	3.1	0.3	8.9	11.9	15.9	26.1	6.8	8.4	8.8	9.8
IFR	2.2	7.2	5.7	7.5	3.3	6.0	0.9	0.7	22.7	8.0	15.2	12.1
SOUTH AUSTRALIA												
EDR	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	2.9	3.4	3.6	3.4
SDR	0.0	0.0	0.4	0.0	2.7	2.7	2.7	2.7	3.1	2.4	2.5	2.7
IFR	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	0.9	0.9	1.1	1.1
WESTERN AUSTRALIA(a)												
EDR	0.0	0.0	0.0	0.0	1.1	1.1	1.0(a)	0.8	0.7	0.9	1.0	0.7
SDR	5.2	6.8	6.9	6.9	7.2	1.9	2.1(a)	1.5	1.7	1.5	1.6	1.5
IFR	1.8	0.0	0.0	0.0	0.1	1.5	6.5(a)	6.5	6.7	6.6	6.6	6.7
TASMANIA												
EDR	1.3	3.6	3.4	3.7	3.7	3.1	2.9	2.4	2.1	1.7	1.5	1.3
SDR	0.0	0.0	0.0	0.4	0.6	0.4	0.8	1.0	0.9	0.5	0.5	0.6
IFR	2.7	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.8
NORTHERN TERRITORY												
EDR	0.4	0.2	0.2	0.3	0.2	0.5	0.5	0.5	6.4	3.7	3.7	3.6
SDR	9.6	9.8	10.3	9.7	9.7	9.5	9.4	9.2	3.4	5.2	5.2	5.3
IFR	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.6	0.7	0.8	0.8	0.7
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	30.5	32.5	32.8	33.7	21.8	20.7	19.2	17.0	33.6	44.6	41.5	43.3
SDR	20.4	21.9	23.9	20.2	33.0	29.7	34.2	44.2	20.1	20.4	20.9	24.4
IFR	14.6	14.7	14.7	17.3	8.6	12.6	13.0	13.0	31.9	18.4	26.1	23.2

(a) Includes Victorian figures between 1989 and 1991.

**2.27 TANTALUM RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.9	2.9	2.9
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	11.8	11.8	11.8	11.8
VICTORIA												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH AUSTRALIA												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.a.	n.a.	0.2	11.5	11.4	8.0	6.0	5.9	6.3	6.2	6.2	8.1
SDR	n.a.	n.a.	16.4	2.7	3.1	8.6	6.5	6.4	3.1	3.1	2.6	2.6
IFR	n.a.	n.a.	0.0	62.0	62.0	63.0	65.7	65.7	53.3	53.3	53.3	53.0
TASMANIA												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.a.	n.a.	0.2	11.4	11.4	8.0	6.0	5.9	6.3	6.2	6.2	8.1
SDR	n.a.	n.a.	17.0	2.8	3.2	8.7	6.6	6.6	6.1	6.1	5.6	5.7
IFR	n.a.	n.a.	0.0	62.4	62.4	63.0	65.7	65.7	65.1	65.1	65.1	64.8

**2.28 TIN RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	4.6	1.6	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	70.6	90.3	91.9	94.8	n.c.	111.3	111.3	111.3	112.2	112.2	111.7	111.7
IFR	110.7	69.5	68.1	70.2	n.c.	71.9	71.9	71.9	72.1	72.1	64.2	64.2
VICTORIA												
EDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	18.3	18.3	14.2	14.2	n.c.	14.2	14.2	14.2	14.2	14.2	14.2	14.2
QUEENSLAND												
EDR	3.1	2.4	5.5	5.5	n.c.	4.4	4.4	4.4	0.0	0.0	0.7	0.0
SDR	0.6	0.4	0.4	7.0	n.c.	20.3	20.3	20.3	25.0	24.2	23.8	43.7
IFR	171.8	173.5	184.5	177.7	n.c.	146.8	146.9	146.9	134.7	95.6	100.3	78.5
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	48.4	47.8	1.2	22.6	n.c.	19.3	21.1	21.1	n.p.	n.p.	n.p.	n.p.
SDR	0.3	0.3	46.1	2.0	n.c.	18.2	2.0	2.0	n.p.	n.p.	n.p.	n.p.
IFR	2.5	2.4	2.4	2.4	n.c.	4.1	2.5	2.5	n.p.	n.p.	n.p.	n.p.
TASMANIA(a)												
EDR	206.2	191.7	172.7	169.0	n.c.	144.1	140.0	74.2	123.3	159.0	135.5	119.5
SDR	2.1	2.1	2.1	2.1	n.c.	5.3	5.3	60.7	68.1	66.9	42.1	47.7
IFR	390.0	388.1	404.1	404.1	n.c.	396.1	396.1	396.1	188.3	154.0	156.0	141.6
NORTHERN TERRITORY												
EDR	0.2	5.5	5.5	5.3	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	1.5	0.0	0.0	0.4	n.c.	12.0	12.0	12.0	11.4	11.4	11.4	11.4
IFR	11.3	14.8	14.8	14.6	n.c.	9.8	9.8	9.8	9.8	9.8	9.8	9.8
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	262.5	249.0	184.9	202.4	191.4	167.9	165.5	99.7	123.3	159.0	136.2	119.5
SDR	75.1	93.1	140.5	106.4	56.4	167.1	151.0	206.4	216.7	214.7	189.0	214.5
IFR	704.6	666.7	688.3	683.3	657.5	642.9	641.5	641.5	419.1	345.7	344.5	308.2

(a) Includes Western Australian figures from 1993.

**2.29 TUNGSTEN RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	0.0	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	70.3	70.3	n.c.	n.c.	n.c.	71.0	70.6	70.6	70.6	70.6	9.5	9.5
IFR	0.0	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	12.1	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	1.9	12.3	n.c.	n.c.	n.c.	20.4	21.6	21.5	9.1	9.1	9.1	9.1
IFR	49.0	43.1	n.c.	n.c.	n.c.	43.7	43.4	43.4	43.4	43.4	43.3	43.3
SOUTH AUSTRALIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	0.0	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	62.4	62.4	n.c.	n.c.	n.c.	64.0	63.3	63.4	78.1	78.1	0.0	0.0
IFR	42.8	42.8	n.c.	n.c.	n.c.	43.0	42.9	43.0	0.0	0.0	77.5	77.5
TASMANIA												
EDR	63.6	56.1	n.c.	n.c.	n.c.	5.4	5.1	1.1	1.1	1.0	1.0	0.9
SDR	2.0	3.1	n.c.	n.c.	n.c.	29.1	31.2	35.2	34.9	36.8	35.0	35.0
IFR	23.7	30.0	n.c.	n.c.	n.c.	41.0	44.1	44.1	38.3	38.3	59.4	59.4
NORTHERN TERRITORY												
EDR	0.0	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	4.0	4.0	n.c.	n.c.	n.c.	8.6	8.6	8.6	8.6	8.6	8.6	8.6
IFR	0.0	0.0	n.c.	n.c.	n.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	75.7	56.1	36.5	36.5	18.5	5.4	5.1	1.1	1.1	1.0	1.0	0.9
SDR	140.7	152.1	184.0	184.2	186.8	193.1	195.3	199.1	201.3	203.1	62.1	62.1
IFR	115.5	115.9	116.4	116.0	118.5	127.7	130.4	130.5	81.8	81.8	180.1	180.1



**2.30 URANIUM RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SOUTH AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
WESTERN AUSTRALIA												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
TASMANIA												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	465.0	462.0	470.0	480.0	474.0	469.0	474.0	462.0	631.0	633.0	629.0	622.0
SDR	56.0	56.0	56.0	58.0	58.0	60.0	55.0	55.0	76.0	77.0	77.0	93.0
IFR	383.0	384.0	394.0	393.0	390.0	390.0	391.0	394.0	189.0	194.0	194.0	180.0

**2.31 VANADIUM RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt	kt
NEW SOUTH WALES												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VICTORIA												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QUEENSLAND												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0	8 425.0
IFR	n.a.	40.0	0.0	0.0	0.0	0.0	40.0	40.0	40.0	40.0	40.0	40.0
SOUTH AUSTRALIA												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WESTERN AUSTRALIA												
EDR	n.a.	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
SDR	n.a.	1 488.8	1 488.4	1 488.4	1 488.4	1 488.4	1 488.4	1 488.4	1 739.1	1 739.1	1 739.1	1 619.2
IFR	n.a.	2 195.0	2 318.8	2 318.8	2 318.8	2 318.8	2 274.3	2 274.3	2 242.3	2 242.3	2 242.3	2 223.0
TASMANIA												
EDR	n.a.	5.6	40.3	40.3	40.3	40.3	18.6	18.6	13.6	9.3	9.3	9.3
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NORTHERN TERRITORY												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIAN CAPITAL TERRITORY												
EDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	n.a.	11.3	46.0	46.0	46.0	46.0	24.3	24.3	19.4	15.0	15.0	15.0
SDR	n.a.	9 913.8	9 913.4	9 913.4	9 913.4	9 913.4	9 913.4	9 913.4	10 164.1	10 164.1	10 164.1	10 044.2
IFR	n.a.	2 235.0	2 318.8	2 318.8	2 318.8	2 318.8	2 314.3	2 314.3	2 282.3	2 282.3	2 282.3	2 263.0

**2.32 ZINC RESOURCES, State and Territory—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Resource category</i>	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
NEW SOUTH WALES												
EDR	7.6	8.5	7.7	7.5	7.0	6.5	6.1	5.4	4.5	6.4	7.3	6.8
SDR	1.7	1.5	2.4	2.4	3.6	3.8	4.0	4.4	4.8	2.0	2.0	2.2
IFR	2.4	1.6	2.5	3.5	0.3	0.3	0.3	0.2	0.2	0.5	0.5	0.5
VICTORIA												
EDR	0.0	0.4	0.7	0.7	0.2	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
SDR	0.4	0.0	0.0	0.0	0.4	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
IFR	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
QUEENSLAND												
EDR	12.1	12.0	11.8	12.7	6.6	6.5	6.2	5.7	16.4	24.7	19.6	22.0
SDR	6.7	7.1	7.0	0.7	8.3	16.1	29.5	30.4	18.6	9.1	8.2	8.0
IFR	3.5	8.6	8.4	14.5	8.1	17.1	0.7	0.9	3.1	1.5	11.1	9.2
SOUTH AUSTRALIA												
EDR	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
SDR	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
WESTERN AUSTRALIA(a)												
EDR	0.0	0.5	0.5	2.0	1.7	1.8	1.5	1.2	1.3	2.0	2.8	2.4
SDR	1.5	3.5	3.4	1.9	1.9	1.8	2.1	2.3	2.3	1.8	2.2	1.5
IFR	2.0	0.0	0.0	0.0	0.2	1.0	8.9	8.9	8.8	8.6	8.3	9.1
TASMANIA												
EDR	1.3	3.4	3.1	3.1	3.1	2.6	2.4	2.1	1.7	1.5	1.2	1.0
SDR	0.0	0.0	0.0	0.2	0.3	0.4	0.3	0.6	0.8	0.3	0.3	0.3
IFR	2.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.7
NORTHERN TERRITORY												
EDR	0.2	0.2	0.2	0.2	0.2	0.5	0.6	0.6	13.7	7.9	7.9	7.6
SDR	21.1	21.1	21.1	21.1	21.1	21.1	21.2	20.2	7.9	12.2	12.2	12.3
IFR	0.0	0.0	0.0	0.0	0.4	0.2	0.4	1.3	1.3	1.5	1.4	1.2
AUSTRALIAN CAPITAL TERRITORY												
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUSTRALIA												
EDR	21.2	25.1	24.0	26.3	18.9	17.9	16.9	15.0	37.6	42.6	38.8	39.9
SDR	31.7	33.1	33.9	26.3	35.5	43.7	57.4	57.9	34.5	25.4	24.9	24.3
IFR	10.0	10.7	11.5	18.0	9.4	18.6	9.9	11.3	13.5	12.7	22.4	20.8

(a) Includes Victorian figures from 1990.

## OTHER VOLUME CHANGES (OVC)

The following discussion and subsequent tables represent a detailed assessment of the quantitative changes which have occurred for the different resource categories between the years 1994 to 1996. These other volume changes (OVC) have been categorised into five major headings, with any unclassifiable resource changes being presented as other volume changes not elsewhere classified (n.e.c.). OVC definitions are described in the appendix. Further detailed State information is also available, subject to confidentiality. For more details refer to related statistics in the Explanatory Notes.

## OTHER VOLUME CHANGES (OVC) 1994 TO 1995

The following discussion refers to table 2.33, and unpublished State data. These data are available on request, as a special data service (see related statistics in the Explanatory Notes).

## Base Metals

## ZINC

EDR decreased by 3.7 Mt nationally. The largest movement was a 5.1 Mt industry revision in Queensland, which was partially offset by some positive movements, mainly discoveries in New South Wales totalling 1.1 Mt. SDR changed very little in contrast to movements in previous years, with a 0.5 Mt decrease occurring nationally. A 1.5 Mt industry revision in Queensland was the main contributor to this decrease, which was mostly offset by discoveries in New South Wales and Queensland (totalling 0.6 Mt), as well as other changes. An industry revision in Queensland was primarily responsible for the largest increase in IFR experienced in some years (9.7 Mt).

## LEAD

There was a national decrease of 1,468 kt in EDR in this year, due mainly to industry revision in Queensland (2,080 kt). This decrease was offset to a large extent by discoveries in New South Wales (767 kt), Western Australia (239 kt) and Queensland (37 kt). SDR increased marginally (99 kt), and IFR increased by 3,072 kt. Most of the movement in IFR was due to industry revision in Queensland (4,118 kt), although changes in the Northern Territory offset this to some extent.

## COPPER

Nationally, an increase of 3.9 Mt occurred for EDR. The bulk of this increase was due to an industry revision (3.1 Mt), most of which occurred in New South Wales. Industry revision accounted for 2.5 Mt of the State's increase of 3.0 Mt in EDR. There was an overall decrease of 1.9 Mt in SDR. Once again, industry revision, primarily in New South Wales, contributed greatly to this decrease (2.4 Mt). This and other decreases were, however, offset to an extent by small discoveries in New South Wales and Queensland, and industry revision occurring in the Northern Territory. IFR increased by 3.9 Mt, primarily due to discoveries in New South Wales, Queensland, South Australia and Tasmania.

Base metals *continued*

## NICKEL

The relatively large 853 kt increase in EDR for this year was due to movements occurring in Western Australia. Reclassification for economic reasons accounted for approximately 65% of this increase (557 kt), with discoveries (395 kt) being the next largest movement. SDR increased by 566 kt nationally. Discoveries in Western Australia (1,721 kt) was partially offset by other decreases occurring in this State, such as reclassification (economic)(571 kt) and industry revision (314 kt). The 1,488 kt increase in IFR nationally was primarily the result of discoveries in Western Australia (1,523 kt).

## COBALT

A substantial increase in EDR (222.3 kt) occurred nationally. SDR changes were less dramatic with a decrease of 40.2 kt. A large change occurred for IFR, with a 92.5 kt increase occurring nationally.

## ANTIMONY

EDR increased by 9.8 kt nationally. SDR and IFR rose also, with 3.2 kt and 6.9 kt occurring, respectively. State movements are not available due to confidentiality.

## CADMIUM

EDR for cadmium increased substantially in this year (67.3 kt). SDR decreased slightly and IFR experienced a significantly large increase of 21.2 kt.

## TIN

EDR fell by 22.9 kt for this year, primarily as result of industry revisions (15.2 kt) and production (7.3 kt) in Tasmania. SDR fell by 25.7 kt, which was mainly due to changes in Western Australia and Tasmania, including a 15.6 kt industry revision in Tasmania. For IFR, decreases in New South Wales totalling 7.9 kt were largely offset by industry revisions in Queensland and Tasmania, resulting in a 1.2 kt decrease nationally.

## TUNGSTEN

Changes were negligible for EDR. Unclassified changes in New South Wales (61.1 kt) and Western Australia (78.1 kt) were primarily responsible for the large decrease in SDR (141 kt). Changes in Western Australia (77.5 kt) and Tasmania (21.1 kt) resulted in a 98.3 kt increase in IFR.

## Precious metals

## GOLD

On a national scale, a significant increase occurred in EDR (829 t). The largest increase was 445 t discovered in Western Australia. Other major movements included smaller discoveries in most States and a number of industry revisions, in particular an increase of 222 t in Western Australia. These movements were offset to an extent by other changes, including a 156 t decrease in Western Australia. Industry revision and reclassification for economic reasons were primarily responsible for a fall of 140 t nationally in SDR. The largest single decrease occurred in Western Australia due to industry revisions (153 t). Increases in discoveries, primarily in Western Australia (101 t), offset these decreases to a large extent. Relatively large movements in IFR resulted in an increase of 61 t nationally. Most of the changes occurred due to discoveries (380 t nationally) which were offset by industry revisions totalling 272 t. Most movement was recorded in Western Australia and, to a lesser extent, New South Wales.

Precious metals *continued*

## SILVER

Movements between 1994 and 1995 resulted in a 3.1 kt decrease in EDR. The main contributor to this decrease was 4.2 kt due to industry revisions in Queensland. Discoveries across a number of States totalling 1.2 kt partially offset this revision. Relatively small discoveries across New South Wales, Queensland, and Western Australia were balanced by other decreases to give an overall increase of 0.5 kt in SDR. Industry revisions in Queensland (6.7 kt) were primarily responsible for the 7.7 kt increase in IFR.

## PLATINUM GROUP METALS

Minor movements occurred for EDR, with a 0.7 t decrease nationally. Unclassified resource changes across a number of States were responsible for a fall of 8.3 t in SDR. IFR increased by 3.2 t, including discoveries totalling 1.7 t in New South Wales.

## GEM AND NEAR GEM DIAMOND

Movements in all resource categories are focused almost entirely in Western Australia, including a fall of 29.2 Mc in EDR. Industry revisions in this State were responsible for increases in SDR (9.4 Mc) and IFR (32.3 Mc).

## INDUSTRIAL DIAMOND

Industrial diamond trends closely followed those occurring for gem and near gem resources. A decrease of 39.9 Mc in EDR resulted solely from unclassified resource changes occurring in Western Australia. Industry revisions in Western Australia also were primarily responsible for a national increase in SDR of 12.6 Mc, as well as a substantial increase in IFR (42.6 Mc).

## Metallic Minerals

## IRON ORE

Movements in iron ore were negligible, with a slight decrease in EDR (144 Mt), no change in SDR and virtually no change in IFR.

## BAUXITE

On a national scale, virtually no change occurred in EDR over this period, with a 50 Mt increase in EDR in the Northern Territory (due to industry revision) being balanced by relatively small decreases in EDR in Queensland and Western Australia. SDR fell by 58 Mt, largely as a consequence of industry revision in Queensland, where SDR dropped 100 Mt. This decrease was offset by a 42 Mt increase in Western Australia. There was no movement in IFR over this period.

## MAGNESITE

BRS interpretation of industry revisions in Queensland was primarily responsible for the 5.6 Mt fall in EDR and the 5.6 Mt increase in SDR. No movement was recorded for IFR.

## MANGANESE ORE

The Northern Territory was the sole contributor to resource changes occurring in EDR (a decrease of 2.6 Mt). Most of this (2.2 Mt) was due to increased production. A decrease of 1.2 Mt also occurred for SDR, mainly due to industry revision in the Northern Territory. IFR increased by 2.3 Mt as a result of industry revision in the Northern Territory also.

## VANADIUM

No movement occurred during this period for this resource.

## Mineral sands

## ILMENITE

The major movement in this year occurred for EDR, with a 3.3 Mt increase. This was due mainly to discoveries in Western Australia (2.6 Mt). Industry revisions also increased EDR in this State by 1.9 Mt, although production partially offset these increases (1.8 Mt). SDR and IFR movements were negligible.

## RUTILE

EDR increased nationally by 0.6 Mt, with the largest contributor being discoveries in New South Wales (0.5 Mt). Changes in SDR and IFR were negligible.

## ZIRCON

Changes in zircon resources were dominated by discoveries in EDR. On a national scale, EDR increased by 1.5 Mt, with most of this occurring in Western Australia (1.1 Mt). Discoveries in New South Wales also contributed 0.4 Mt. No movements occurred for SDR, and IFR movements were negligible.

## Other minerals

## LITHIUM

The only movement for lithium was a 7 kt decrease in EDR, a result of changes occurring in Western Australia.

## TANTALUM

Tantalum movements were negligible across the resource categories. The largest movement was a 0.5 kt decrease in SDR (occurring in Western Australia).

## PHOSPHATE

There were no resource changes for phosphate between 1994 and 1995.

## RARE EARTH OXIDES

Reclassification for economic reasons resulted in a 20 kt increase in EDR in Western Australia. No movement was recorded for SDR, and IFR increased by 18 kt, also due to reclassification in Western Australia.

## Energy minerals

## BLACK COAL

Almost no change occurred in EDR at a national level (a decrease of 37.4 Mt), with a 644 Mt increase in Western Australia being largely offset by a reclassification (economic) in Queensland totalling 451 Mt, along with some other minor movements. This reclassification, along with a 358 Mt resource change in Western Australia, were the main contributors to an overall increase of 717 Mt in SDR. Large IFR in New South Wales and Queensland have not been quantified.

## BROWN COAL

The only movement for this year occurred in Victoria, where production decreased the resource base by 48 Mt. A slight increase in other resource changes in this State resulted in an overall decrease of 40 Mt.

## URANIUM

EDR fell slightly due to production in South Australia (1 kt) and the Northern Territory (3 kt). No other changes occurred for this year.

## 2.33 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1995

Reclassification.....							
Resource category	Production	Discovery	Economic	Technical	Industry Revision	Other volume changes n.e.c.	Resource Change
ZINC (Mt)							
EDR	-0.9	1.1	0.0	0.0	-4.5	0.5	-3.7
SDR	..	0.7	0.0	0.0	-1.3	0.1	-0.5
IFR	..	0.2	0.0	0.0	9.5	0.0	9.7
LEAD (kt)							
EDR	-429.0	1 043.0	0.0	0.0	-2 080.0	-2.0	-1 468.0
SDR	..	187.0	0.0	0.0	7.0	-95.0	99.0
IFR	..	292.0	0.0	0.0	4 034.0	-1 254.0	3 072.0
COPPER (Mt)							
EDR	-0.4	0.6	0.0	0.0	3.1	0.5	3.9
SDR	..	0.8	0.0	0.0	-2.2	-0.5	-1.9
IFR	..	3.5	0.0	0.0	-0.1	0.5	3.9
NICKEL (kt)							
EDR	-104.0	395.0	557.0	0.0	-12.8	17.5	853.0
SDR	..	1 728.0	-571.0	0.0	-314.0	-277.0	566.0
IFR	..	1 523.0	-51.0	0.0	-24.0	40.0	1 488.0
COBALT (kt)							
EDR	-0.8	n.p.	n.p.	n.p.	n.p.	n.p.	222.3
SDR	..	n.p.	n.p.	n.p.	n.p.	n.p.	-40.2
IFR	..	n.p.	n.p.	n.p.	n.p.	n.p.	92.5
ANTIMONY (kt)							
EDR	-1.3	n.p.	n.p.	0.0	n.p.	n.p.	9.8
SDR	..	n.p.	n.p.	0.0	n.p.	n.p.	3.2
IFR	..	n.p.	n.p.	0.0	n.p.	n.p.	6.9
CADMIUM (kt)							
EDR	-1.9	2.0	0.0	0.0	-5.1	72.2	67.3
SDR	..	0.3	0.0	0.0	-1.9	0.0	-1.6
IFR	..	0.0	0.0	0.0	21.2	0.0	21.2
TIN (kt)							
EDR	-8.2	0.0	0.0	0.0	-14.5	-0.1	-22.9
SDR	..	0.0	0.0	0.3	-16.0	-10.0	-25.7
IFR	..	0.0	0.0	-0.3	6.7	-7.7	-1.2
TUNGSTEN (kt)							
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	..	0.0	0.0	0.0	0.1	-141.1	-141.0
IFR	..	0.0	0.0	0.0	-0.1	98.4	98.3
GOLD (t)							
EDR	-253.0	833.0	95.0	0.0	346.0	-192.0	829.0
SDR	..	152.0	-150.0	0.0	-110.0	-32.0	-140.0
IFR	..	380.0	0.0	0.0	-272.0	-47.0	61.0



**2.33 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1995** *continued*

<i>Reclassification.....</i>							
<i>Resource category</i>	<i>Production</i>	<i>Discovery</i>	<i>Economic</i>	<i>Technical</i>	<i>Industry Revision</i>	<i>Other volume changes n.e.c.</i>	<i>Resource Change</i>
<b>SILVER (kt)</b>							
EDR	-0.9	1.2	0.0	0.0	-4.2	0.7	-3.1
SDR	..	0.8	0.0	0.0	0.1	-0.3	0.5
IFR	..	0.9	0.0	0.0	6.7	0.1	7.7
<b>PLATINUM GROUP METALS (t)</b>							
EDR	0.0	0.0	0.0	0.0	0.0	0.7	0.7
SDR	..	0.0	0.0	0.0	0.0	-8.3	-8.3
IFR	..	1.7	0.0	0.0	0.0	1.5	3.2
<b>GEM &amp; NEAR GEM DIAMOND (Mc)</b>							
EDR	-38.0	0.0	0.0	0.0	0.0	8.6	-29.4
SDR	..	0.0	0.0	0.0	9.1	0.0	9.1
IFR	..	0.0	0.0	0.0	32.3	0.0	32.3
<b>INDUSTRIAL DIAMOND (Mc)</b>							
EDR	-46.5	0.0	0.0	0.0	0.0	6.8	-39.7
SDR	..	0.0	0.0	0.0	12.9	0.0	12.9
IFR	..	0.0	0.0	0.0	42.3	0.0	42.3
<b>IRON ORE (Mt)</b>							
EDR	-139.0	0.0	-4.0	0.0	-1.0	0.0	-144.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	6.0	6.0
<b>BAUXITE (Mt)</b>							
EDR	-42.7	0.0	0.0	0.0	2.0	42.7	2.0
SDR	..	0.0	0.0	0.0	-100.0	42.0	-58.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
<b>MAGNESITE (Mt)</b>							
EDR	-0.3	0.0	0.0	0.0	-5.6	0.2	-5.6
SDR	..	0.0	0.0	0.0	5.6	0.0	5.6
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
<b>MANGANESE (Mt)</b>							
EDR	-2.2	0.0	0.0	0.0	-0.4	0.0	-2.6
SDR	..	0.0	0.0	0.0	-1.2	0.0	-1.2
IFR	..	0.0	0.0	0.0	2.3	0.0	2.3
<b>VANADIUM (kt)</b>							
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
<b>MINERAL SANDS — Ilmenite (Mt)</b>							
EDR	-2.0	2.6	0.0	0.0	1.9	0.7	3.3
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	-0.3	0.0	-0.3

**2.33 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1995** *continued**Reclassification.....*

<i>Resource category</i>	<i>Production</i>	<i>Discovery</i>	<i>Economic</i>	<i>Technical</i>	<i>Industry Revision</i>	<i>Other volume changes n.e.c.</i>	<i>Resource Change</i>
MINERAL SANDS — Rutile (Mt)							
EDR	-0.2	0.5	0.0	0.0	0.2	0.0	0.6
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
MINERAL SANDS — Zircon (Mt)							
EDR	-0.5	1.6	0.0	0.0	0.4	0.0	1.5
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
LITHIUM (kt)							
EDR	-2.0	0.0	0.0	0.0	0.0	-5.0	-7.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
TANTALUM (kt)							
EDR	-0.2	0.0	0.0	0.0	0.0	0.2	0.0
SDR	..	0.0	0.0	0.0	0.0	-0.5	-0.5
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
PHOSPHATE (Mt)							
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
RARE EARTH OXIDES (kt)							
EDR	0.0	0.0	20.0	0.0	0.0	0.0	20.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	18.0	0.0	0.0	0.0	18.0
BLACK COAL (Mt)							
EDR	-239.6	0.0	-451.0	0.0	0.0	13.6	-37.4
SDR	..	0.0	557.0	0.0	0.0	160.0	717.0
IFR	..	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
BROWN COAL (Mt)							
EDR	-48.0	0.0	0.0	0.0	0.0	8.0	-40.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM (kt)							
EDR	-4.0	0.0	0.0	0.0	0.0	0.0	-4.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0

## OTHER VOLUME CHANGES 1995 TO 1996

The following discussion refers to table 2.34 (OVC 1995 to 1996).

## Base metals

## ZINC

An overall increase of 1.0 Mt occurred for EDR nationally. The largest movement, a 2.3 Mt industry revision in Queensland, was offset by industry revisions elsewhere, as well as production in most States. A small decrease occurred for SDR (0.6 Mt), mainly as a result of industry revision in Western Australia. IFR decreased by 1.5 Mt, with 2.1 Mt due to industry revision in Queensland being the major contributor. This was offset to an extent by discoveries in a number of States, as well as industry revision in Western Australia.

## LEAD

Both EDR and SDR increased slightly in this year (426 kt and 457 kt, respectively). IFR increased by 3,537 kt, primarily as a consequence of a discovery in Western Australia (4,624 kt), this being offset marginally by industry revisions in a number of States.

## COPPER

An overall decrease of 0.5 Mt occurred nationally for EDR. Production (0.5 Mt), of which 0.3 Mt occurred in Queensland; industry revision in Tasmania (0.1 Mt); and other resource changes comprised this decline. To a large extent these decreases were offset by industry revisions in New South Wales (0.3 Mt) and Queensland (0.2 Mt). SDR increased by 0.7 Mt as a result of small discoveries in New South Wales (0.1 Mt) and the Northern Territory (0.1 Mt), amongst other changes. Levels of IFR were up 2.2 Mt over this period, primarily due to discoveries in New South Wales (1.0 Mt) and Western Australia (0.5 Mt), as well as some smaller discoveries in other States. These increases were negated primarily by industry revisions in Western Australia (0.3 Mt) and Tasmania (0.2 Mt).

## NICKEL

Western Australian discoveries totalling 2,467 kt accounted for most of the 2,638 kt increase in EDR nationally. Discoveries in New South Wales and Western Australia totalling 1,093 kt were more than offset by reclassification due to economic reasons (1,891 kt) and industry revision (101 kt) in Western Australia, to give a total decrease of 827 kt in SDR for Australia. As in the previous year, large discoveries in Western Australia (2,127 kt) were primarily responsible for the national increase of 2,232 kt in IFR.

## COBALT

EDR continued to rise with a 140.1 kt increase nationally as a result of unclassified changes in New South Wales, Queensland, South Australia and Western Australia. SDR fell slightly (27.8 kt), while a significantly large increase occurred for IFR (263.7 kt).

## ANTIMONY

EDR decreased by 8.0 kt in this year. A 2.7 kt increase occurred for SDR, and IFR fell 8.9 kt. Detailed information is not available due to confidentiality.

## CADMIUM

After the large increase experienced between 1994 and 1995, EDR fell by 8.5 kt. Virtually no change was recorded for SDR, with IFR falling by 9.4 kt.

Base metals *continued*

## TIN

There was a decrease of 16.7 kt nationally for EDR. Production in Tasmania (11.7 kt) was largely responsible for this decline. SDR increased by 25.5 kt, primarily due to industry revision in Queensland (19.3 kt). Industry revision in Tasmania was responsible for the remainder. Similarly, industry revisions in these States resulted in a 36.2 kt fall in IFR.

## TUNGSTEN

Following the relatively large movements of the previous year, changes between 1995 and 1996 were negligible. The only recorded movement was production totalling 0.1 kt.

## Precious metals

## GOLD

EDR increases were less dramatic than the previous year, with a national movement of 191 t. On a State level, most movement occurred in Western Australia, where 428 t were discovered and partially offset by relatively large production (219 t). SDR increased by 115 t, again mainly due to Western Australian discoveries (111 t). Other changes in SDR included a 58 t decrease due to reclassification (economic) in New South Wales, an amount largely offset by changes across States from industry revisions. IFR increased substantially (509 t), the bulk of which is attributed to discoveries across the States, primarily 359 t in Western Australia.

## SILVER

Industry revisions across a number of States were partially offset by increased production, resulting in a 1.8 kt increase nationally in EDR. SDR increased by 3.5 kt, primarily due to discoveries in New South Wales (2.1 kt) and Queensland (1.2 kt). Industry revision in Queensland (2.9 kt) was the main contributor to the 3 kt decrease in IFR nationally.

## PLATINUM GROUP METALS

EDR increased by 1.9 t in this year. The largest movement occurred with SDR, which increased by 21.4 t due to unclassified changes. IFR increased by 6.6 t, the largest movement being discoveries totalling 4.5 t in New South Wales.

## GEM AND NEAR GEM DIAMOND

Decreases in Western Australia resulted in a fall of 15.8 Mc in EDR for this year. The large increase in SDR (65.8 Mc) occurred mainly as a result of an industry revision in Western Australia. Similarly, industry revision in this State was the main cause of a small decrease in IFR nationally (6.8 Mc).

## INDUSTRIAL DIAMOND

Industrial diamond trends closely followed those occurring for gem and near gem resources. EDR continued to fall in this calendar year due to movements in Western Australia (37.8 Mc). Industry revisions in this State were also primarily responsible for a national increase in SDR (44.4 Mc), and a fall in IFR (18.4 Mc).

## Metallic minerals

## IRON ORE

Virtually no movement was recorded for EDR and SDR, and a relatively small increase of 193 Mt for IFR.

Metallic minerals *continued*

## BAUXITE

EDR increased by 484 Mt, primarily due to industry revisions in Western Australia (325 Mt), with discoveries totalling 175 Mt occurring in Queensland. SDR increased by 84 Mt. A large decrease of 536 Mt occurred in IFR, mostly as a result of industry revision in Western Australia (which led to a decrease of 886 Mt for that State). This was offset to a large extent by discoveries in Queensland (425 Mt).

## MAGNESITE

All changes for magnesite occurred in Queensland, with a 61.4 Mt decrease in EDR due to reclassification for economic reasons, and an increase of 33.6 Mt in SDR for the same reasons. IFR decreased dramatically (121.2 Mt), the combined effect of reclassification (economic) (27.8 Mt), and industry revision (93.4 Mt).

## MANGANESE ORE

EDR fell by 3.2 Mt, a combination of production (2.1 Mt) and industry revision (1.1 Mt). Changes in SDR and IFR were negligible.

## VANADIUM

As with the previous year, there were no movements in EDR between 1995 and 1996. Industry revision in Western Australia resulted in a 119.9 kt decrease in SDR. IFR decreased by 19.4 kt for the same reasons.

## Mineral sands

## ILMENITE

A small overall increase of 0.3 Mt occurred for EDR. This was due to 3.9 Mt in discoveries in Western Australia being largely offset by increased production (1.8 Mt), and reclassification due to economic reasons (2.5 Mt) in this State. SDR increased by 1.5 Mt, largely as a result of discoveries in New South Wales (1.3 Mt). Nationally, IFR fell by 9.9 Mt. The largest contributor to this reduction was industry revision in Western Australia (9.4 Mt). Discovery in Western Australia (3.6 Mt) offset this and other decreases to some extent.

## RUTILE

Decreases in EDR in New South Wales (1.1 Mt) were balanced by increases in Queensland (0.7 Mt) and Western Australia (0.4 Mt), resulting in no change nationally. Discoveries in New South Wales and Victoria, and reclassification (economic) in New South Wales, resulted in a 0.9 Mt increase nationally in SDR. Industry revision in two States (Queensland and Western Australia) was primarily responsible for a 1.0 Mt decrease in IFR for Australia.

## ZIRCON

An overall decrease of 1.1 Mt occurred for EDR, mainly as a result of reclassification due to economic reasons in New South Wales (0.6 Mt) and Western Australia (1.5 Mt), as well as increased production in Western Australia (0.4 Mt). These decreases were balanced by discoveries in Western Australia totalling 1.4 Mt. SDR increased by 0.7 Mt due mainly to reclassification in New South Wales (0.6 Mt). IFR changes were negligible.

## Other minerals

## LITHIUM

EDR increased by 14 kt, mainly as a result of industry revision in Western Australia (17 kt). A small increase in production (3 kt) occurred in this State also. The biggest movement was in SDR, with 79 kt discovered in Western Australia. No movement was recorded for IFR.

## TANTALUM

An industry revision in Western Australia was primarily responsible for an increase of 1.9 kt nationally in EDR. There was a slight increase in SDR (0.1 kt), and a 0.3 kt decrease for IFR, also in Western Australia.

## PHOSPHATE

EDR occurred for the first time for this mineral, with 103 Mt recorded in Queensland due to industry revision. After years of little movement, SDR increased by 663 Mt, also due to industry revision in Queensland. No change was recorded in IFR.

## RARE EARTH OXIDES

EDR fell by 65 kt nationally, mainly as result of reclassification for economic reasons in Western Australia (78 kt). SDR increased by 181 kt due to unclassified movements in South Australia (100 kt) and New South Wales (81 kt). Resource changes in South Australia (234 kt) were also responsible for the increase in IFR nationally. This was offset to a small extent by reclassification in Western Australia (22 kt) to give an overall increase of 212 kt.

## Energy minerals

## BLACK COAL

A decrease of 121 Mt occurred in EDR, mainly as a result of production (252 Mt) in New South Wales and Queensland. However, this decrease was offset to an extent by a 130 Mt increase in other resource changes spread across New South Wales, Queensland and Western Australia. No change occurred in SDR, and large IFR in New South Wales and Queensland have not been quantified.

## BROWN COAL

An overall decrease of 47 Mt occurred for EDR. Production in Victoria (53 Mt) was mainly responsible for this movement. No changes occurred for SDR and IFR.

## URANIUM

Production accounted for most of the 7 kt decrease in EDR. Reclassification for economic reasons in South Australia and the Northern Territory resulted in a 16 kt increase in SDR. Reclassification in these States was also responsible for a 14 kt fall in recorded IFR.

### 2.34 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1996

Reclassification.....							
Resource category	Production	Discovery	Economic	Technical	Industry Revision	Other volume changes n.e.c	Resource Change
ZINC (Mt)							
EDR	-1.1	0.0	0.0	0.0	1.6	0.5	1.0
SDR	..	0.2	0.0	0.0	-0.7	0.0	-0.6
IFR	..	0.4	0.0	0.0	-1.9	0.0	-1.5
LEAD (kt)							
EDR	-513.0	0.0	0.0	0.0	1 183.0	-244.0	426.0
SDR	..	219.0	0.0	0.0	243.0	-5.0	457.0
IFR	..	4 624.0	310.0	0.0	-1 340.0	-57	3 537.0
COPPER (Mt)							
EDR	-0.5	0.1	0.0	0.0	0.4	-0.4	-0.5
SDR	..	0.2	0.0	0.0	0.0	0.4	0.7
IFR	..	1.7	0.0	0.0	-0.3	0.8	2.2
NICKEL (kt)							
EDR	-113.0	2 467.0	676.0	0.0	-331.0	-61.0	2 638.0
SDR	..	1 093.0	-1 953.0	0.0	-101.4	135.0	-827.0
IFR	..	2 139.0	111.0	0.0	-16.5	-2.0	2 232.0
COBALT (kt)							
EDR	-0.9	n.p.	n.p.	n.p.	n.p.	n.p.	140.1
SDR	..	n.p.	n.p.	n.p.	n.p.	n.p.	-27.8
IFR	..	n.p.	n.p.	n.p.	n.p.	n.p.	263.7
ANTIMONY (kt)							
EDR	-1.3	n.p.	n.p.	0.0	n.p.	n.p.	-8.0
SDR	..	n.p.	n.p.	0.0	n.p.	n.p.	2.7
IFR	..	n.p.	n.p.	0.0	n.p.	n.p.	-8.9
CADMIUM (kt)							
EDR	-1.9	0.0	0.0	1.2	-1.1	-6.7	-8.5
SDR	..	1.4	0.0	0.1	-0.9	-0.1	0.5
IFR	..	0.1	0.0	0.0	-5.8	-3.7	-9.4
TIN (kt)							
EDR	-12.2	0.0	-0.7	0.0	-3.8	0.0	-16.7
SDR	..	0.0	0.6	0.0	24.9	0.0	25.5
IFR	..	0.0	0.0	0.0	-36.2	0.0	-36.2
TUNGSTEN (kt)							
EDR	-0.1	0.0	0.0	0.0	0.0	0.0	-0.1
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
GOLD (t)							
EDR	-289.0	493.8	62.5	0.0	-21.6	-54.6	191.1
SDR	..	140.0	-52.3	0.0	33.0	-6.0	115.0
IFR	..	511.0	0.0	0.0	-12.0	10.0	509.0

**2.34 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1996** *continued*

<i>Reclassification.....</i>							
<i>Resource category</i>	<i>Production</i>	<i>Discovery</i>	<i>Economic</i>	<i>Technical</i>	<i>Industry Revision</i>	<i>Other volume changes n.e.c</i>	<i>Resource Change</i>
<b>SILVER (kt)</b>							
EDR	-1.0	0.0	0.0	0.0	2.2	0.6	1.8
SDR	..	3.7	0.0	0.0	-0.2	0.1	3.5
IFR	..	0.4	0.0	0.0	-2.9	-0.4	-3.0
<b>PLATINUM GROUP METALS (t)</b>							
EDR	0.0	0.0	0.0	0.0	0.0	1.9	1.9
SDR	..	0.0	0.0	0.0	0.0	21.4	21.4
IFR	..	4.5	0.0	0.0	0.0	2.1	6.6
<b>GEM &amp; NEAR GEM DIAMOND (Mc)</b>							
EDR	-23.1	0.0	0.0	0.0	0.0	6.9	-16.2
SDR	..	0.0	0.0	0.0	65.6	2.0	65.6
IFR	..	0.0	0.0	0.0	-6.9	0.1	-6.8
<b>INDUSTRIAL DIAMOND (Mc)</b>							
EDR	-18.9	0.0	0.0	0.0	0.0	-19.0	-37.9
SDR	..	0.0	0.0	0.0	44.4	0.0	44.4
IFR	..	0.0	0.0	0.0	-18.4	0.0	-18.4
<b>IRON ORE (Mt)</b>							
EDR	-147.0	0.0	0.0	0.0	32.0	82.0	-33.0
SDR	..	0.0	0.0	0.0	0.0	24.0	24.0
IFR	..	169.0	0.0	0.0	0.0	24.0	193.0
<b>BAUXITE (Mt)</b>							
EDR	-43.1	175.0	0.0	0.0	309.0	43.1	484.0
SDR	..	0.0	0.0	0.0	157.0	-73.0	84.0
IFR	..	425.0	0.0	0.0	-886.0	-75.0	-536.0
<b>MAGNESITE (Mt)</b>							
EDR	-0.2	0.0	-61.4	0.0	0.0	0.2	-61.4
SDR	..	0.0	33.6	0.0	0.0	0.0	33.6
IFR	..	0.0	-27.8	0.0	-93.4	0.0	-121.2
<b>MANGANESE (Mt)</b>							
EDR	-2.1	0.0	0.0	0.0	-1.1	0.0	-3.2
SDR	..	0.0	0.0	0.0	-0.2	0.0	-0.2
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
<b>VANADIUM (kt)</b>							
EDR	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SDR	..	0.0	0.0	0.0	-119.9	0.0	-119.9
IFR	..	0.0	0.0	0.0	-19.4	0.0	-19.4
<b>MINERAL SANDS — Ilmenite (Mt)</b>							
EDR	-2.0	4.2	-2.1	0.0	0.0	0.1	0.3
SDR	..	1.5	0.0	0.0	0.0	0.0	1.5
IFR	..	3.6	-1.5	0.0	-9.4	-2.7	-9.9



**2.34 MINERAL RESOURCE VOLUME CHANGES, Commodity—Calendar year 1996** *continued*

<i>Reclassification.....</i>							
<i>Resource category</i>	<i>Production</i>	<i>Discovery</i>	<i>Economic</i>	<i>Technical</i>	<i>Industry Revision</i>	<i>Other volume changes n.e.c</i>	<i>Resource Change</i>
MINERAL SANDS — Rutile (Mt)							
EDR	-0.2	0.6	-1.4	0.0	0.7	0.3	0.0
SDR	..	0.3	0.6	0.0	0.0	0.0	0.9
IFR	..	0.2	0.0	0.0	-1.2	0.0	-1.0
MINERAL SANDS — Zircon (Mt)							
EDR	-0.5	1.4	-2.1	0.0	-0.1	0.2	-1.1
SDR	..	0.3	0.6	0.0	-0.1	0.0	0.7
IFR	..	0.5	0.0	0.0	-0.3	-0.2	0.0
LITHIUM (kt)							
EDR	-3.0	0.0	0.0	0.0	17.0	0.0	14.0
SDR	..	79.0	0.0	0.0	0.0	0.0	79.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
TANTALUM (kt)							
EDR	-0.3	0.0	0.0	0.0	2.2	0.0	1.9
SDR	..	0.0	0.0	0.0	0.1	0.0	0.1
IFR	..	0.0	0.0	0.0	-0.3	0.0	-0.3
PHOSPHATE (Mt)							
EDR	0.0	0.0	0.0	0.0	103.0	0.0	103.0
SDR	..	0.0	0.0	0.0	663.0	0.0	663.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
RARE EARTH OXIDES (kt)							
EDR	0.0	0.0	-78.0	0.0	3.0	16.0	-65.0
SDR	..	0.0	0.0	0.0	0.0	181.0	181.0
IFR	..	0.0	-22.0	0.0	0.0	234.0	212.0
BLACK COAL (Mt)							
EDR	-251.9	0.0	0.0	0.0	0.0	130.0	-121.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.
BROWN COAL (Mt)							
EDR	-53.0	0.0	0.0	0.0	0.0	6.0	-47.0
SDR	..	0.0	0.0	0.0	0.0	0.0	0.0
IFR	..	0.0	0.0	0.0	0.0	0.0	0.0
URANIUM (kt)							
EDR	-5.0	0.0	0.0	0.0	-2.0	0.0	-7.0
SDR	..	0.0	16.0	0.0	0.0	0.0	16.0
IFR	..	0.0	-14.0	0.0	0.0	0.0	-14.0

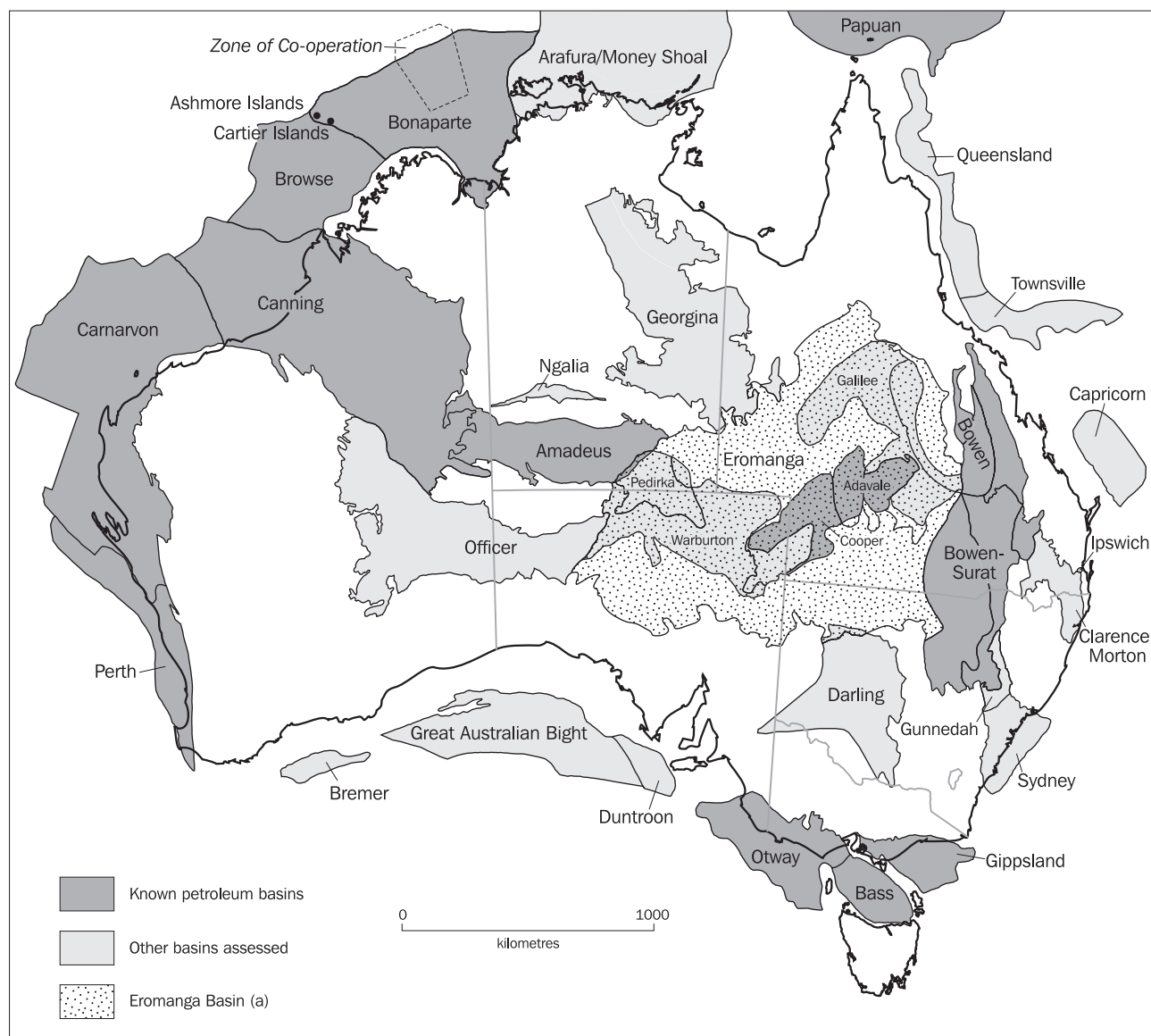
## PETROLEUM

The following discussion is based on the data for identified petroleum resources and assessments of undiscovered petroleum. The petroleum products presented are oil, condensate, LPG and gas. Gas is measured in billions of cubic metres (Bcm or  $1\text{m}^3 \times 10^9$ ), while the other products are measured in gigalitres (GL).

Identified resources are those whose existence is well established. They are divided between EDR and SDR (see chapter 1 for descriptions of EDR and SDR). Undiscovered petroleum has not yet been definitely identified by drilling or recovery at the surface, but instead are quantitative estimates of what might be recoverable (BRS 1997a, p. 1).

Assessments of petroleum resources are presented for basins distributed across Australia's land surface and its national waters. Map 2.35 shows the petroleum basins discussed in this chapter.

## 2.35 Petroleum Basins—Australia



(a) Eromanga basin is an assessed basin comprised of: Adavale basin; Cooper basin; Galilee basin; Pedirka basin; and Warburton basin.

Source: Bureau of Resource Sciences.

PETROLEUM *continued*

One basin which is geographically significant is the Bonaparte basin. This basin contains a region known as the Zone of Co-operation (ZOC). The ZOC encompasses an area known as the Timor Gap, approximately 68,000 square kilometres, located in the Timor Sea between Australia and East Timor. Historically, this is a region which has been in dispute between Australia and Indonesia. In 1989, the dispute was resolved with Australia and Indonesia entering into a treaty, effective 9 February 1991.

The ZOC was established and this region was divided into three areas: Area A (referred to as ZOCA) covers approximately half the total area of the entire ZOC and is controlled equally by Australia and Indonesia; Area B (referred to as ZOCCB) is controlled by Australia; and Area C (referred to as ZOCC) is controlled by Indonesia.

In the discussion of identified petroleum resources, estimates for 'Bonaparte ZOCA' are presented separately from the Bonaparte basin. The ZOCCB estimates are included with the Bonaparte basin estimates. ZOCC estimates are excluded, as this area is not within Australian jurisdiction. In the discussion of undiscovered petroleum resources, the estimates for the Bonaparte basin include the ZOCA.

## Identified resources

The BRS estimates that 'production depletes our remaining crude oil resources at 3.7% a year, condensate at 1.4% a year and natural gas at 0.8% a year. At the end of 1995, Australia had already produced an average of about 52% of its assessed crude oil resources, 12% of its assessed condensate resources and 9% of its assessed gas resources' (BRS 1997c, p. 2).

Table 2.36 presents total average annual change for identified resources. Overall, the rate of change increased between 1985–90 and 1990–96, for oil, condensate and gas. Change was most rapid for EDR across all resource categories, with a notable exception being the very high average annual change of 29.1% for LPG SDR for the 1985–90 period. Movement for the following period (1990–96) slowed to –4.2%.

Table 2.37 summarises petroleum identified resources for Australia, in quantity terms. Generally, EDRs are rising faster than SDRs, suggesting discoveries of a high quality. In summary, in 1985, identified (liquid) resources comprised: oil 55.4%; condensate 24.0%; and LPG 20.6%. In 1996, identified (liquid) resources comprised: oil 35.3%; condensate 32.0%; and LPG 32.7%.

## 2.36 PETROLEUM IDENTIFIED RESOURCE MOVEMENTS

	Average annual change 1985–90	Average annual change 1990–96
	%	%
OIL (GL)		
EDR	4.1	–2.4
SDR	–17.5	–9.8
Total resource change	3.5	12.0
CONDENSATE (GL)		
EDR	5.3	7.7
SDR	6.2	–0.8
Total resource change	6.1	16.6
GAS (Bcm)		
EDR	4.5	5.8
SDR	4.9	–2.6
Total resource change	4.9	9.5
LPG (GL)		
EDR	4.1	6.3
SDR	29.1	–4.2
Total resource change	12.6	11.6

Source: BRS data derivation from consultancy service.

### 2.37 PETROLEUM IDENTIFIED RESOURCES, Australia

Resource categories	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
OIL (GL)												
EDR	217	242	245	255	260	269	258	244	249	296	277	240
SDR	46	20	27	28	19	48	39	38	31	29	24	29
CONDENSATE (GL)												
EDR	86	116	119	122	119	117	123	133	135	155	182	191
SDR	28	66	57	46	54	53	56	54	53	64	67	53
GAS (Bcm)												
EDR	709	902	1 068	1 033	955	927	950	1 005	992	1 293	1 264	1 360
SDR	821	1 187	1 171	1 048	1 175	1 128	1 088	1 130	1 141	1 248	1 098	983
LPG (GL)												
EDR	88	99	97	129	113	114	131	135	133	154	144	173
SDR	10	13	11	38	47	95	83	89	86	89	90	76

The following discussion refers to basin resource tables 2.38 to 2.41.

The emphasis in petroleum is shifting to off-shore Western Australia. In this region, identified resources are rising for all petroleum categories. The Carnarvon basin, on the North-West shelf, is the main Australian basin for identified resources in all petroleum categories except oil. As a whole, the grouping of Carnarvon, Browse, Gippsland, Bonaparte and Bonaparte ZOCA represent the major identified resource basins. Between 1985 and 1996, their share of identified oil resources rose from 90.5% to 95.2%, condensate rose from 85.1% to 93.9%, gas rose from 91.0% to 93% and LPG rose from 76.5% to 92.0%.

Petroleum activity is moving away from Bass Strait, due to the growth of resources in Western Australia. In 1985 the Gippsland basin in Bass Strait accounted for 79.1% of identified resources for oil, 17.5% for condensate, 12.4% for gas and 44.9% for LPG. By 1996, identified resources had fallen to 43.5% for oil, 8.6% for condensate, 8.7% for gas and 13.7% for LPG. However, despite its fall in relative contribution since 1985, Gippsland does remain, for the time being, Australia's main oil producing basin in terms of demonstrated resources. Similarly, the contributions of condensate and gas from Gippsland remain fairly constant in volume, only falling in relative terms due to the increase in demonstrated resources off-shore in Western Australia. Bonaparte Zone of Co-operation A (ZOCA) has come into play since 1994, with big EDR finds for condensate and gas in particular. Browse holds the majority of SDR for condensate, LPG and gas, but none of these resources have been designated as EDR yet.

Onshore resources for condensate, gas and LPG remain reasonably steady, though at levels far lower than off-shore Western Australia. The Cooper basin is the main inland field for condensate, gas and LPG, while the Eromanga basin is the main inland field for oil. The Amadeus basin is the other main onshore basin (see map 2.35).

**2.38 OIL RESOURCES, Basin—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Basin category</i>	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
Adavale												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Amadeus												
EDR	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0	1.0	1.0	1.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Bass												
EDR	—	—	—	—	—	—	—	—	2.0	2.0	2.0	2.0
SDR	—	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
Bonaparte												
EDR	3.0	4.0	5.0	25.0	34.0	29.0	15.0	16.0	11.0	36.0	38.0	35.0
SDR	3.0	1.0	1.0	4.0	—	4.0	5.0	2.0	6.0	4.0	4.0	9.0
Bonaparte ZOCA												
EDR	—	—	—	—	—	—	—	—	—	8.0	9.0	5.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Bowen												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Browse												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Canning												
EDR	—	1.0	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Carnarvon												
EDR	15.0	24.0	30.0	30.0	38.0	82.0	99.0	96.0	104.0	123.0	102.0	82.0
SDR	9.0	6.0	8.0	11.0	8.0	5.0	4.0	4.0	5.0	6.0	6.0	8.0
Cooper												
EDR	5.0	4.0	7.0	4.0	2.0	4.0	4.0	3.0	3.0	3.0	3.0	4.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Eromanga												
EDR	13.0	11.0	7.0	9.0	9.0	8.0	8.0	9.0	8.0	7.0	6.0	5.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Gippsland												
EDR	174.0	192.0	190.0	181.0	171.0	140.0	126.0	111.0	118.0	114.0	114.0	106.0
SDR	34.0	11.0	17.0	12.0	10.0	37.0	28.0	30.0	19.0	18.0	13.0	11.0
Otway												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Perth												
EDR	1.0	—	1.0	1.0	1.0	1.0	1.0	4.0	2.0	2.0	2.0	—
SDR	—	1.0	—	—	—	—	—	—	—	—	—	—
Surat												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Total</b>												
<b>EDR</b>	<b>217.0</b>	<b>242.0</b>	<b>245.0</b>	<b>255.0</b>	<b>260.0</b>	<b>269.0</b>	<b>258.0</b>	<b>244.0</b>	<b>249.0</b>	<b>296.0</b>	<b>277.0</b>	<b>240.0</b>
<b>SDR</b>	<b>46.0</b>	<b>20.0</b>	<b>27.0</b>	<b>28.0</b>	<b>19.0</b>	<b>48.0</b>	<b>39.0</b>	<b>38.0</b>	<b>31.0</b>	<b>29.0</b>	<b>24.0</b>	<b>29.0</b>

**2.39 CONDENSATE RESOURCES, Basin—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Basin category</i>	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
<b>Adavale</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Amadeus</b>												
EDR	—	1.0	—	—	—	—	—	—	1.0	1.0	1.0	1.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Bass</b>												
EDR	—	—	—	—	—	—	—	—	1.0	1.0	1.0	1.0
SDR	7.0	8.0	8.0	8.0	5.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0
<b>Bonaparte</b>												
EDR	—	2.0	4.0	6.0	3.0	2.0	2.0	4.0	2.0	2.0	2.0	2.0
SDR	7.0	7.0	1.0	1.0	5.0	5.0	7.0	5.0	8.0	4.0	4.0	4.0
<b>Bonaparte ZOCA</b>												
EDR	—	—	—	—	—	—	—	—	—	1.0	26.0	21.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Bowen</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Browse</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	8.0	45.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0	49.0	49.0	36.0
<b>Canning</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Carnarvon</b>												
EDR	57.0	84.0	87.0	85.0	86.0	86.0	92.0	102.0	104.0	123.0	128.0	143.0
SDR	5.0	4.0	4.0	2.0	7.0	5.0	4.0	4.0	—	—	2.0	2.0
<b>Cooper</b>												
EDR	8.0	7.0	6.0	7.0	7.0	7.0	7.0	6.0	6.0	7.0	6.0	5.0
SDR	1.0	2.0	—	3.0	2.0	2.0	4.0	4.0	5.0	3.0	3.0	3.0
<b>Eromanga</b>												
EDR	1.0	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Gippsland</b>												
EDR	20.0	22.0	22.0	24.0	23.0	22.0	22.0	21.0	21.0	20.0	18.0	18.0
SDR	—	—	2.0	—	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0
<b>Otway</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Perth</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Surat</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Total</b>												
EDR	86.0	116.0	119.0	122.0	119.0	117.0	123.0	133.0	135.0	155.0	182.0	191.0
SDR	28.0	66.0	57.0	46.0	54.0	53.0	56.0	54.0	53.0	64.0	67.0	53.0

**2.40 GAS RESOURCES, Basin—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Basin category</i>	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm	Bcm
<b>Adavale</b>												
EDR	—	—	—	—	—	—	—	—	—	1.0	1.0	1.0
SDR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	—	—	—
<b>Amadeus</b>												
EDR	15.0	15.0	9.0	8.0	8.0	10.0	10.0	9.0	10.0	10.0	9.0	10.0
SDR	—	10.0	10.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
<b>Bass</b>												
EDR	—	—	—	—	—	—	—	—	3.0	3.0	3.0	3.0
SDR	8.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0	7.0	7.0	7.0	7.0
<b>Bonaparte</b>												
EDR	—	172.0	64.0	76.0	16.0	10.0	10.0	24.0	12.0	12.0	12.0	10.0
SDR	229.0	44.0	47.0	81.0	143.0	156.0	164.0	155.0	173.0	161.0	130.0	129.0
<b>Bonaparte ZOCA</b>												
EDR	—	—	—	—	—	—	—	—	—	1.0	63.0	53.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Bowen</b>												
EDR	2.0	1.0	1.0	2.0	2.0	5.0	5.0	4.0	5.0	5.0	4.0	3.0
SDR	5.0	5.0	5.0	5.0	5.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
<b>Browse</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	128.0	683.0	640.0	489.0	486.0	451.0	451.0	497.0	497.0	625.0	625.0	521.0
<b>Canning</b>												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Carnarvon</b>												
EDR	429.0	438.0	710.0	670.0	650.0	596.0	621.0	672.0	658.0	958.0	907.0	1 014.0
SDR	416.0	400.0	401.0	378.0	444.0	424.0	378.0	385.0	373.0	373.0	254.0	248.0
<b>Cooper</b>												
EDR	93.0	85.0	78.0	73.0	81.0	76.0	75.0	73.0	74.0	83.0	77.0	76.0
SDR	8.0	15.0	18.0	35.0	36.0	41.0	41.0	40.0	42.0	33.0	36.0	37.0
<b>Eromanga</b>												
EDR	2.0	2.0	1.0	1.0	1.0	—	1.0	1.0	—	—	—	—
SDR	1.0	—	—	—	—	1.0	—	—	—	1.0	1.0	1.0
<b>Gippsland</b>												
EDR	165.0	186.0	198.0	197.0	192.0	224.0	222.0	216.0	212.0	206.0	173.0	175.0
SDR	25.0	21.0	41.0	35.0	41.0	34.0	34.0	34.0	36.0	36.0	33.0	29.0
<b>Otway</b>												
EDR	—	—	—	—	—	1.0	1.0	1.0	12.0	9.0	10.0	10.0
SDR	—	—	—	6.0	1.0	—	—	—	4.0	4.0	4.0	3.0
<b>Perth</b>												
EDR	2.0	2.0	5.0	5.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
SDR	—	—	—	—	—	1.0	—	—	—	—	—	—
<b>Surat</b>												
EDR	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Total</b>												
EDR	709.0	902.0	1 068.0	1 033.0	955.0	927.0	950.0	1 005.0	992.0	1 293.0	1 264.0	1 360.0
SDR	821.0	1 187.0	1 171.0	1 048.0	1 175.0	1 128.0	1 088.0	1 130.0	1 141.0	1 248.0	1 098.0	983.0



**2.41 LPG RESOURCES, Basin—Calendar year**

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<i>Basin category</i>	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
Adavale												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Amadeus												
EDR	1.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	—	—	1.0	1.0
SDR	—	1.0	—	—	—	—	—	—	—	—	—	—
Bass												
EDR	—	—	—	—	—	—	—	—	1.0	1.0	1.0	1.0
SDR	5.0	5.0	5.0	5.0	7.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0
Bonaparte												
EDR	—	8.0	10.0	10.0	—	—	—	—	—	—	—	—
SDR	3.0	3.0	4.0	4.0	12.0	12.0	12.0	12.0	12.0	4.0	4.0	4.0
Bonaparte ZOCA												
EDR	—	—	—	—	—	—	—	—	—	—	—	14.0
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Bowen												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Browse												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	23.0	23.0	55.0	55.0	61.0	61.0	74.0	74.0	63.0
Canning												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Carnarvon												
EDR	27.0	28.0	27.0	60.0	54.0	58.0	77.0	84.0	84.0	105.0	98.0	114.0
SDR	1.0	2.0	2.0	—	—	16.0	2.0	2.0	—	—	—	—
Cooper												
EDR	16.0	14.0	12.0	10.0	12.0	11.0	11.0	11.0	10.0	12.0	11.0	9.0
SDR	1.0	2.0	—	6.0	5.0	4.0	6.0	6.0	6.0	4.0	4.0	2.0
Eromanga												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Gippsland												
EDR	44.0	45.0	47.0	48.0	46.0	44.0	42.0	39.0	38.0	36.0	33.0	34.0
SDR	—	—	—	—	—	—	—	—	—	—	1.0	—
Otway												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Perth												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
Surat												
EDR	—	—	—	—	—	—	—	—	—	—	—	—
SDR	—	—	—	—	—	—	—	—	—	—	—	—
<b>Total</b>												
<b>EDR</b>	<b>88.0</b>	<b>99.0</b>	<b>97.0</b>	<b>129.0</b>	<b>113.0</b>	<b>114.0</b>	<b>131.0</b>	<b>135.0</b>	<b>133.0</b>	<b>154.0</b>	<b>144.0</b>	<b>173.0</b>
<b>SDR</b>	<b>10.0</b>	<b>13.0</b>	<b>11.0</b>	<b>38.0</b>	<b>47.0</b>	<b>95.0</b>	<b>83.0</b>	<b>89.0</b>	<b>86.0</b>	<b>89.0</b>	<b>90.0</b>	<b>76.0</b>

## Other Volume Changes (OVC) 1994 to 1995

## OIL

There was a fall of 18 GL in EDR. Production contributed 23 GL, mainly in the Gippsland (12 GL) and Carnarvon (9 GL) basins. SDR fell 5 GL; a 16 GL economic reclassification of SDR to EDR was offset by a 10 GL geological reassessment and a small discovery (1 GL).

## CONDENSATE

There was a 28 GL increase in EDR, mainly comprising 25 GL of discoveries in the Bonaparte basin. Reassessments of available information contributed another 6 GL. Production reduced the overall increase by 4 GL. There was little movement in SDR.

## GAS

Geological reassessments caused a fall of 72 Bcm, and production caused a fall of 30 Bcm in EDR. Carnarvon and Gippsland basins were largely responsible in both cases. Offset against this was a 62 Bcm increase in EDR from discoveries in the Bonaparte ZOCA basin and, to a lesser extent, some economic reassessment of SDR to EDR. SDR fell significantly compared with EDR. The majority of the movement was due to a 122 Bcm fall in resources in the Carnarvon basin based on reassessment of available information.

## LPG

EDR fell 11 GL. Geological reassessments and production moved EDR down, and this was partially offset by the upgrading of some SDR to EDR. There was minimal movement in the level of SDR. Overall, there was a 1 GL rise when a 5 GL geological reassessment into SDR was countered by a 4 GL economic reassessment out of SDR, both in the Gippsland basin.

## Other Volume Changes 1995 to 1996

## OIL

EDR fell by 37 GL. Production accounted for 24 GL, similar to the previous year, with Gippsland (11 GL) and Carnarvon (11 GL) the major basins again. Geological reassessments were responsible for the remaining 13 GL fall in EDR, with a 9 GL fall in Carnarvon. SDR moved only slightly relative to EDR. Geological reassessments in two different basins negated each other. The only other movement in SDR was due to a discovery in the Bonaparte basin.

## CONDENSATE

A geological reassessment in the Carnarvon basin increased EDR by 20 GL. There were slight movements due to reassessment of information in Bonaparte ZOCA and Gippsland basins. Production took 7 GL from the EDR. Geological reassessments caused the only changes to SDR: a 13 GL fall at Browse and a 1 GL fall at Gippsland.

## GAS

A major geological reassessment for the Carnarvon basin contributed significantly to the increase in EDR. There were several small reassessments of other basins. Carnarvon contributed the majority (17 Bcm) of the production. A major geological reassessment in the Browse basin led to a fall of 104 Bcm in SDR. Further small geological and economic reassessments contributed to a further 13 Bcm fall.

Other Volume Changes 1995 to 1996 *continued*

## LPG

Geological reassessments, chiefly at the Bonaparte ZOCA and Carnarvon basins, increased the EDR. This increase was partly offset by production in three basins. SDR fell due to geological reassessments in two basins, most notably Browse, and economic reassessment in another basin.

**2.42 TOTAL PETROLEUM OTHER VOLUME CHANGES, Petroleum Commodity—Calendar year**

	Reclassification.....				Geological Knowledge.....				
Resource category	Production	Political changes	Technical	Economic	Change in methodology	Discoveries	Reassessments	Other volume changes n.e.c.	Total change
.....									
Calendar year 1994 to 1995									
Oil (GL)									
EDR	-23.0	0.0	0.0	16.0	0.0	8.0	-19.0	0.0	-18.0
SDR	0.0	0.0	0.0	-16.0	0.0	1.0	10.0	0.0	-5.0
Condensate (GL)									
EDR	-4.0	0.0	0.0	1.0	0.0	25.0	6.0	0.0	28.0
SDR	0.0	0.0	0.0	-1.0	0.0	0.0	3.0	0.0	2.0
Gas (Bcm)									
EDR	-30.0	0.0	0.0	13.0	0.0	62.0	-72.0	0.0	-27.0
SDR	0.0	0.0	0.0	-13.0	0.0	5.0	-142.0	0.0	-150.0
LPG (GL)									
EDR	-5.0	0.0	0.0	4.0	0.0	0.0	-10.0	0.0	-11.0
SDR	0.0	0.0	0.0	-4.0	0.0	0.0	5.0	0.0	1.0
.....									
Calendar year 1995 to 1996									
Oil (GL)									
EDR	-24.0	0.0	0.0	0.0	0.0	0.0	-13.0	0.0	-37.0
SDR	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	5.0
Condensate (GL)									
EDR	-7.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	10.0
SDR	0.0	0.0	0.0	0.0	0.0	0.0	-14.0	0.0	-14.0
Gas (Bcm)									
EDR	-31.0	0.0	0.0	5.0	0.0	0.0	122.0	0.0	96.0
SDR	0.0	0.0	0.0	-5.0	0.0	2.0	-112.0	0.0	-115.0
LPG (GL)									
EDR	-5.0	0.0	0.0	1.0	0.0	0.0	34.0	0.0	29.0
SDR	0.0	0.0	0.0	-1.0	0.0	0.0	-13.0	0.0	-14.0

## Undiscovered resources

Table 2.43 presents information on assessments of undiscovered petroleum resources for Australia. Selected years are reported as the data are only updated on a rotational basis, with individual basins reassessed once every three years on average. The data presented incorporates the latest assessments for the basins.

Undiscovered resources *continued*

The assessments of undiscovered resources give three values for a basin. These represent the volumes of petroleum for which there is a 5% probability of occurrence, average probability, and 95% probability of occurrence. For example, referring to table 2.43, in 1996 there was a 95% probability that at least 180 GL of oil resources were in existence, and a 5% probability that 520 GL existed, but the average estimate puts the volume at 320 GL. The risk of no petroleum remaining in a basin is taken into account when calculating this distribution.

In summary, in 1993, undiscovered (liquid) resources comprised, on average: oil 73.2%, condensate 15.2% and LPG 11.6%. In 1996, undiscovered (liquid) resources comprised, on average: oil 56.1%; condensate 23.7%; and LPG 20.2%.

**2.43 PETROLEUM UNDISCOVERED RESOURCES**

	1990	1993	1996
<b>OIL (GL)</b>			
5%	800	500	520
Average	380	290	320
95%	160	140	180
<b>CONDENSATE (GL)</b>			
5%	n.a.	125	250
Average	n.a.	60	135
95%	n.a.	25	65
<b>GAS (Bcm)</b>			
5%	1 300	1 000	1 680
Average	650	470	1 000
95%	300	200	520
<b>LPG (GL)</b>			
5%	n.a.	80	190
Average	n.a.	46	115
95%	n.a.	25	65

Source: BRS

## Risk assessments

Assessments of undiscovered resources are normally presented as 'risked'. The risk figure indicates the certainty of a resource. Where a basin is known to have some (or more) but currently undiscovered petroleum, it is considered to have a risk factor of 1. If the risk factor for a basin is 0.2, there is a 20% probability that there are resources in the basin (or an 80% likelihood that the basin *does not* contain resources). For all basins having some risk that no (more) petroleum is present, 'unrisked' assessments are made in addition to the risked assessments. Again, these estimates include the 5%, average, and 95% probability levels for a basin *if* petroleum were in fact present at all.

Detailed risked and unrisked assessments, and their associated probabilities, are available for oil and gas resources by basin. See Explanatory Notes for more information on related statistics.

## Other Volume Changes 1990 to 1996

Table 2.44 presents other volume changes for undiscovered petroleum assessments of the whole of Australia. That is, the volume change quantities provided refer to the average probability as a more realistic measure of volume changes occurring. Detailed estimates of the reason for change are not available, however, 'X' denotes the categories within which change is most likely to have occurred. More detailed information on risked and unrisked average assessments of volume changes by basin for oil and gas resources are available on request. Refer to Explanatory Notes for more information on the availability of related statistics.

## OIL

Between 1990 and 1993, risked average estimates for undiscovered oil fell from 419.6 GL to 279.7 GL, before rising again to 335.5 GL in 1996. The changes were due to a number of factors, including changes in geological knowledge and methodology, and political changes in the Bonaparte basin. Average oil assessment for the Bonaparte basin, which takes in the ZOC, moved from 155 GL in 1990 to 83 GL in 1996. In percentage terms, Bonaparte's contribution was 36.9% of total average assessments in 1990 and 24.7% in 1996. As a result of this fall, the Carnarvon basin had the highest risked average assessment in 1996 (93 GL). The Gippsland basin, Australia's largest identified oil resource, is less important in terms of undiscovered resources, with a risked average assessment of 30 GL in 1996, down from 45 GL in 1990. Basins with large potential reserves, should the existence of reserves be proven, include Queensland and Townsville with unrisked average values of 239 GL and 190 GL respectively, and very significant values of 1,018 GL and 860 GL respectively, at the 5% probability assessment.

## GAS

Between 1990 and 1993, risked average estimates for undiscovered gas, summed for all basins, fell from 726.8 Bcm to 468.3 Bcm, before rising to 949.7 Bcm in 1996. As with oil, the changes were due to a number of factors, including changes in geological knowledge and methodology, and political changes in the Bonaparte basin. The basins off Western Australia are very significant for undiscovered gas assessments. In 1996, risked average assessments were 600 Bcm for Carnarvon, 120 Bcm for Browse and 69 Bcm for Bonaparte. The Queensland and Townsville basins once more feature significantly in unrisked assessments.

## 2.44 UNDISCOVERED PETROLEUM AVERAGE ASSESSMENT, Other volume changes

Change in geological knowledge							
Commodity	Volume change	Political changes	Technical reclassification	Change in methodology	Discoveries	Other changes	Other volume changes n.e.c.
1990–93							
Crude oil (GL)(a,b,c)	–90	X	—	X	X	X	X
Natural gas (Bcm)(a,b,c)	–180	X	—	X	X	X	X
Condensate (GL)	n.a.	—	—	—	—	—	—
LPG (GL)	n.a.	—	—	—	—	—	—
1993–96							
Crude oil (GL)(c,d)	30	—	—	X	X	X	X
Natural gas (Bcm)(c,d)	530	—	—	X	X	X	X
Condensate (GL)(c,d)	75	—	—	X	X	X	X
LPG (GL)(c,d)	69	—	—	X	X	X	X

(a) Major change to the assessment methodology.

(b) Seabed negotiations with Indonesia a political factor.

(c) Major changes in geological knowledge.

(d) Minor, basin scale changes in methodology only.

Note: 'X' denotes the categories within which change is most likely to have occurred.

BACKGROUND

This chapter provides commentary on the flow tables for the 1992–93 and the 1993–94 financial years, derived in quantity terms, for selected mineral commodities. A flow table represents the flow of commodities from the natural environment through the production process to end-users. The estimates presented in chapter 3 were compiled with a number of assumptions:

- the price for a commodity is the same across all industries and end-users;
- the proportions derived from the current price monetary Input-Output tables (referred to as the Input-Output tables) are a good indicator of the amount of a commodity used by each industry and end-user;
- all quantity flows are valued in the Input-Output tables; and
- total supply data in quantity terms is conceptually consistent with total supply data in monetary terms.

The Explanatory Notes provide information on why the flow tables presented in tables 3.1 through to 3.5 have not been linked with the resource tables presented in chapter 2.

The tables presented in chapter 3 have been compiled using input-output concepts and classifications. The compilation methodology is described in the Explanatory Notes. The input-output industries and input-output commodity groups are consistent with the ANZSIC. A more detailed discussion of input-output compilation methods and input-output classifications can be found in *Australian National Accounts: Input-Output Tables* (Cat. no. 5209.0) and *Australian National Accounts: Input-Output Tables Commodity Details* (Cat. no. 5215.0).

These estimates should be treated as *experimental* and they should be viewed in light of the assumptions which have been made during the compilation process.

SUPPLY TABLE

Table 3.1 shows the total supply of selected commodities for the years 1992–93 and 1993–94. Total supply estimates are derived as the sum of production and imports of a commodity, in a reference period. The largest increases occurred for: crude oil 23.8%; natural gas 12.5%; bauxite 13.7%; zircon 16.0%; manganese 19.3%; limestone 17.7%; clays 32.8%; and non-metallic minerals 14.2%. Falls occurred in the following commodities: lead –6.3%; sand and gravel –28.9%; dimension stone –11.4%; salt –5.1%; and natural phosphates –7.7%.

## 3.1 SUPPLY TABLE—SELECTED COMMODITIES

<i>Commodities</i>	<i>Imports</i>	<i>Production</i>	<i>Total Supply</i>
1992–93			
Black coal (all types including briquettes) (kt)	76	183 382	183 458
Brown coal-lignite (including briquettes) (kt)	—	47 648	47 648
Crude oil (including condensate) (kL)	13 056 230	28 700 000	41 756 230
Natural gas (GL)	3	23 771	23 774
Liquefied natural gas; liquefied natural petroleum gases; oil and gas n.e.c. (kL)	215 876	4 035 206	4 251 082
Iron ores (kt)	7 161	117 781	124 942
Bauxite (kt)	25	41 661	41 686
Copper concentrates, oxides, precipitates and ores (kt)	45	427	472
Gold bullion and ores (kg)	—	247 500	247 500
Beneficiated ilmenite, ilmenite and leucoxene concentrates (kt)	—	1 843	1 843
Rutile concentrates (kt)	—	584	584
Zircon concentrate; monazite, xenotime and mineral sand ores n.e.c. (kt)	—	399	399
Nickel ores and concentrates (kt)	—	91	91
Lead ores and concentrates (excluding silver-lead-zinc ores) (kt)	33	554	587
Silver and zinc ores (kt)	24	1 704	1 728
Tin, tin-copper and tin-tantalite concentrates (kt)	—	7	7
Uranium concentrates (kt)	—	3	3
Manganese ores (kt)	—	1 714	1 714
Non-ferrous metallic ores and concentrates n.e.c. (including tungsten) (kt)	16	90	106
Sand and gravel (kt)	—	37 547	37 547
Dimension stone (kt)	209	800	1 009
Construction materials n.e.c. (including crushed and broken stone) (kt)	262	68 001	68 263
Limestone (including shell and coral) (kt)	205	12 961	13 166
Clays n.e.c. (including brick, pipe, tile and shale) (kt)	33	2 081	2 114
Salt (kt)	—	7 574	7 574
Precious and semi-precious gemstones (including garnet concentrate) (kg)	472 400	1 027 000	1 499 400
Non-metallic minerals n.e.c. (kt)	290	6 381	6 671
Natural phosphates (kt)	841	—	841



3.1 SUPPLY TABLE—SELECTED COMMODITIES *continued*

Commodities	Imports	Production	Total Supply
1993–94			
Black coal (all types incl briquettes) (kt)	182	184 827	185 009
Brown coal-lignite (incl briquettes) (kt)	—	49 980	49 980
Crude oil (incl. condensate) (kL)	20 301 727	31 390 000	51 691 727
Natural gas (GL)	3	26 743	26 746
Liquefied natural gas; liquefied natural petroleum gases; oil and gas n.e.c. (kL)	297 760	4 045 814	4 343 574
Iron ores (kt)	8 280	125 353	133 633
Rutile, beneficiated ilmenite, ilmenite and leucoxene concentrates (kt)	3 736	n.p.	n.p.
Bauxite (kt)	20	47 386	47 406
Copper concentrates, oxides, precipitates and ores (kt)	43	440	473
Gold bullion and ores (kg)	—	254 900	254 900
Rutile, beneficiated ilmenite, ilmenite and leucoxene concentrates (kt)	23	2 435	2 458
Zircon concentrate; monazite, xenotime and mineral sand ores n.e.c. (kt)	8	455	463
Nickel ores and concentrates (kt)	—	105	105
Lead ores and concentrates (excluding silver-lead-zinc ores) (kt)	10	540	550
Silver and zinc ores (kt)	20	1 911	1 931
Tin, tin-copper and tin-tantalite concentrates (kt)	—	n.p.	n.p.
Uranium concentrates (kt)	—	3	3
Manganese ores (kt)	—	2 045	2 045
Non-ferrous metallic ores and concentrates n.e.c. (including tungsten) (kt)	13	87	100
Sand and gravel (kt)	—	26 623	26 623
Dimension stone (kt)	258	636	894
Construction materials n.e.c. (including crushed and broken stone) (kt)	694	66 041	66 335
Limestone (incl shell and coral) (kt)	254	15 248	15 502
Clays n.e.c. (including brick, pipe, tile and shale) (kt)	29	2 788	2 807
Salt (kt)	—	7 188	7 188
Precious and semi-precious gemstones (including garnet concentrate) (kg)	501 800	997 000	1 498 800
Non-metallic minerals n.e.c. (kt)	248	7 370	7 618
Natural phosphates (kt)	776	—	776

## USE TABLE

Chapter 3 estimates were compiled from detailed commodity data, some of which cannot be published in the use table, due to confidentiality restrictions being applied to the disposition of the use of the commodity by industries. In this chapter, where detailed commodity data are not affected by confidentiality restrictions they will be published in tables 3.4 and 3.5. The use table (tables 3.2 and 3.3) shows commodity group data. A commodity group is made up of commodities which have similar characteristics. The following discussion centres on the commodity groups shown in tables 3.2 and 3.3 which have been transposed, showing industries in the rows and commodities in the columns.

## Coal, oil and gas

In 1992–93, 57.5% of coal, oil and gas were exported and in 1993–94, 54.3% was exported. In 1992–93, 0.7% of the output of coal, oil and gas were consumed internally by the coal, oil and gas industry. The main industries that used coal, oil and gas were: petroleum and coal products; basic non-ferrous metals etc.; electricity; and the gas industry. In 1993–94, again 0.7% of the output of the coal, oil and gas commodity group was consumed internally by the coal, oil and gas industry. The main industries that used coal, oil and gas were: petroleum and coal products; basic chemicals; cement, lime and concrete slurry; iron and steel; basic non-ferrous metals etc.; and the electricity industry.

## Iron ores

In 1992–93, 80.7% of iron ores were exported and in 1993–94, 75.4% was exported. In 1992–93, 3.7% of the output of iron ores were consumed internally by the iron ores industry. The main industries that used iron ores were: iron and steel; structural metal products; and fabricated metal products. In 1993–94, 2.3% of the output of the iron ores commodity group was consumed internally by the iron ores industry. The main industries that used iron ores were: iron and steel; structural metal products; and fabricated metal products.

## Non-ferrous metal ores

In 1992–93 and 1993–94, 21.6% of non-ferrous metal ores were exported. In 1992–93, 0.6% of the output of the non-ferrous metal ores group were consumed internally by the non-ferrous metal industry and basic non-ferrous metals etc. was the largest user of non-ferrous metals' commodities. In 1993–94, 0.4% of the output of the non-ferrous metal ores group were consumed internally by the non-ferrous metal industry and basic non-ferrous metals etc. was again the largest user of non-ferrous metals' commodities.

## Other mining

In 1992–93, 8.0% of other mining were exported and in 1993–94, 3.4% were exported. In 1992–93, 5.1% of the output of other mining were consumed internally by the other mining industry. The main industries that used other mining commodities were: non-ferrous metal ores; cement and lime; concrete slurry; plaster and other concrete products; non-metallic mineral products n.e.c.; iron and steel; residential building; and other construction. In 1993–94, 2.3% of the output of the other mining commodity group was consumed internally by the other mining industry. The main industries that used other mining commodities were: non-ferrous metal ores; cement, lime and concrete slurry; plaster, other concrete products; non-metallic mineral products n.e.c.; iron and steel; other construction and sport and gambling etc.

## 3.2 USE TABLE—Financial year 1992–93

	Coal; oil and gas	Iron ores	Non-ferrous metal ores	Other mining
Industry	kt	kt	kt	kt
Intermediate usage				
Sheep	—	—	—	—
Grains	0	—	—	1
Beef cattle	—	—	—	—
Dairy cattle	0	—	—	—
Pigs	0	—	—	—
Poultry	1	—	—	—
Other agriculture	1	—	—	507
Services to agriculture; hunting	32	—	—	0
Forestry and logging	0	—	0	59
Commercial fishing	—	—	—	—
Coal; oil and gas	1 890	—	—	2 420
Iron ores	172	4 638	—	—
Non-ferrous metal ores	473	—	284	7 333
Other mining	33	—	—	7 002
Services to mining	0	—	—	0
Meat and meat products	198	—	—	1
Dairy products	495	—	—	—
Fruit and vegetable products	66	—	—	—
Oils and fats	16	—	—	—
Flour and cereal foods	78	—	—	—
Bakery products	26	—	—	1
Confectionery	17	—	—	—
Other food products	179	—	—	8
Soft drinks, cordials, syrups	20	—	—	7
Beer and malt	44	—	—	2
Wine and spirits	17	—	—	—
Tobacco products	19	—	—	—
Wool scouring	7	—	—	—
Textile fibres, yarns etc.	133	—	—	1
Textile products	29	—	—	1
Knitting mill products	8	—	—	—
Clothing	1	—	—	—
Footwear	0	—	—	0
Leather and leather products	6	—	—	—
Sawmill products	26	—	—	—
Plywood, veneer and fabricated wood	12	—	—	1
Other wood products	5	—	—	0
Pulp, paper and paperboard	566	—	—	657
Paper bags and containers	32	—	—	52
Other paper products	169	—	—	—
Printing; services to printing	16	—	—	—
Publishing and recorded media etc.	4	—	—	291
Petroleum and coal products	26 167	—	—	1 362
Fertilisers	20	—	1	1 904
Other basic chemicals	1 340	—	33	2 118
Paints	9	—	—	200
Pharmaceuticals etc.	7	—	—	—
Soap and other detergents	9	—	—	25
Cosmetics and toiletries	2	—	—	33
Other chemical products	38	0	51	296
Rubber products	15	—	—	27
Plastic products	23	—	—	103
Glass and glass products	30	—	—	3 288
Ceramic products	229	—	1	1 269
Cement and lime	813	—	—	4 375
Concrete slurry	0	—	—	26 139
Plaster, other concrete products	43	0	45	14 381
Non-metallic mineral products n.e.c.	50	0	104	6 448
Iron and steel	2 488	18 019	169	6 702
Basic non-ferrous metals etc.	6 378	37	38 210	193
Structural metal products	21	1 119	—	793
Sheet metal products	25	—	—	87
Fabricated metal products	233	1 305	14	611
Motor vehicles and parts etc.	136	—	—	135
Ships and boats	56	—	—	151

3.2 USE TABLE—Financial year 1992–93 *continued*

	Coal; oil and gas	Iron ores	Non-ferrous metal ores	Other mining
Industry	kt	kt	kt	kt
<i>Intermediate usage continued</i>				
Railway equipment	5	—	—	13
Aircraft	8	—	—	—
Scientific etc. equipment	11	—	0	19
Electronic equipment	8	—	1	54
Household appliances	4	—	—	16
Other electrical equipment	17	—	13	206
Agricultural machinery	4	—	—	3
Mining etc. equipment	14	—	—	158
Other machinery and equipment	22	—	—	440
Prefabricated buildings	2	89	—	63
Furniture	8	—	—	15
Other manufacturing	113	—	0	117
Electricity	63 609	—	—	—
Gas	10 935	—	—	—
Water, sewerage and drainage	22	—	—	1 130
Residential building	3	—	—	3 600
Other construction	30	—	—	18 066
Wholesale trade	85	—	—	10
Retail trade	350	—	—	0
Mechanical repairs	—	—	—	—
Other repairs	—	—	—	—
Accommodation, cafes and restaurants	19	—	—	739
Road transport	8	—	—	0
Rail, pipeline, other transport.	28	—	—	0
Water transport	89	—	—	0
Air and space transport	—	—	—	—
Services to transport; storage	1	—	—	0
Communication services	10	—	—	0
Banking	5	—	—	—
Non-bank finance	—	—	—	—
Financial asset investors	0	—	—	—
Insurance	—	—	—	4
Services to finance etc.	1	—	—	1
Ownership of dwellings	0	—	—	2 958
Other property services	8	—	—	129
Scientific research etc.	2	—	0	443
Legal, accounting etc. services	0	—	—	186
Other business services	1	—	0	217
Government administration	173	—	—	1 073
Defence	90	—	—	261
Education	8	—	—	—
Health services	199	—	—	0
Community services	6	—	0	912
Motion picture, radio etc.	9	—	—	1 956
Libraries, museums, arts	2	—	0	352
Sport, gambling etc.	15	—	—	3 066
Personal services	30	—	—	98
Other services	6	—	0	902
<b>Total</b>	<b>118 881</b>	<b>25 207</b>	<b>38 926</b>	<b>126 191</b>
<i>Final Demand</i>				
Household consumption	1 872	—	—	57
Government consumption	—	—	—	—
Increase in Stocks	–23	–1 121	–337	–28
Exports	163 047	100 855	10 631	10 979
<b>Total</b>	<b>164 895</b>	<b>99 735</b>	<b>10 294</b>	<b>11 009</b>
<b>Total Supply</b>	<b>283 776</b>	<b>124 942</b>	<b>49 220</b>	<b>137 200</b>

## 3.3 USE TABLE—Financial year 1993–94

	Coal; oil and gas	Iron ores	Non-ferrous metal ores	Other mining
Industry	kt	kt	kt	kt
Intermediate usage				
Sheep	—	—	—	—
Grains	0	—	—	0
Beef cattle	—	—	—	—
Dairy cattle	15	—	—	—
Pigs	3	—	—	—
Poultry	12	—	—	—
Other agriculture	1	—	—	198
Services to agriculture; hunting	198	—	—	0
Forestry and logging	4	—	0	206
Commercial fishing	6	—	—	—
Coal; oil and gas	1 994	—	—	1 085
Iron ores	295	3 125	—	—
Non-ferrous metal ores	488	—	199	8 643
Other mining	25	—	—	2 936
Services to mining	2	—	—	1
Meat and meat products	680	—	—	5
Dairy products	1 942	—	—	—
Fruit and vegetable products	169	—	—	—
Oils and fats	77	—	—	—
Flour and cereal foods	604	—	—	—
Bakery products	199	—	—	4
Confectionery	92	—	—	—
Other food products	1 104	—	—	48
Soft drinks, cordials, syrups	130	—	—	7
Beer and malt	196	—	—	2
Wine and spirits	69	—	—	—
Tobacco products	120	—	—	—
Textile fibres, yarns etc.	1 051	—	—	9
Textile products	215	—	—	1
Knitting mill products	64	—	—	—
Clothing	15	—	—	—
Footwear	2	—	—	0
Leather and leather products	30	—	—	—
Sawmill products	119	—	—	—
Other wood products	89	—	—	3
Pulp, paper and paperboard	1 563	—	—	603
Paper bags and products	577	—	—	30
Printing; services to printing	107	—	—	—
Publishing and recorded media etc.	28	—	—	449
Petroleum and coal products	33 963	—	—	1 176
Basic chemicals	4 802	—	35	9 494
Paints	69	—	—	223
Pharmaceuticals etc.	46	—	—	—
Soap and detergents	61	—	—	45
Cosmetics and toiletries	13	—	—	28
Other chemical products	165	0	52	271
Rubber products	101	—	—	32
Plastic products	150	—	—	101
Glass and glass products	402	—	0	3 301
Ceramic products	1 322	—	1	1 496
Cement, lime and concrete slurry	4 320	—	—	24 552
Plaster; other concrete products	144	0	40	11 704
Non-metallic mineral products n.e.c.	241	0	88	6 251
Iron and steel	4 150	26 002	120	7 149
Basic non-ferrous metals etc.	25 346	62	43 070	234
Structural metal products	124	1 884	—	714
Sheet metal products	83	—	—	42
Fabricated metal products	592	1 812	10	597
Motor vehicles and parts etc.	632	—	—	84
Ships and boats	283	—	—	165
Railway equipment	19	—	—	11

3.3 USE TABLE—Financial year 1993–94 *continued*

	Coal; oil and gas	Iron ores	Non-ferrous metal ores	Other mining
Industry	kt	kt	kt	kt
<i>Intermediate usage continued</i>				
Aircraft	60	—	—	—
Scientific etc. equipment	56	—	0	13
Electronic equipment	30	—	1	30
Household appliances	32	—	—	11
Other electrical equipment	87	—	5	116
Agricultural, mining etc. machinery	83	—	—	108
Other machinery and equipment	83	—	—	258
Prefabricated buildings	10	136	—	52
Furniture	45	—	—	14
Other manufacturing	214	—	0	30
Electricity	35 586	—	—	—
Gas	166	—	—	—
Water, sewerage and drainage	15	—	—	1 326
Residential building	3	—	—	1 508
Other construction	10	—	—	20 732
Wholesale trade	1 059	—	—	10
Retail trade	90	—	—	0
Mechanical repairs	18	—	—	—
Other repairs	30	—	—	—
Accommodation, cafes and restaurants	670	—	—	1 068
Road transport	31	—	—	0
Rail, pipeline, other transport	81	—	—	0
Water transport	36	—	—	0
Air and space transport	14	—	—	—
Services to transport; storage	16	—	—	0
Communication services	246	—	—	0
Banking	12	—	—	—
Non-bank finance	2	—	—	—
Financial asset investors	1	—	—	—
Insurance	5	—	—	0
Services to finance etc.	0	—	—	0
Ownership of dwellings	46	—	—	3 588
Other property services	135	—	—	139
Scientific research etc.	111	—	0	588
Legal, accounting etc. services	161	—	—	171
Other business services	54	—	0	321
Government administration	539	—	—	1 401
Defence	139	—	—	318
Education	70	—	—	—
Health services	1 144	—	—	0
Community services	67	—	0	1 513
Motion picture, radio etc.	15	—	—	2 073
Libraries, museums, arts	9	—	0	477
Sport, gambling etc.	27	—	—	3 577
Personal services	110	—	—	97
Other services	57	—	0	1 344
<b>Total</b>	<b>130 784</b>	<b>33 022</b>	<b>43 620</b>	<b>122 786</b>
<i>Final Demand</i>				
Household consumption	8 449	—	—	120
Government consumption	—	—	—	—
Increase in Stocks	–3 228	–155	–59	516
Exports	161 775	100 766	11 981	4 393
<b>Total</b>	<b>166 996</b>	<b>100 611</b>	<b>11 922</b>	<b>5 029</b>
<b>Total Supply</b>	<b>297 780</b>	<b>133 633</b>	<b>55 542</b>	<b>127 815</b>

## SELECTED COMMODITIES

The following discussion centres on the selected commodities and describes changes that occurred for the financial years 1992–93 and 1993–94. Detailed experimental estimates are presented in tables 3.4 and 3.5, at the end of this discussion. Tables 3.4 and 3.5 have been transposed and show industries in the rows and commodities in the columns.

There are two important considerations that need to be taken into account when looking at the estimates in tables 3.4 and 3.5. Firstly, during the compilation of the 1993–94 Input-Output tables, the input structures (the detailed consumption of commodities by industries) were revised for the mining sector. The 1993–94 input structures are much more detailed than those used for the compilation of the 1992–93 Input-Output table. At this stage it is important to reiterate that care should be taken when making a comparison of the consumption of commodities by industries between the two years. And secondly, some commodities are unavailable for comment due to confidentiality restrictions having been applied to them. The confidentiality restrictions may vary between years.

**Black coal**

Black coal was confidential in 1992–93. In 1993–94, 82.4% of black coal was exported. After the revision of the input structures in 1993–94, the main industries which used black coal were: coal, oil and gas; and electricity. Most coal was consumed by the electricity supply industry which used 17.8% of the available supply.

**Crude oil (including concentrate)**

In 1992–93, 21.7% of crude oil was exported and in 1993–94, 17.4% was exported. Crude oil was used by three industries: petroleum and coal products; other basic chemicals (in 1993–94 a name change occurred and other basic chemicals became basic chemicals); and other chemical products. The majority of the crude oil was used by the petroleum and coal products industry, 78.1% in 1992–93 and 81.6% in 1993–94.

**Natural gas**

The treatment for gas commodities changed between the 1992–93 and 1993–94 Input-Output tables. In the 1992–93 tables, gas commodities were treated as mainly being used by the gas supply industry. In the 1993–94 tables, gas commodities were treated as being consumed directly by using industries and the end-users. Therefore, comparisons of industry and end-user consumption of these commodities for 1992–93 and 1993–94 are not valid.

In 1993–94, natural gas was mainly used by: cement, lime and concrete slurry; basic non-ferrous metals etc.; electricity; wholesale trade; accommodation, cafes and restaurants; and health services.

**Liquefied natural gas; liquefied natural petroleum gases; oil and gas n.e.c.**

In 1992–93, 63.5% of liquefied natural gas (LNG) and LPG was exported and in 1993–94, 56.3% was exported. LNG and LPG were used by most industries. In 1992–93, the industries which used the largest quantity were: basic non-ferrous metals etc. 7.4%; and non-ferrous metal ores 2.7%. Other industries that used large amounts were: petroleum and coal products; other basic chemicals; cement and lime; gas supply; and

Liquefied natural gas; liquefied natural petroleum gases; oil and gas n.e.c. *continued*

defence. Following the revision to the input structures in 1993–94, the industries that used the largest quantities of LNG and LPG were basic non-ferrous metals etc. 10.8%, and petroleum and coal products 2.3%. Other industries that used LNG and LPG in 1993–94 were: basic chemicals; ceramic products; cement, lime and concrete slurry; and defence.

## Copper concentrates, oxides, precipitates and ores

In 1992–93, 29.4% of copper was exported and in 1993–94, 26.1% was exported. Copper was consumed by basic non-ferrous metals etc. Copper was mainly used for cables and foundry products. The trade of copper as a scrap material has not been considered in these estimates.

## Gold bullion and ores

Gold was used by the following industries in 1992–93: non-ferrous metal ores; other chemical products; and basic non-ferrous metals etc. In 1993–94, in addition to those industries, gold was used by: basic chemicals; glass and glass products; scientific etc. equipment; electronic equipment; and other manufacturing. Due to confidentiality restrictions, the disposition of gold by end-users (in quantity terms) will not be presented in this publication.

## Beneficated ilmenite

In 1992–93, 63.2% of beneficiated ilmenite was exported. Basic non-ferrous metals etc. and non-ferrous metal ores were the major users of beneficiated ilmenite in 1992–93, consuming 26.9% and 11.6% respectively. Beneficated ilmenite was confidential in 1993–94.

## Lead ores

Lead ores were confidential in 1992–93. In 1993–94, 12.0% of lead ores were exported and lead ores were mainly used by the basic non-ferrous metals etc. industry.

## Silver and zinc ores

In both 1992–93 and 1993–94, approximately 98% of silver and zinc ores were exported. Most of the remainder was used by basic non-ferrous metals etc. industry.

## Uranium

Uranium is not processed in Australia, so when uranium is mined it is either added to inventories for export or exported in the year of mining.

## Non-ferrous metallic ores

In 1992–93, 83.3% of non-ferrous metallic ores were exported. Non-ferrous metallic ores were used by the following industries in 1992–93: other basic chemicals; iron and steel; and basic non-ferrous metals etc. Non-ferrous metallic ores were confidential in 1993–94.

## Sand and Gravel

Sand and gravel was mainly used by the following industries in 1992–93: concrete slurry; plaster, other concrete products; residential building; and other construction. Resulting from the revision to the input structure in 1993–94, sand and gravel was used by: cement, lime and concrete slurry; plaster, other concrete products; and other construction.



### Dimension stone

In 1992–93, 4.9% of dimension stone was exported and in 1993–94, 6.0% was exported. Dimension stone was mainly used by the following industries, in both 1992–93 and 1993–94: plaster, other concrete products; residential building; and other construction. The residential building industry was the biggest consumer of dimension stone, 54.3% in 1992–93 and 48.4% in 1993–94.

### Construction materials n.e.c.

Construction materials were used by a wide range of industries in 1992–93, the major users were: coal, oil and gas; non-ferrous metal ores; other mining; concrete slurry; plaster and other concrete products; non-metallic mineral products n.e.c.; iron and steel; residential building; other construction; and sport, gambling etc. The other construction industry was the largest consumer of construction materials n.e.c., using 23.6% of total supply, predominantly for road building. Construction materials n.e.c. were confidential in 1993–94.

### Limestone

Limestone was confidential in 1992–93. In 1993–94, limestone was used in the following industries: non-ferrous metal ores; glass and glass products; cement, lime and concrete slurry; and iron and steel.

### Clays n.e.c. (including brick, pipe, tile and shale)

In 1992–93, 22.6% of clays were exported and in 1993–94, 23.0% was exported. Clays were used in several industries. In 1992–93, these industries included: coal, oil and gas; pulp, paper and paperboard (for paper finishing); publishing and recorded media etc.; ceramic products; and non-metallic mineral products n.e.c. In 1993–94, clay was used by: coal, oil and gas; pulp, paper and paperboard; publishing and recorded media etc.; ceramic products; and non-metallic minerals n.e.c. Most clay was used by the ceramic products industry, 29.9% in 1992–93 and 32.9% in 1993–94.

### Salt

A classification error occurred in the compilation of the salt commodity data in the 1992–93 Input-Output tables. The error had the effect of increasing exports and decreasing total intermediate usage (however, the value of total supply was correct). This error was not made in the 1993–94 Input-Output tables. Salt was mainly consumed by the other basic chemical industry in 1992–93, and by the basic chemical industry in 1993–94. This apparent industry change is the result of an industry reclassification for reasons of data availability.

### Precious and semi-precious gemstones

In 1992–93, precious and semi-precious gemstones were confidential. In 1993–94, 71.4% of precious and semi-precious gemstones were exported. Precious and semi-precious gemstones were used by the following industries in 1993–94: basic chemicals; scientific etc. equipment; and other manufacturing.

### Natural phosphates

All supplies of natural phosphates were used by fertilisers in 1992–93, and basic chemicals in 1993–94. This apparent industry change is actually the result of an industry reclassification for reasons of data availability; fertilisers have been combined with basic chemical products for the 1993–94 flow table.

## 3.4 SELECTED COMMODITY—Financial year 1992–93

	Crude oil (including condensate)	Natural gas(a)	LNG; LPG; oil and gas n.e.c.	Copper concentrates, oxides, precipitates and ores	Gold bullion and ores
Industry	kL	GL	kL	kt	kg
Intermediate usage					
Sheep	—	—	—	—	—
Grains	—	—	3	—	—
Beef cattle	—	—	—	—	—
Dairy cattle	—	—	363	—	—
Pigs	—	—	163	—	—
Poultry	—	—	1 145	—	—
Other agriculture	—	—	2 092	—	—
Services to agriculture; hunting	—	0	323	—	—
Forestry and logging	—	—	795	—	—
Commercial fishing	—	—	—	—	—
Coal; oil and gas	—	22	96	—	—
Iron ores	—	3	4 615	—	—
Non-ferrous metal ores	—	103	114 088	—	88
Other mining	—	4	3 185	—	—
Services to mining	—	—	789	—	—
Meat and meat products	—	30	36 155	—	—
Dairy products	—	34	41 836	—	—
Fruit and vegetable products	—	17	20 838	—	—
Oils and fats	—	2	2 132	—	—
Flour and cereal foods	—	6	7 200	—	—
Bakery products	—	4	5 051	—	—
Confectionery	—	1	847	—	—
Other food products	—	19	22 908	—	—
Soft drinks, cordials, syrups	—	1	1 283	—	—
Beer and malt	—	8	9 726	—	—
Wine and spirits	—	3	3 227	—	—
Tobacco products	—	1	1 514	—	—
Wool scouring	—	0	65	—	—
Textile fibres, yarns etc.	—	4	5 346	—	—
Textile products	—	1	1 441	—	—
Knitting mill products	—	0	273	—	—
Clothing	—	0	501	—	—
Footwear	—	0	83	—	—
Leather and leather products	—	1	1 120	—	—
Sawmill products	—	2	2 293	—	—
Plywood, veneer and fabricated wood	—	4	4 402	—	—
Other wood products	—	0	527	—	—
Pulp, paper and paperboard	—	37	45 249	—	—
Paper bags and containers	—	2	2 234	—	—
Other paper products	—	13	15 896	—	—
Printing; services to printing	—	1	932	—	—
Publishing and recorded media etc.	—	0	197	—	—
Petroleum and coal products	32 608 875	14	82 804	—	—
Fertilisers	—	0	178	—	0
Other basic chemicals	300 267	50	61 313	—	—
Paints	—	0	239	—	—
Pharmaceuticals etc.	—	2	2 469	—	—
Soap and other detergents	—	1	1 039	—	—
Cosmetics and toiletries	—	0	181	—	—
Other chemical products	2 082	2	2 826	0	69
Rubber products	—	1	879	—	—
Plastic products	—	2	2 734	—	—
Glass and glass products	—	8	9 379	—	—
Ceramic products	—	35	42 677	—	—
Cement and lime	—	42	51 413	—	—
Concrete slurry	—	0	178	—	—
Plaster, other concrete products	—	5	5 622	—	—
Non-metallic mineral products n.e.c.	—	5	6 102	—	—
Iron and steel	—	18	21 841	—	—
Basic non-ferrous metals etc.	—	259	315 032	318	51 307
Structural metal products	—	1	1 447	—	—
Sheet metal products	—	1	1 188	—	—

3.4 SELECTED COMMODITY—Financial year 1992–93 *continued*

Industry	Crude oil (including condensate)	Natural gas(a)	LNG; LPG; oil and gas n.e.c.	Copper concentrates, oxides, precipitates and ores	Gold bullion and ores
	kL	GL	kL	kt	kg
<i>Intermediate usage continued</i>					
Fabricated metal products	—	5	6 188	—	—
Motor vehicles and parts etc.	—	5	5 532	—	—
Ships and boats	—	2	1 769	—	—
Railway equipment	—	1	632	—	—
Aircraft	—	1	1 088	—	—
Scientific etc. equipment	—	1	800	—	0
Electronic equipment	—	1	1 255	—	—
Household appliances	—	1	1 683	—	—
Other electrical equipment	—	2	1 786	—	—
Agricultural machinery	—	1	1 098	—	—
Mining etc. equipment	—	1	1 103	—	—
Other machinery and equipment	—	2	1 978	—	—
Prefabricated buildings	—	0	138	—	—
Furniture	—	1	822	—	—
Other manufacturing	—	1	1 005	—	0
Electricity	—	7 438	—	—	—
Gas	—	15 222	53 162	—	—
Water, sewerage and drainage	—	—	—	—	—
Residential building	—	—	5 906	—	—
Other construction	—	—	3 008	—	—
Wholesale trade	—	—	2 352	—	—
Retail trade	—	—	12 899	—	—
Mechanical repairs	—	—	—	—	—
Other repairs	—	—	—	—	—
Accommodation, cafes and restaurants	—	—	9 992	—	—
Road transport	—	—	14 551	—	—
Rail, pipeline, other transport	—	20	5 147	—	—
Water transport	—	—	416	—	—
Air and space transport	—	—	—	—	—
Services to transport; storage	—	—	2 644	—	—
Communication services	—	—	18 094	—	—
Banking	—	—	9 361	—	—
Non-bank finance	—	—	—	—	—
Financial asset investors	—	—	707	—	—
Insurance	—	—	—	—	—
Services to finance etc.	—	—	1 056	—	—
Ownership of dwellings	—	—	9	—	—
Other property services	—	—	291	—	—
Scientific research etc.	—	—	3 577	—	—
Legal, accounting etc. services	—	0	4	—	—
Other business services	—	—	1 766	—	—
Government administration	—	—	13 222	—	—
Defence	—	—	64 782	—	—
Education	—	—	2 898	—	—
Health services	—	44	9 105	—	—
Community services	—	—	9 351	—	—
Motion picture, radio etc.	—	—	1 196	—	—
Libraries, museums, arts	—	—	474	—	—
Sport, gambling etc.	—	—	1 874	—	—
Personal services	—	1	3 691	—	—
Other services	—	—	9 235	—	—
<b>Total</b>	<b>32 911 224</b>	<b>23 519</b>	<b>1 258 121</b>	<b>318</b>	<b>51 463</b>
<i>Final Demand</i>					
Household consumption	—	—	293 243	—	n.p.
Government consumption	—	—	—	—	n.p.
Increase in Stocks	-197 535	254	2 235	15	n.p.
Exports	9 042 541	0	2 697 483	139	n.p.
<b>Total</b>	<b>8 845 006</b>	<b>255</b>	<b>2 992 961</b>	<b>154</b>	<b>n.p.</b>
<b>Total Supply</b>	<b>41 756 230</b>	<b>23 774</b>	<b>4 251 082</b>	<b>472</b>	<b>247 500</b>

(a) Change in classification. See p. 81.

3.4 SELECTED COMMODITY—Financial year 1992–93 *continued*

Industry	Beneficiated ilmenite, ilmenite and leucoxene concentrates	Silver and zinc ores	Uranium concentrates	Non-ferrous metallic ores and concentrates n.e.c. (including tungsten)	Sand and gravel
	kt	kt	kt	kt	kt
<i>Intermediate usage continued</i>					
Sheep	—	—	—	—	—
Grains	—	—	—	—	—
Beef cattle	—	—	—	—	—
Dairy cattle	—	—	—	—	—
Pigs	—	—	—	—	—
Poultry	—	—	—	—	—
Other agriculture	—	—	—	—	—
Services to agriculture; hunting	—	—	—	—	0
Forestry and logging	—	—	—	—	24
Commercial fishing	—	—	—	—	—
Coal; oil and gas	—	—	—	—	152
Iron ores	—	—	—	—	—
Non-ferrous metal ores	214	—	—	—	33
Other mining	—	—	—	—	798
Services to mining	—	—	—	—	—
Meat and meat products	—	—	—	—	—
Dairy products	—	—	—	—	—
Fruit and vegetable products	—	—	—	—	—
Oils and fats	—	—	—	—	—
Flour and cereal foods	—	—	—	—	—
Bakery products	—	—	—	—	—
Confectionery	—	—	—	—	—
Other food products	—	—	—	—	0
Soft drinks, cordials, syrups	—	—	—	—	—
Beer and malt	—	—	—	—	—
Wine and spirits	—	—	—	—	—
Tobacco products	—	—	—	—	—
Wool scouring	—	—	—	—	—
Textile fibres, yarns etc.	—	—	—	—	—
Textile products	—	—	—	—	0
Knitting mill products	—	—	—	—	—
Clothing	—	—	—	—	—
Footwear	—	—	—	—	0
Leather and leather products	—	—	—	—	—
Sawmill products	—	—	—	—	—
Plywood, veneer and fabricated wood	—	—	—	—	—
Other wood products	—	—	—	—	1
Pulp, paper and paperboard	—	—	—	—	—
Paper bags and containers	—	—	—	—	52
Other paper products	—	—	—	—	—
Printing; services to printing	—	—	—	—	—
Publishing and recorded media etc.	—	—	—	—	—
Petroleum and coal products	—	—	—	—	695
Fertilisers	—	1	—	0	1
Other basic chemicals	—	—	—	5	46
Paints	—	—	—	—	—
Pharmaceuticals etc.	—	—	—	—	—
Soap and other detergents	—	—	—	—	—
Cosmetics and toiletries	—	—	—	—	—
Other chemical products	1	0	—	0	252
Rubber products	—	—	—	—	3
Plastic products	—	—	—	—	—
Glass and glass products	—	—	—	—	878
Ceramic products	—	—	—	1	75
Cement and lime	—	—	—	—	228
Concrete slurry	—	—	—	—	16 434
Plaster, other concrete products	—	—	—	—	8 319
Non-metallic mineral products n.e.c.	—	—	—	—	326
Iron and steel	—	—	—	3	780
Basic non-ferrous metals etc.	495	58	—	2	10
Structural metal products	—	—	—	—	777
Sheet metal products	—	—	—	—	50
Fabricated metal products	—	2	—	0	146

3.4 SELECTED COMMODITY—Financial year 1992–93 *continued*

Industry	Beneficiated ilmenite, ilmenite and leucoxene concentrates	Silver and zinc ores	Uranium concentrates	Non-ferrous metallic ores and concentrates n.e.c. (including tungsten)	Sand and gravel
	kt	kt	kt	kt	kt
<i>Intermediate usage continued</i>					
Motor vehicles and parts etc.	—	—	—	—	93
Ships and boats	—	—	—	—	—
Railway equipment	—	—	—	—	7
Aircraft	—	—	—	—	—
Scientific etc. equipment	—	—	—	0	15
Electronic equipment	—	—	—	—	44
Household appliances	—	—	—	—	4
Other electrical equipment	—	—	—	—	185
Agricultural machinery	—	—	—	—	3
Mining etc. equipment	—	—	—	—	138
Other machinery and equipment	—	—	—	—	382
Prefabricated buildings	—	—	—	—	62
Furniture	—	—	—	—	7
Other manufacturing	—	—	—	0	103
Electricity	—	—	—	—	—
Gas	—	—	—	—	—
Water, sewerage and drainage	—	—	—	—	160
Residential building	—	—	—	—	1 962
Other construction	—	—	—	—	1 802
Wholesale trade	—	—	—	—	10
Retail trade	—	—	—	—	—
Mechanical repairs	—	—	—	—	—
Other repairs	—	—	—	—	—
Accommodation, cafes and restaurants	—	—	—	—	172
Road transport	—	—	—	—	—
Rail, pipeline, other transport.	—	—	—	—	—
Water transport	—	—	—	—	—
Air and space transport	—	—	—	—	—
Services to transport; storage	—	—	—	—	—
Communication services	—	—	—	—	—
Banking	—	—	—	—	—
Non-bank finance	—	—	—	—	—
Financial asset investors	—	—	—	—	—
Insurance	—	—	—	—	4
Services to finance etc.	—	—	—	—	1
Ownership of dwellings	—	—	—	—	339
Other property services	—	—	—	—	107
Scientific research etc.	—	—	—	—	95
Legal, accounting etc. services	—	—	—	—	186
Other business services	—	—	—	—	45
Government administration	—	—	—	—	—
Defence	—	—	—	—	—
Education	—	—	—	—	—
Health services	—	—	—	—	0
Community services	—	—	—	—	5
Motion picture, radio etc.	—	—	—	—	108
Libraries, museums, arts	—	—	—	—	20
Sport, gambling etc.	—	—	—	—	169
Personal services	—	—	—	—	66
Other services	—	—	—	—	4
Total Intermediate Usage	709	61	—	11	36 372
<i>Final Demand</i>					
Household consumption	—	—	—	—	54
Government consumption	—	—	—	—	—
Increase in Stocks	–32	–22	–1	7	–185
Exports	1 166	1 689	4	88	1 306
Total Final Demand	1 134	1 667	3	95	1 175
Total Supply	1 843	1 728	3	106	37 547

3.4 SELECTED COMMODITY—Financial year 1992–93 *continued*

		Construction materials n.e.c. (including crushed and broken stone)	Clays n.e.c. (including brick, pipe, tile and shale)	Salt(b)	Natural phosphates
Industry	kt	kt	kt	kt	kt
.....					
Intermediate usage continued					
Sheep	—	—	—	—	—
Grains	—	0	—	—	—
Beef cattle	—	—	—	—	—
Dairy cattle	—	—	—	—	—
Pigs	—	—	—	—	—
Poultry	—	—	—	—	—
Other agriculture	—	101	—	—	—
Services to agriculture; hunting	—	0	—	—	—
Forestry and logging	—	35	—	—	—
Commercial fishing	—	—	—	—	—
Coal; oil and gas	—	2 069	198	—	—
Iron ores	—	—	—	—	—
Non-ferrous metal ores	—	3 490	24	—	—
Other mining	—	6 179	25	—	—
Services to mining	—	—	0	—	—
Meat and meat products	—	—	—	1	—
Dairy products	—	—	—	—	—
Fruit and vegetable products	—	—	—	—	—
Oils and fats	—	—	—	—	—
Flour and cereal foods	—	—	—	—	—
Bakery products	—	—	—	1	—
Confectionery	—	—	—	—	—
Other food products	—	—	—	8	—
Soft drinks, cordials, syrups	—	—	—	—	—
Beer and malt	—	—	—	—	—
Wine and spirits	—	—	—	—	—
Tobacco products	—	—	—	—	—
Wool scouring	—	—	—	—	—
Textile fibres, yarns etc.	—	—	—	1	—
Textile products	—	—	0	—	—
Knitting mill products	—	—	—	—	—
Clothing	—	—	—	—	—
Footwear	—	—	0	—	—
Leather and leather products	—	—	—	—	—
Sawmill products	—	—	—	—	—
Plywood, veneer and fabricated wood	—	—	—	1	—
Other wood products	—	—	—	—	—
Pulp, paper and paperboard	—	—	179	—	—
Paper bags and containers	—	—	—	—	—
Other paper products	—	—	—	—	—
Printing; services to printing	—	—	—	—	—
Publishing and recorded media etc.	—	—	237	—	—
Petroleum and coal products	—	641	9	—	—
Fertilisers	—	—	—	0	843
Other basic chemicals	—	208	18	1 490	—
Paints	—	—	4	—	—
Pharmaceuticals etc.	—	—	—	—	—
Soap and other detergents	—	—	—	4	—
Cosmetics and toiletries	—	—	—	0	—
Other chemical products	—	20	0	10	—
Rubber products	—	—	6	—	—
Plastic products	—	—	7	—	—
Glass and glass products	—	572	7	—	—
Ceramic products	—	—	632	—	—
Cement and lime	—	377	64	—	—
Concrete slurry	—	9 703	0	—	—
Plaster, other concrete products	247	5 470	67	—	—
Non-metallic mineral products n.e.c.	0	5 409	123	—	—
Iron and steel	—	3 756	3	—	—
Basic non-ferrous metals etc.	—	—	7	—	—
Structural metal products	—	—	—	—	—
Sheet metal products	—	—	—	—	—
Fabricated metal products	—	275	0	—	—

3.4 SELECTED COMMODITY—Financial year 1992–93 *continued*

		Construction materials n.e.c. (including crushed and broken stone)	Clays n.e.c. (including brick, pipe, tile and shale)	Salt(b)	Natural phosphates
Industry	kt	kt	kt	kt	kt
.....					
Intermediate usage <i>continued</i>					
Motor vehicles and parts etc.	—	—	—	—	—
Ships and boats	—	—	—	—	—
Railway equipment	—	—	—	—	—
Aircraft	—	—	—	—	—
Scientific etc. equipment	—	—	—	—	—
Electronic equipment	—	—	—	—	—
Household appliances	—	—	—	—	—
Other electrical equipment	—	—	—	—	—
Agricultural machinery	—	—	—	—	—
Mining etc. equipment	—	—	—	—	—
Other machinery and equipment	—	—	—	—	—
Prefabricated buildings	—	—	—	—	—
Furniture	—	—	—	—	—
Other manufacturing	—	—	—	—	—
Electricity	—	—	—	—	—
Gas	—	—	—	—	—
Water, sewerage and drainage	—	970	—	—	—
Residential building	548	1 090	—	—	—
Other construction	158	16 107	—	—	—
Wholesale trade	—	—	—	—	—
Retail trade	—	—	—	—	—
Mechanical repairs	—	—	—	—	—
Other repairs	—	—	—	—	—
Accommodation, cafes and restaurants	—	567	—	—	—
Road transport	—	—	—	—	—
Rail, pipeline, other transport.	—	—	—	—	—
Water transport	—	—	—	—	—
Air and space transport	—	—	—	—	—
Services to transport; storage	—	—	—	—	—
Communication services	—	—	—	—	—
Banking	—	—	—	—	—
Non-bank finance	—	—	—	—	—
Financial asset investors	—	—	—	—	—
Insurance	—	—	—	—	—
Services to finance etc.	—	—	—	—	—
Ownership of dwellings	—	2 619	—	—	—
Other property services	—	23	—	—	—
Scientific research etc.	—	348	—	—	—
Legal, accounting etc. services	—	—	—	—	—
Other business services	—	172	—	—	—
Government administration	—	1 073	—	—	—
Defence	—	261	—	—	—
Education	—	—	—	—	—
Health services	—	0	—	—	—
Community services	—	907	—	—	—
Motion picture, radio etc.	—	1 848	—	—	—
Libraries, museums, arts	—	333	—	—	—
Sport, gambling etc.	—	2 897	—	—	—
Personal services	—	30	—	—	—
Other services	—	898	—	—	—
Total	953	68 447	1 612	1 516	843
Final Demand					
Household consumption	—	3	—	—	—
Government consumption	—	—	—	—	—
Increase in Stocks	7	–222	26	143	–2
Exports	50	35	477	5 915	—
Total	56	–184	503	6 058	–2
Total Supply	1 009	68 263	2 114	7 574	841

(b) Error in classification. See p. 83.

## 3.5 SELECTED COMMODITY—Financial year 1993–94

Industry	Black coal (all types including briquettes)	Crude oil (including condensate)	Natural gas	LNG; LPG; oil and gas n.e.c.	Copper concentrates, oxides, precipitates and ores
	kt	kL	GL	kL	kt
Intermediate usage					
Sheep	—	—	—	—	—
Grains	—	—	—	5	—
Beef cattle	—	—	—	—	—
Dairy cattle	—	—	20	1 495	—
Pigs	—	—	4	305	—
Poultry	—	—	—	23 072	—
Other agriculture	—	—	—	2 763	—
Services to agriculture; hunting	0	—	48	412	—
Forestry and logging	0	—	3	3 776	—
Commercial fishing	—	—	8	—	—
Coal; oil and gas	1 962	—	16	3 146	—
Iron ores	4	—	339	274	—
Non-ferrous metal ores	279	—	156	15 703	—
Other mining	4	—	14	525	—
Services to mining	—	—	0	3 508	—
Meat and meat products	7	—	225	42 126	—
Dairy products	8	—	146	47 907	—
Fruit and vegetable products	6	—	83	38 411	—
Oils and fats	1	—	13	3 370	—
Flour and cereal foods	3	—	117	15 225	—
Bakery products	1	—	153	8 016	—
Confectionery	0	—	23	1 032	—
Other food products	7	—	219	43 079	—
Soft drinks, cordials, syrups	0	—	25	2 042	—
Beer and malt	2	—	150	10 310	—
Wine and spirits	1	—	13	5 321	—
Tobacco products	0	—	12	2 683	—
Textile fibres, yarns etc.	2	—	64	10 834	—
Textile products	0	—	43	2 589	—
Knitting mill products	0	—	15	462	—
Clothing	0	—	19	700	—
Footwear	0	—	1	149	—
Leather and leather products	0	—	10	2 088	—
Sawmill products	1	—	6	3 118	—
Other wood products	1	—	84	8 327	—
Pulp, paper and paperboard	23	—	180	47 989	—
Paper bags and products	7	—	84	18 526	—
Printing; services to printing	0	—	42	1 254	—
Publishing and recorded media etc.	0	—	10	321	—
Petroleum and coal products	1	42 196 043	102	101 566	—
Basic chemicals	59	445 052	673	86 393	—
Paints	0	—	11	421	—
Pharmaceuticals etc.	1	—	59	5 149	—
Soap and detergents	0	—	22	1 773	—
Cosmetics and toiletries	0	—	4	275	—
Other chemical products	1	2 949	36	3 794	0
Rubber products	0	—	27	1 377	—
Plastic products	1	—	71	4 125	—
Glass and glass products	1	—	457	12 752	—
Ceramic products	11	—	864	61 002	—
Cement, lime and concrete slurry	28	—	1 961	64 817	—
Plaster; other concrete products	1	—	0	6 724	—
Non-metallic mineral products n.e.c.	1	—	109	7 034	—
Iron and steel	261	—	405	28 747	—
Basic non-ferrous metals etc.	380	—	2 735	470 551	358
Structural metal products	0	—	13	2 356	—
Sheet metal products	0	—	26	862	—
Fabricated metal products	19	—	152	7 835	—
Motor vehicles and parts etc.	1	—	191	5 490	—
Ships and boats	0	—	4	2 339	—
Railway equipment	0	—	2	832	—
Aircraft	0	—	32	1 981	—



3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

Industry	Black coal (all types including briquettes)	Crude oil (including condensate)	Natural gas	LNG; LPG; oil and gas n.e.c.	Copper concentrates, oxides, precipitates and ores
	kt	kL	GL	kL	kt
<i>Intermediate usage continued</i>					
Scientific etc. equipment	0	—	12	978	—
Electronic equipment	0	—	15	1 211	—
Household appliances	0	—	43	1 646	—
Other electrical equipment	0	—	47	1 811	—
Agricultural, mining etc. machinery	0	—	34	2 628	—
Other machinery and equipment	0	—	13	2 024	—
Prefabricated buildings	0	—	1	204	—
Furniture	0	—	14	1 167	—
Other manufacturing	0	—	6	464	—
Electricity	32 843	—	1 414	—	—
Gas	26	—	156	49 786	—
Water, sewerage and drainage	3	—	—	—	—
Residential building	—	—	0	5 479	—
Other construction	4	—	6	3 470	—
Wholesale trade	10	—	1 226	474	—
Retail trade	28	—	31	21 143	—
Mechanical repairs	—	—	25	—	—
Other repairs	—	—	42	—	—
Accommodation, cafes and restaurants	1	—	817	18 118	—
Road transport	—	—	25	24 302	—
Rail, pipeline, other transport	0	—	23	7 580	—
Water transport	17	—	0	734	—
Air and space transport	—	—	20	—	—
Services to transport; storage	—	—	22	1 345	—
Communication services	—	—	321	29 765	—
Banking	—	—	11	7 162	—
Non-bank finance	—	—	2	—	—
Financial asset investors	—	—	1	555	—
Insurance	—	—	7	—	—
Services to finance etc.	—	—	0	13	—
Ownership of dwellings	—	—	64	14	—
Other property services	1	—	172	518	—
Scientific research etc.	0	—	151	5 919	—
Legal, accounting etc. services	0	—	225	6	—
Other business services	0	—	73	3 250	—
Government administration	20	—	305	19 787	—
Defence	55	—	33	81 015	—
Education	1	—	88	5 156	—
Health services	25	—	1 435	14 019	—
Community services	0	—	80	17 820	—
Motion picture, radio etc.	1	—	15	1 483	—
Libraries, museums, arts	0	—	10	751	—
Sport, gambling etc.	2	—	27	2 559	—
Personal services	4	—	124	5 629	—
Other services	0	—	68	15 790	—
<b>Total</b>	<b>36 133</b>	<b>42 644 045</b>	<b>17 507</b>	<b>1 604 834</b>	<b>359</b>
<i>Final Demand</i>					
Household consumption	5	—	9 238	284 278	—
Government consumption	—	—	—	—	—
Increase in Stocks	–3 550	76 180	—	10 017	–9
Exports	152 421	8 971 503	1	2 444 444	123
<b>Total</b>	<b>148 876</b>	<b>9 047 682</b>	<b>9 239</b>	<b>2 738 739</b>	<b>114</b>
<b>Total Supply</b>	<b>185 009</b>	<b>51 691 727</b>	<b>26 746</b>	<b>4 343 574</b>	<b>473</b>

3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

	Gold bullion and ores	Lead ores and concentrates (excluding silver- lead-zinc ores)	Silver and zinc ores	Uranium concentrates	Sand and gravel
<i>Industry</i>	kg	kt	kt	kt	kt
<i>Intermediate usage continued</i>					
Sheep	—	—	—	—	—
Grains	—	—	—	—	—
Beef cattle	—	—	—	—	—
Dairy cattle	—	—	—	—	—
Pigs	—	—	—	—	—
Poultry	—	—	—	—	—
Other agriculture	—	—	—	—	—
Services to agriculture; hunting	—	—	—	—	0
Forestry and logging	—	—	—	—	61
Commercial fishing	—	—	—	—	—
Coal; oil and gas	—	—	—	—	37
Iron ores	—	—	—	—	—
Non-ferrous metal ores	99	0	—	—	8
Other mining	—	—	—	—	630
Services to mining	—	—	—	—	—
Meat and meat products	—	—	—	—	—
Dairy products	—	—	—	—	—
Fruit and vegetable products	—	—	—	—	—
Oils and fats	—	—	—	—	—
Flour and cereal foods	—	—	—	—	—
Bakery products	—	—	—	—	—
Confectionery	—	—	—	—	—
Other food products	—	—	—	—	0
Soft drinks, cordials, syrups	—	—	—	—	—
Beer and malt	—	—	—	—	—
Wine and spirits	—	—	—	—	—
Tobacco products	—	—	—	—	—
Textile fibres, yarns etc.	—	—	—	—	—
Textile products	—	—	—	—	0
Knitting mill products	—	—	—	—	—
Clothing	—	—	—	—	—
Footwear	—	—	—	—	0
Leather and leather products	—	—	—	—	—
Sawmill products	—	—	—	—	—
Other wood products	—	—	—	—	0
Pulp, paper and paperboard	—	—	—	—	—
Paper bags and products	—	—	—	—	30
Printing; services to printing	—	—	—	—	—
Publishing and recorded media etc.	—	—	—	—	—
Petroleum and coal products	—	—	—	—	466
Basic chemicals	156	—	0	—	36
Paints	—	—	—	—	—
Pharmaceuticals etc.	—	—	—	—	—
Soap and detergents	—	—	—	—	—
Cosmetics and toiletries	—	—	—	—	—
Other chemical products	73	1	0	—	186
Rubber products	—	—	—	—	2
Plastic products	—	—	—	—	—
Glass and glass products	31	—	—	—	653
Ceramic products	—	—	—	—	59
Cement, lime and concrete slurry	—	—	—	—	10 535
Plaster; other concrete products	—	—	—	—	5 440
Non-metallic mineral products n.e.c.	—	—	—	—	206
Iron and steel	—	—	—	—	561
Basic non-ferrous metals etc.	19 507	502	47	—	8
Structural metal products	—	—	—	—	691
Sheet metal products	—	—	—	—	20
Fabricated metal products	—	—	1	—	101
Motor vehicles and parts etc.	—	—	—	—	51
Ships and boats	—	—	—	—	—
Railway equipment	—	—	—	—	5
Aircraft	—	—	—	—	—

3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

	Gold bullion and ores	Lead ores and concentrates (excluding silver- lead-zinc ores)	Silver and zinc ores	Uranium concentrates	Sand and gravel
Industry	kg	kt	kt	kt	kt
<i>Intermediate usage continued</i>					
Scientific etc. equipment	663	—	—	—	10
Electronic equipment	1 102	—	—	—	23
Household appliances	—	—	—	—	2
Other electrical equipment	—	—	—	—	103
Agricultural, mining etc. machinery	—	—	—	—	91
Other machinery and equipment	—	—	—	—	214
Prefabricated buildings	—	—	—	—	50
Furniture	—	—	—	—	5
Other manufacturing	3 243	—	—	—	26
Electricity	—	—	—	—	—
Gas	—	—	—	—	—
Water, sewerage and drainage	—	—	—	—	124
Residential building	—	—	—	—	331
Other construction	—	—	—	—	4 363
Wholesale trade	—	—	—	—	10
Retail trade	—	—	—	—	0
Mechanical repairs	—	—	—	—	—
Other repairs	—	—	—	—	—
Accommodation, cafes and restaurants	—	—	—	—	170
Road transport	—	—	—	—	0
Rail, pipeline, other transport	—	—	—	—	0
Water transport	—	—	—	—	0
Air and space transport	—	—	—	—	—
Services to transport; storage	—	—	—	—	0
Communication services	—	—	—	—	0
Banking	—	—	—	—	—
Non-bank finance	—	—	—	—	—
Financial asset investors	—	—	—	—	—
Insurance	—	—	—	—	0
Services to finance etc.	—	—	—	—	0
Ownership of dwellings	—	—	—	—	294
Other property services	—	—	—	—	104
Scientific research etc.	—	—	—	—	86
Legal, accounting etc. services	—	—	—	—	171
Other business services	—	—	—	—	45
Government administration	—	—	—	—	—
Defence	—	—	—	—	—
Education	—	—	—	—	—
Health services	—	—	—	—	0
Community services	—	—	—	—	5
Motion picture, radio etc.	—	—	—	—	73
Libraries, museums, arts	—	—	—	—	17
Sport, gambling etc.	—	—	—	—	126
Personal services	—	—	—	—	55
Other services	—	—	—	—	4
<b>Total</b>	<b>24 874</b>	<b>503</b>	<b>49</b>	<b>—</b>	<b>26 287</b>
<i>Final Demand</i>					
Household consumption	n.p.	—	—	—	116
Government consumption	n.p.	—	—	—	—
Increase in Stocks	n.p.	–19	–8	0	106
Exports	n.p.	66	1 890	3	184
<b>Total</b>	<b>n.p.</b>	<b>47</b>	<b>1 882</b>	<b>3</b>	<b>406</b>
<b>Total Supply</b>	<b>254 900</b>	<b>550</b>	<b>1 931</b>	<b>3</b>	<b>26 693</b>

3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

		Limestone (including shell and coral)	Clays n.e.c. (including brick, pipe, tile and shale)	
	Dimension stone			Salt
Industry	kt	kt	kt	kt
<i>Intermediate usage continued</i>				
Sheep	—	—	—	—
Grains	—	—	—	—
Beef cattle	—	—	—	—
Dairy cattle	—	—	—	—
Pigs	—	—	—	—
Poultry	—	—	—	—
Other agriculture	—	—	—	—
Services to agriculture; hunting	—	—	—	—
Forestry and logging	—	—	—	—
Commercial fishing	—	—	—	—
Coal; oil and gas	—	—	167	—
Iron ores	—	—	—	—
Non-ferrous metal ores	—	6 289	21	—
Other mining	—	—	18	—
Services to mining	—	—	1	—
Meat and meat products	—	—	—	5
Dairy products	—	—	—	—
Fruit and vegetable products	—	—	—	—
Oils and fats	—	—	—	—
Flour and cereal foods	—	—	—	—
Bakery products	—	—	—	4
Confectionery	—	—	—	—
Other food products	—	1	—	47
Soft drinks, cordials, syrups	—	—	—	—
Beer and malt	—	—	—	—
Wine and spirits	—	—	—	—
Tobacco products	—	—	—	—
Textile fibres, yarns etc.	—	—	—	9
Textile products	—	—	0	—
Knitting mill products	—	—	—	—
Clothing	—	—	—	—
Footwear	—	0	0	—
Leather and leather products	—	—	—	—
Sawmill products	—	—	—	—
Other wood products	—	—	—	3
Pulp, paper and paperboard	—	369	195	—
Paper bags and products	—	—	—	—
Printing; services to printing	—	—	—	—
Publishing and recorded media etc.	—	—	395	—
Petroleum and coal products	—	—	11	—
Basic chemicals	—	339	26	7 076
Paints	—	—	8	—
Pharmaceuticals etc.	—	—	—	—
Soap and detergents	—	2	—	21
Cosmetics and toiletries	—	0	—	2
Other chemical products	—	10	0	47
Rubber products	—	9	10	—
Plastic products	—	—	11	—
Glass and glass products	—	1 635	10	—
Ceramic products	—	50	923	—
Cement, lime and concrete slurry	—	3 789	82	—
Plaster; other concrete products	251	67	81	—
Non-metallic mineral products n.e.c.	0	147	145	—
Iron and steel	—	1 984	4	—
Basic non-ferrous metals etc.	—	203	11	—
Structural metal products	—	22	—	—
Sheet metal products	—	22	—	—
Fabricated metal products	—	168	0	—
Motor vehicles and parts etc.	—	32	—	—
Ships and boats	—	165	—	—
Railway equipment	—	6	—	—
Aircraft	—	—	—	—

3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

	Dimension stone	Limestone (including shell and coral)	Clays n.e.c. (including brick, pipe, tile and shale)	Salt
Industry	kt	kt	kt	kt
<i>Intermediate usage continued</i>				
Scientific etc. equipment	—	0	—	—
Electronic equipment	—	2	—	—
Household appliances	—	9	—	—
Other electrical equipment	—	—	—	—
Agricultural, mining etc. machinery	—	12	—	—
Other machinery and equipment	—	28	—	—
Prefabricated buildings	—	2	—	—
Furniture	—	6	—	—
Other manufacturing	—	1	—	—
Electricity	—	—	—	—
Gas	—	—	—	—
Water, sewerage and drainage	—	—	—	—
Residential building	433	—	—	—
Other construction	155	—	—	—
Wholesale trade	—	—	—	—
Retail trade	—	—	—	—
Mechanical repairs	—	—	—	—
Other repairs	—	—	—	—
Accommodation, cafes and restaurants	—	—	—	—
Road transport	—	—	—	—
Rail, pipeline, other transport	—	—	—	—
Water transport	—	—	—	—
Air and space transport	—	—	—	—
Services to transport; storage	—	—	—	—
Communication services	—	—	—	—
Banking	—	—	—	—
Non-bank finance	—	—	—	—
Financial asset investors	—	—	—	—
Insurance	—	—	—	—
Services to finance etc.	—	—	—	—
Ownership of dwellings	—	—	—	—
Other property services	—	—	—	—
Scientific research etc.	—	—	—	—
Legal, accounting etc. services	—	—	—	—
Other business services	—	—	—	—
Government administration	—	—	—	—
Defence	—	—	—	—
Education	—	—	—	—
Health services	—	—	—	—
Community services	—	—	—	—
Motion picture, radio etc.	—	—	—	—
Libraries, museums, arts	—	—	—	—
Sport, gambling etc.	—	—	—	—
Personal services	—	—	—	—
Other services	—	—	—	—
<b>Total</b>	<b>839</b>	<b>15 371</b>	<b>2 120</b>	<b>7 214</b>
<i>Final Demand</i>				
Household consumption	—	—	—	—
Government consumption	—	—	—	—
Increase in Stocks	2	119	41	-32
Exports	54	12	646	6
<b>Total</b>	<b>55</b>	<b>131</b>	<b>687</b>	<b>-26</b>
<b>Total Supply</b>	<b>894</b>	<b>15 502</b>	<b>2 807</b>	<b>7 188</b>

3.5 SELECTED COMMODITY—Financial year 1993–94 *continued*

Industry	Precious and semi-precious gemstones (including garnet concentrate)	Natural phosphates
	kg	kt
.....		
Intermediate usage <i>continued</i>		
Sheep	—	—
Grains	—	—
Beef cattle	—	—
Dairy cattle	—	—
Pigs	—	—
Poultry	—	—
Other agriculture	—	—
Services to agriculture; hunting	—	—
Forestry and logging	—	—
Commercial fishing	—	—
Coal; oil and gas	—	—
Iron ores	—	—
Non-ferrous metal ores	—	—
Other mining	—	—
Services to mining	—	—
Meat and meat products	—	—
Dairy products	—	—
Fruit and vegetable products	—	—
Oils and fats	—	—
Flour and cereal foods	—	—
Bakery products	—	—
Confectionery	—	—
Other food products	—	—
Soft drinks, cordials, syrups	—	—
Beer and malt	—	—
Wine and spirits	—	—
Tobacco products	—	—
Textile fibres, yarns etc.	—	—
Textile products	—	—
Knitting mill products	—	—
Clothing	—	—
Footwear	—	—
Leather and leather products	—	—
Sawmill products	—	—
Other wood products	—	—
Pulp, paper and paperboard	—	—
Paper bags and products	—	—
Printing; services to printing	—	—
Publishing and recorded media etc.	—	—
Petroleum and coal products	—	—
Basic chemicals	23 105	774
Paints	—	—
Pharmaceuticals etc.	—	—
Soap and detergents	—	—
Cosmetics and toiletries	—	—
Other chemical products	—	—
Rubber products	—	—
Plastic products	—	—
Glass and glass products	—	—
Ceramic products	—	—
Cement, lime and concrete slurry	—	—
Plaster; other concrete products	—	—
Non-metallic mineral products n.e.c.	—	—
Iron and steel	—	—
Basic non-ferrous metals etc.	—	—
Structural metal products	—	—
Sheet metal products	—	—
Fabricated metal products	—	—
Motor vehicles and parts etc.	—	—
Ships and boats	—	—
Railway equipment	—	—
Aircraft	—	—

3.3 SELECTED COMMODITY—Financial year 1993–94 *continued*

Industry	Precious and semi-precious gemstones (including garnet concentrate)	Natural phosphates
	kg	kt
<i>Intermediate usage continued</i>		
Scientific etc. equipment	195 509	—
Electronic equipment	—	—
Household appliances	—	—
Other electrical equipment	—	—
Agricultural, mining etc. machinery	—	—
Other machinery and equipment	—	—
Prefabricated buildings	—	—
Furniture	—	—
Other manufacturing	202 227	—
Electricity	—	—
Gas	—	—
Water, sewerage and drainage	—	—
Residential building	—	—
Other construction	—	—
Wholesale trade	—	—
Retail trade	—	—
Mechanical repairs	—	—
Other repairs	—	—
Accommodation, cafes and restaurants	—	—
Road transport	—	—
Rail, pipeline, other transport	—	—
Water transport	—	—
Air and space transport	—	—
Services to transport; storage	—	—
Communication services	—	—
Banking	—	—
Non-bank finance	—	—
Financial asset investors	—	—
Insurance	—	—
Services to finance etc.	—	—
Ownership of dwellings	—	—
Other property services	—	—
Scientific research etc.	—	—
Legal, accounting etc. services	—	—
Other business services	—	—
Government administration	—	—
Defence	—	—
Education	—	—
Health services	—	—
Community services	—	—
Motion picture, radio etc.	—	—
Libraries, museums, arts	—	—
Sport, gambling etc.	—	—
Personal services	—	—
Other services	—	—
<b>Total</b>	<b>420 841</b>	<b>774</b>
<i>Final Demand</i>		
Household consumption	8 456	—
Government consumption	—	—
Increase in Stocks	–308	2
Exports	1 069 812	—
<b>Total</b>	<b>1 077 959</b>	<b>2</b>
<b>Total Supply</b>	<b>1 498 800</b>	<b>776</b>

## EXPLANATORY NOTES .....

### METHODOLOGY AND DATA SOURCES

#### Stock table

**1** The stock table data was supplied by the BRS. The BRS uses various sources to compile these estimates, including company reports supplied to the Australian Stock Exchange, personal interviews with company representatives and industry specific journals and magazines.

**2** The resource estimates presented in chapter 2 have a broad scope. Figures include all mineral and petroleum resources which are potentially available for exploitation. Consequently, the BRS classification system is not dependent on, or limited by, the physical location of the resources. As a result, resources contained in areas which are inaccessible due to legal and/or land use factors at the time of classification, are included in the estimates (BMR 1984, p. 73).

#### Flow table

**3** The flow table has been sourced from both ABS and external data sources. This publication has used external or supplementary data as both a comparative tool and as an alternative data source. The following commodities were sourced from the Australian Bureau of Agricultural and Resource Economics (ABARE): brown coal; iron ore; copper; mineral sands; tin; uranium; manganese; and salt. Crude oil, natural gas and LNG and LPG estimates were sourced from the BRS. Specialist journals provided estimates of gold. State Mines departments provided estimates of: gravel; sand; dimension stone; construction materials n.e.c.; limestone; clays; and precious and semi-precious gemstones. Industry Associations and direct communication with companies were the sources for the following commodity estimates: LNG and LPG; and precious and semi-precious gemstones.

**4** Supplementary information was used in compiling both production and import estimates, when data quality and consistency issues were identified with the unpublished ABS quantity data. ABS sources include quantitative minerals production data from the Mining program and imports data from International Trade (in limited cases imports data have been understated for reasons of confidentiality). Through a process of reconciliation, production and import estimates compiled and then used to derive total supply estimates for selected commodities for the financial years 1992–93 and 1993–94.

**5** The estimates are presented using the Input-Output commodity classification. These commodities have had conversion factors applied where commodities have been measured in different units by different data sources, for example converting natural gas measured in kt to kL. Some commodities are subject to confidentiality restrictions and have been aggregated. Where no such restrictions apply, data are presented at the commodity level.

**6** The use data are generated from total supply. To calculate estimates of intermediate use by industries and use by end-users, proportions of use were derived from Input-Output Supply and Use Tables (in monetary terms) and applied to the total supply estimates in physical terms compiled for the selected commodities.



## Linkage

**7** As explained in the Introduction (chapter 1) the value of an environmental account is the ability to trace a resource's extraction from the stock (shown as production in the other volume change tables) and the contribution of production to total supply in the flow table. The link between the tables, therefore, are the production estimates. Chapter 1 provides a number of reasons for not linking the stock and the flow tables:

- the stock table was derived using calendar year data and the flow table was derived using financial year data;
- the flow table disaggregation is based on Input-Output tables and at the time of publishing the 1994–95 Input-Output table was unavailable); and
- obtaining OVC data prior to 1994 was not possible due to its highly subjective nature.

Later editions of the mineral account will attempt to overcome these difficulties and where appropriate revise data.

**8** The commodities presented in the stock table were chosen to represent important mineral and petroleum resources. However, to show the flows from natural resources into production these resources have to be aligned with those represented in the flow table — which is based on input-output commodity classifications. Unfortunately, the stock table mineral and petroleum resources only align to approximately half of those displayed in the flow table. The flow table commodities not represented in the stock table are for construction materials, e.g. sand, gravel, stone etc. Investigations into the availability of estimates for these commodities discovered that they are generally thought to be limitless, and estimates of EDR, SDR and INF would be very large, infinite in fact.

**9** To align the stock table commodities with flow table commodities means that the commodities would need to be aggregated together using the same concepts as those used to compile monetary input-output commodity classifications. Even doing this, for reported mineral and petroleum commodities, means that estimates for construction materials would need to be separately estimated.

## INPUT-OUTPUT CONCEPTS

**10** Input-output methodology is the foundation on which the flow table has been compiled. Input-Output tables are a core component of the SNA. They provide detailed information on industry usage of commodities and associated expenditures and income earned.

**11** SNA93 recommends that statistical supply and use tables should serve as the foundation from which analytical input-output tables are constructed. A supply table gives information about provision of resources for goods and services by industry. The use table provides information on the uses of goods and services by industry as intermediate use and by end-users such as households and exports, and on the cost structures of industries.

**12** A supply table is arranged in the same way as the use table, i.e., showing commodities (or products) in rows and industries in columns. The format of these tables, industry by product, is usually rectangular with more rows (commodities) than columns (industries).

## Input-output diagram

From \ To	Intermediate demand					Final demand				Total supply
	Agriculture	Mining	Manufacturing	Construction	Services	Household consumption	Government consumption	Increase in stocks	Export of goods and services	
Intermediate inputs Agriculture Mining Manufacturing Construction Services	Intermediate usage					Final demand				
Primary inputs Wages, salaries & supplements Gross operating surplus Commodity taxes (net) Indirect taxes n.e.c. (net) Sales by final buyers Imports (incl. competing imports)	Primary inputs to production					Primary inputs to final demand				
Total usage										

Corresponds to aggregates shown as the components of gross domestic product

Source: ABS, 1997

**13** Input-output is a compilation methodology that provides a detailed basis for analysing industries and the products they produce. The benefits of input-output analysis are:

- that it provides a framework for checking the consistency of statistics obtained from different data sources;
- it serves as a coordinating framework, ensuring the consistency of the definitions and classifications used;
- emphasises weaknesses in data; and
- analytically, input-output data are integrated into macroeconomic models in order to analyse the link between end-users and industry outputs.

**14** To proceed beyond a supply table and a use table requires that both these tables be confronted with each other in a process called balancing; usually completed with the aid of a computer system which produces a combined supply and use table. In the ABS the first round of balancing is completed at the industry by commodity group level. Another table can be derived after subsequent treatment of secondary production. This table is known as a symmetric input-output table, i.e. one that shows the same thing on both axes, either commodities or industries. In the ABS the symmetric input-output tables are compiled as industry by industry tables. Symmetric tables have the benefit of being used to derive total requirement coefficients. A total requirement coefficient is derived so that if there was a \$1 increase in inputs there would be an \$x increase in output.

INPUT-OUTPUT CONCEPTS *continued*

**15** Further detail regarding the methods used to derive input-output tables can be found in *Australian National Accounts: Input-Output Tables* (Cat. no. 5209.0) and *System of National Accounts 1993*.

## FUTURE ISSUES AND ADDITIONAL INFORMATION

**16** During the compilation process a number of problems and conceptual difficulties were identified. Future estimates should provide better linkages between stock and flow tables, with improved methodology in deriving production estimates, and increased consistency in reporting and recording systems by the relevant data providers.

## Related publications

**17** For background information on the mining industry, as well as detailed expenditure and other socio-economic information, please refer to the following ABS publications:

- *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5204.0)
- *Australian National Accounts: Input-Output Tables* (Cat. no. 5209.0)
- *Australian National Accounts: Input-Output Tables (Commodity Details)* (Cat. no. 5215.0)
- *Australian National Accounts: National Balance Sheet* (Cat. no. 5241.0)
- *Labour Force, Australia* (Cat. no. 6203.0)
- *Average Weekly Earnings, States and Australia* (Cat. no. 6302.0)
- *Actual and Expected Private Mineral Exploration, Australia* (Cat. no. 8412.0)
- *Australian Mining Industry* (Cat. no. 8414.0)

## Related Statistics

**18** Disaggregated other volume change (OVC) tables are available as a special data service. These tables show OVC for mineral resources by State, identified petroleum resources by petroleum basin and undiscovered petroleum resources by petroleum basin. Inquiries about the special data service should be directed to Graeme Oakley, Director, Environment and Energy Statistics Section, Canberra (02) 6252 7369.

## LIST OF ABBREVIATIONS AND OTHER USAGES.....

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### SYMBOLS AND OTHER USAGES

Bcm	Billion cubic metres ( $1\text{m}^3 \times 10^9$ )
c	carats
G	Giga ( $10^9$ )
GL	giga litre
Gt	giga tonne
k	kilo ( $10^3$ )
kg	kilogram
kL	kilo litre
kt	kilo tonne
L	litre
M	Mega ( $10^6$ )
Mc	millions of carats
ML	mega litre
Mt	mega tonne
t	tonnes
n.a.	not available
n.c.	not collected
n.e.c.	not elsewhere classified
n.p.	not available for publication but included in totals where applicable
n.q.	not quantified
—	nil or rounded to zero
..	not applicable

LIST OF ABBREVIATIONS	ABARE	Australian Bureau of Agricultural and Resource Economics
	ABS	Australian Bureau of Statistics
	AFR	Australian Financial Review
	ANZSIC	Australian and New Zealand Standard Industry Classification
	BRS	Bureau of Resource Sciences
	EDR	Economic Demonstrated Resources
	ESAG	Environment Statistics Advisory Group
	ESD	Ecologically Sustainable Development
	IFR	Inferred Resources
	LNG	Liquified Natural Gas
	LPG	Liquid Petroleum Gas
	JORC	Join Ore Reserves Committee
	OECD	Organisation for Economic Co-operation and Development
	OVC	Other Volume Changes
	SDR	Sub-economic Demonstrated Resources
	SEEA	System for Integrated Environmental and Economic Accounting
	SNA	System of National Accounts
	SNA93	System of National Accounts 1993
	UN	United Nations
	UNCED	United Nations
	ZOC	Zone of Co-operation
	ZOCA	Australia-Indonesia Zone of Co-operation Area A

## APPENDIX: DEFINITIONS OF ITEMS .....

### ECONOMIC RESOURCE

This term implies that, at the time of determination, profitable extraction or production under defined investment assumptions has been established, analytically demonstrated or assumed with reasonable certainty (BMR, 1984).

### EXPORTS

The exports of goods represents the quantity of goods sent to other countries or for which ownership changes from residents to non-residents.

### GOVERNMENT CONSUMPTION

Measures the consumption of goods by general government bodies.

### HOUSEHOLD CONSUMPTION

Measures the consumption of goods by households and producers of non-profit services to households. It includes the consumption of durable and non-durable goods.

### IDENTIFIED RESOURCES

Specific bodies of mineral-bearing material whose location, quantity, and quality are known from specific measurements or estimated from geological evidence. Identified resources include economic and sub-economic components. To reflect degrees of geological assurance, identified resources can be subdivided into the following categories.

#### Measured

Resources for which tonnage is computed from dimensions revealed in outcrops, trenches, workings, and drill holes, and for which the grade is computed from the results of detailed sampling. The sites for inspection, sampling, and measurement are spaced so closely, and the geological character is so well defined, that size, shape, and mineral content are established.

#### Indicated

Resources from which tonnage and grade are computed from information similar to that used for measured resources, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than for resources in the measured category, is high enough to assume continuity between points of observation.

#### Demonstrated

A collective term for the sum of measured and indicated resources.

**Inferred resource**

Resources for which quantitative estimates are based largely on broad knowledge of the geological character of the deposit and for which there are few, if any, samples or measurements. The estimates are based on an assumed continuity or repetition, of which there is geological evidence. This evidence may include comparison with deposits of similar type. Bodies that are completely sealed may be included if there is specific geological evidence of their presence. Inferred resources are referred to as IFR in this publication (BMR, 1984).

**INDUSTRY**

Refers to input-output industry groups.

**INPUT-OUTPUT**

A compilation method which provides a description of the supply and disposition of the products of an entire (economic) system for a particular time.

**INPUT STRUCTURE**

Shows the detailed consumption of a commodity by input-output industries.

**INVENTORY**

Represents the physical change in inventory levels between consecutive time periods.

**MCKELVEY BOX CLASSIFICATION**

For classifying resources into categories based on the certainty that the resource exists and the best estimate of economic feasibility of producing them.

**OTHER VOLUME CHANGES**

Other volume changes (OVC) are concerned with quantifying changes in resources that occur between one period and another. In this publication OVC has been quantified for mineral and petroleum resources, explanations of the categories follow:

**Mineral resource OVC****PRODUCTION**

The amount of the resource that is recovered (extracted) by mining during a specified period, usually one year (either financial or calendar).

**DISCOVERY**

Where previously unknown mineralisation has been discovered and resources delineated or where resources in a known deposit have been extended by further exploration.

**RECLASSIFICATION FOR ECONOMIC REASONS**

Where changes in economic factors, including price and operating costs, makes the extraction of a previously uneconomic resource economic, or a previously economic resource uneconomic.

**RECLASSIFICATION FOR TECHNICAL REASONS**

Where the advent of new technology to an industry, or changes to existing technology, makes the extraction of a previously uneconomic resource economic.

OTHER VOLUME CHANGES *continued*

## INDUSTRY REVISION

Where the holder of a resource has prepared revised estimates of the resource on the basis of changed parameters, for example, cut off grade or pit limits.

## OTHER CHANGES n.e.c.

Those volume changes which cannot be classified to other categories are recorded under this category.

## Petroleum resource OVC

## POLITICAL CHANGES

A change due to a political decision made at a State, Commonwealth or international level. The Zone of Co-operation is an example of a political change.

## RECLASSIFICATION FOR TECHNICAL REASONS

A change due to the implementation of new technology in petroleum exploration and/or development.

## CHANGE IN METHODOLOGY

A change resulting from a change in the estimation technique (usually, a change to the BMR/BRS computer simulation model).

## CHANGE IN GEOLOGICAL KNOWLEDGE

In general, a change due to increased geological information at a specific site or in a specific basin. Subdivided into:

- *drilling results.* From the drilling of wells, where previously unknown petroleum has been discovered and resources at a known site delineated, or where drilling results have demonstrated that petroleum resources are not present at that site.
- *other geological knowledge changes.* All other changes not due to the drilling of wells, for example seismic surveys, or new geological hypotheses.

## OTHER VOLUME CHANGES n.e.c.

Those volume changes which cannot be classified to other categories are recorded under this category.

## RESOURCE

A concentration of naturally occurring solid, liquid, or gaseous materials in or on the earth's crust and in such form that its economic extraction is presently or potentially (within a 20–25 year timeframe) feasible. The definition does not intend to imply that exploitation of any such material will take place in that time span, but only that its possibility might reasonably be considered (BMR, 1984).

## SELECTED COMMODITY

Selected commodities are a set of aggregated input-output commodity classifications used to preserve data confidentiality.



## SUB-ECONOMIC RESOURCE

This term refers to those resources which do not meet the criteria for economic; sub-economic resources include paramarginal and submarginal categories.

## Paramarginal

That part of sub-economic resources which, at the time of determination, almost satisfies the criteria for economic. The main characteristics of this category are economic uncertainty and/or failure (albeit just) to meet the criteria which define economic. Included are resources which would be producible given postulated changes in economic or technological factors.

## Submarginal

That part of sub-economic resources that would require a substantially higher commodity price or some major cost-reducing advance in technology, to render economic (BMR, 1984).

## TOTAL INTERMEDIATE USAGE

Indicates the amount of goods which are used up in the process of production.

## TOTAL SUPPLY

The total amount of a commodity available at a point in time; includes imports.

## UNDISCOVERED RESOURCES

Unspecified bodies of mineral-bearing material surmised to exist on the basis of broad geological knowledge and theory. Undiscovered resources include the following categories.

## Hypothetical

Resources which may reasonably be expected to exist in a known mining district or mineral province under known geological conditions. As exploration confirms their existence and reveals information about tonnage and grade, such resources would be reclassified in the appropriate subdivision of identified resources.

## Speculative

Resources which may occur either in known types of deposits in a favourable geological setting where no discoveries have previously been made, or in as yet unknown types of deposits which remain to be recognised. As exploration confirms their existence and reveals information about tonnage and grade, such resources would be reclassified in the appropriate subdivision of identified resources (BMR, 1984).

## LIST OF REFERENCES .....

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AFR	Australian Financial Review
AJM	Australian Journal of Mining
BMR	Bureau of Mineral Resources
BRS	Bureau of Resource Sciences
UN	United Nations

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