

Department of Minerals and Energy

# 1998

## Annual Report



DEPARTMENT OF  
**MINERALS AND ENERGY**  
WESTERN AUSTRALIA

*"Our Resources • Our People • Our Future"*

# Contents

<b>REPORT OF THE DIRECTOR GENERAL</b>	<b>2</b>
<i>Program Features of 1997-98</i>	4
<i>Organisational Features of 1997-98</i>	5
<b>The Department</b>	<b>6</b>
Our Mission	6
Our Vision	6
Role (Programs and Outcomes)	6
Corporate Objectives	6
Organisation chart	7
<b>The Context</b>	<b>8</b>
Issues and Trends	8
Resources Inventory and Exploration Effort	8
Industry Production	10
<b>Program Performance in 1997-98</b>	<b>13</b>
Audited Key Performance Indicators	13
Certification	13
Opinion of the Auditor General	14
Index to Audited Key Performance Indicators	15
Program 1.0: Industry and Resources Management	17
Sub-program 1.1: Mineral Titles	18
Sub-program 1.2: Mining Operations	25
Sub-program 1.3: Petroleum Industry Management	32
Sub-program 1.4: Mineral and Petroleum Royalties	39
Sub-program 1.5: Dangerous Goods Management	43
Program 2.0: Industry Support	49
Sub-program 2.1: Geological Survey	50
Sub-program 2.2: Mineral Processing Laboratory	57
Land Access	60
<b>Organisational Performance</b>	<b>62</b>
Compliance with Public Sector Standards	62
Equal Opportunity	62
Occupational Safety and Health	62
Disability Services Plan	62
Risk Management	62
Year 2000 Project	63
Expenditure Related to Advertising and Market Research Organisations	63
Program Evaluation	63
Geocentric Datum 94	64
<b>Corporate Services</b>	<b>65</b>
Corporate Planning and Review	65
Economic Policy and Statistics	65
Corporate Communications	66
Human Resource Management	66
Facilities Management	67
Finance and Supply Services	67
Information Systems and Services	67
Internal Audit	68
Financial Statements	69
<b>APPENDICES</b>	
Appendix 1: Legislation and Changes to Legislation	97
Appendix 2: Publications	99

Land access and mine safety were significant issues for the Department in 1997/98, along with some internal reorganisation and reshaping to meet future challenges.

One of the effect major challenges was the effect on land access created by the requirements of the Native Title Act. There was a substantial drop in the number of mining leases granted during the period. On the positive side, the number of applications for exploration licences grew, showing that Western Australia is still high on the list of prospective places in the world targeted for mineral exploration.

There were also positive and negative aspects for mine safety. The number of accidents resulting in serious injuries dropped, but a spate of fatalities caused great concern. There were 13 deaths during the year, including nine underground. The Minister for Mines directed the Mines Occupational Safety and Health Advisory Board (MOSHAB) to establish a special taskforce to investigate and report on eliminating fatalities in the Western Australian mining industry. The Department maintains that a fatal incidence of zero is achievable and significant effort continues to be made in that direction.

Other major initiatives to stimulate interest in the State's prospectivity included significant advances in pre-construction planning for Western Australia's first drill core library to be built at Kalgoorlie in 1999.

My appointment as Director General in February 1998 gave me the opportunity to begin reshaping the Department to better deal with prevailing challenges and prepare for the future.

During the year a Corporate Statement was developed and issued to explain clearly to staff the Department's key corporate objectives and values, and to complement strategic plans which were then prepared by each of the Divisions and Corporate Service branches.

A number of organisational changes were made to improve efficiency and effectiveness, including several key appointments and the reorganising of the Mining Operations Division to separate policy development and operations. My priority was to put the right people in the right place and provide a structure that would enable staff to achieve the corporate goals in a dynamic environment.

## The number of accidents resulting in serious injuries dropped, but a spate of fatalities caused great concern.

During the year, the Department was also involved in the process of formulating a Regional Forest Agreement (RFA) between the State and Federal Governments. The Department's contribution was aimed at ensuring that mineral and petroleum interests are fully considered in the process.

A gold royalty became a reality in legislation in 1997/98 and the Department made preparations for its introduction, including policy refinement in terms of royalty relief and educating the industry for the implementation of the new system.

The Department maintained its intense program of mapping and mineral resource studies in a climate of increased global competition for exploration funds.

I undertook to provide staff with a working environment that would allow them to perform at their best and that would result in greater flexibility and productivity overall, and a number of human resource initiatives and successful EPA/WPA negotiations were completed to achieve that end.

I initiated the introduction of a program to support staff in work-related training and further education which is so important in an organisation which relies heavily on our people's knowledge and expertise. Significant progress was also made to examine issues of Equal Employment Opportunity and Diversity and to develop policy documents to reinforce and support these values within the organisation.

Considerable effort was directed during the year to the development and approval of a special salary package to meet the challenge of attracting and retaining qualified mines inspectors in regional areas in a very competitive market.

A high priority was placed on customer focus, both external and internal, highlighted by the initiation of a major customer service project to assess current performance and recommend future directions in this area.

access and petroleum administration. The first of these is due to be signed on 1 September 1998 with the Ministry for Planning and WA Planning Commission.

Options to achieve optimum benefits for the State from the Waterford Mineral Processing Laboratory were investigated during the year. Significant progress was made towards the leasing of the facilities to CSIRO to achieve an improved metallurgical research and development effort in this State.

I was pleased to see the efforts of staff recognised during the year. The Mineral Titles Division counter staff received a major customer service award and the Geological Survey Division received national awards for one of their new maps.



The goal of continuous improvement in the quality, accessibility, and timely delivery of the Department's information services was supported during the year by several new initiatives, including initiation of the development of a new information system to collect, measure, and record mine employees' exposure to contaminants (CONTAM).

Special new programs were developed to address the Year 2000 bug problems and make preparations for the introduction of the new Geocentric Datum of Australia (GDA) in the year 2000. Work also continued on the major mineral titles information system (MiTiS) which will replace all paper-based mining tenement registers with an electronic system networked throughout the State.

Improved coordination and cooperation between the Department and other Government agencies was reinforced in the interests of improving services, by work on two Memoranda of Understanding related to land

I was pleased to see the efforts of staff recognised during the year. The Mineral Titles Division counter staff received a major customer service award and the Geological Survey Division received national awards for one of their new maps.

The Department is developing new systems of management and electronic services, and I am confident that we can provide a continually improving service to facilitate the responsible development of the State's minerals and petroleum industries for the benefit of all Western Australians.

A handwritten signature in black ink, appearing to read 'Lee Ranford'. The signature is fluid and cursive, written on a white background.

LEE RANFORD  
DIRECTOR GENERAL

### **Impact of Native Title**

Large areas of Western Australia were effectively sterilised from exploration because of the effect of right-to-negotiate processes under the Native Title Act. The Act also continued to impact on the number of mining leases granted, with 144 lease applications granted of the 1836 lodged. This continued a downward trend which began in 1995/96 when native title processes began to have an impact on the State's minerals titles system.

### **Mining safety and environment**

A special Mines Occupational Safety and Health Advisory Board (MOSHAB) taskforce was directed by the Minister for Mines to look into a spate of mining deaths in the latter half of 1997, contrary to a downward trend in injury frequency rates. MOSHAB reported to the Minister in December 1997 outlining strategies for a whole-of-industry approach to eliminate fatalities and disabling injuries, particularly those caused by underground rock falls. The report's recommendations were endorsed by industry. A new environmental project approval scheme was introduced to facilitate a faster approval process and enable the department to increase site inspections and environmental review of operations.

### **Petroleum production**

Western Australia continued to lead the nation's oil and gas production, generating 57 per cent of Australia's oil output and 51 per cent of its gas output in 1997-98. Exploration activity continued to grow, particularly offshore, and geophysical activity was at record highs.

### **Petroleum safety**

The Petroleum Safety Bill was presented to Parliament to create uniform occupational health and safety standards for all of the State's petroleum operations. Prosecutions relating to the death of a contractor on the Goldfields Gas Transmission pipeline in 1996 were heard in court. Two companies were found guilty of committing an offence under the Petroleum Pipelines Act 1969 and one subsequently appealed the decision.

### **Royalties**

Preparations were made for the introduction of a gold royalty in 1997-98 and a change to royalty payment

timings was introduced to simplify administration requirements for producers under the Mining Act. The value of royalty collections rose by 9.3 per cent on the previous year to a total of \$730.1 million. This included \$374.8 million for minerals and \$355.3 million for petroleum. The Commonwealth Government received \$123.2 million under petroleum royalty-sharing arrangements.

### **Dangerous goods management**

The main focus in dangerous goods management in 1997-98 was to encourage industry to accept its responsibility to make public safety a priority. This was reinforced by development of the National Standard and Code of Practice for the Storage and Handling of Dangerous Goods released for comment in May 1998.

### **Geoscience maps and publications**

Promotion of exploration and mining in Western Australia was accelerated with the release of 31 maps, 45 manuscripts, and seven digital datasets. New maps, reports, and digital datasets were released on CD-ROM to outline the mineral potential for part of the Mid West, the north eastern Goldfields, and part of the South West. Gravity readings were collected during a helicopter-assisted regional soil geochemical sampling program, providing a major contribution to exploration data at a marginal cost. Progress was made towards establishing drill core library facilities at Kalgoorlie.

### **Mineral processing negotiations**

Options were examined to optimise financial benefits and provide a more comprehensive metallurgical research and development effort from the Mineral Processing Laboratory at Waterford. This resulted in negotiations for CSIRO to take a long-term commercial lease of the facilities, starting from 1 September 1998.

# Organisational Features of 1997-98

The Department's staff and management practices are central to ensuring it operates efficiently and effectively for customers and the community, meets its Public Sector obligations and ensures continuity of service into the next century. While the Department operates to some extent as a conglomerate of businesses, we strive to share common values, achieve high resource and risk management standards.

Key corporate features this year included:

- Recurrent expenditure incurred by the Department of \$71.3 million, with \$2.18 million provided for capital projects;
- A drop of 3.6% in staff turnover compared with last year but an increase in the proportion of contract workers to 17%;
- Change to a more strategic view – development of a Corporate Statement, and strategic plans for business and corporate areas;
- Initiation of a Customer Service Project to coordinate and develop ideas on better service delivery;
- Development of a comprehensive and widely accepted EEO and diversity management plan, including an implementation strategy incorporating training across the entire Department;
- No breaches of the public sector standards, confirming the Department's excellent record in this area;
- Completion of a comprehensive risk assessment and a management plan that makes risk management part of the responsibilities of all managers;
- Identification of business risks, and development and implementation of a remediation plan to ensure DME's services and facilities are Year 2000 compliant by 31 December 1998;
- Reinforcement of the Department's commitment to occupational health and safety with the introduction of user-friendly forms for reporting hazards, incidents, and accidents; and
- Out-sourcing many of the Department's information technology services.



In 1997-98 the Department commenced a revised planning system and developed new Mission, Vision, Value and Corporate Objective statements. They are published below to show the status of the Department as at 30 June 1998. Please note that the remainder of this publication is a report against the agency mission as stated in the 1997-98 Budget Papers, which varies in wording but not in essential intent from the current statement.

## **Our Mission**

To develop policy, information systems, a legislative framework and administrative processes for the Western Australian mineral, petroleum, and dangerous goods industries in order to:

- enhance and promote the prospectivity of Western Australia;
- facilitate access to land;
- meet community standards in the management of risk to people and the environment; and
- ensure the community receives appropriate benefits from the extraction of its resources.

## **Our Vision**

Achieving excellence in facilitating responsible exploration and development of the State's mineral and petroleum resources for the long-term benefit of all Western Australians.

## **Role (Programs and Outcomes)**

The Department had two programs during 1997-98:

1. To ensure that the State's mineral, petroleum, and dangerous goods industry sectors were managed for the benefit of the people of Western Australia; and
2. To increase the rate of discovery and development of the State's mineral and petroleum resources.

A new Output Based Management structure was developed in 1997-98 for implementation in 1998-99. Part of this structure describes the outcomes to which the Department's programs contribute:

1. Optimum use of land and resources;
2. Safe and healthy mineral and petroleum industry workforce;
3. Acceptable environmental standards for mineral and petroleum exploration, development, production, and project completion;
4. Appropriate returns to the community for the exploitation of its mineral and petroleum resources; and
5. A community confident that it is safe from hazards associated with the storage, handling, and transport of dangerous goods.

## **We Value:**

### **Our community:**

- we will strive to meet community expectations regarding the benefits it believes it should receive from the mineral and petroleum industries;
- we will strive to meet community expectations regarding safety and environmental management; and
- we will ensure we have processes in place to encourage feedback on our performance.

### **Our customers:**

- we will seek to deliver first-rate service to our customers through knowing them, providing quality, cost-effective products, and developing ways of encouraging and assessing feedback on our performance.

### **Our organisation:**

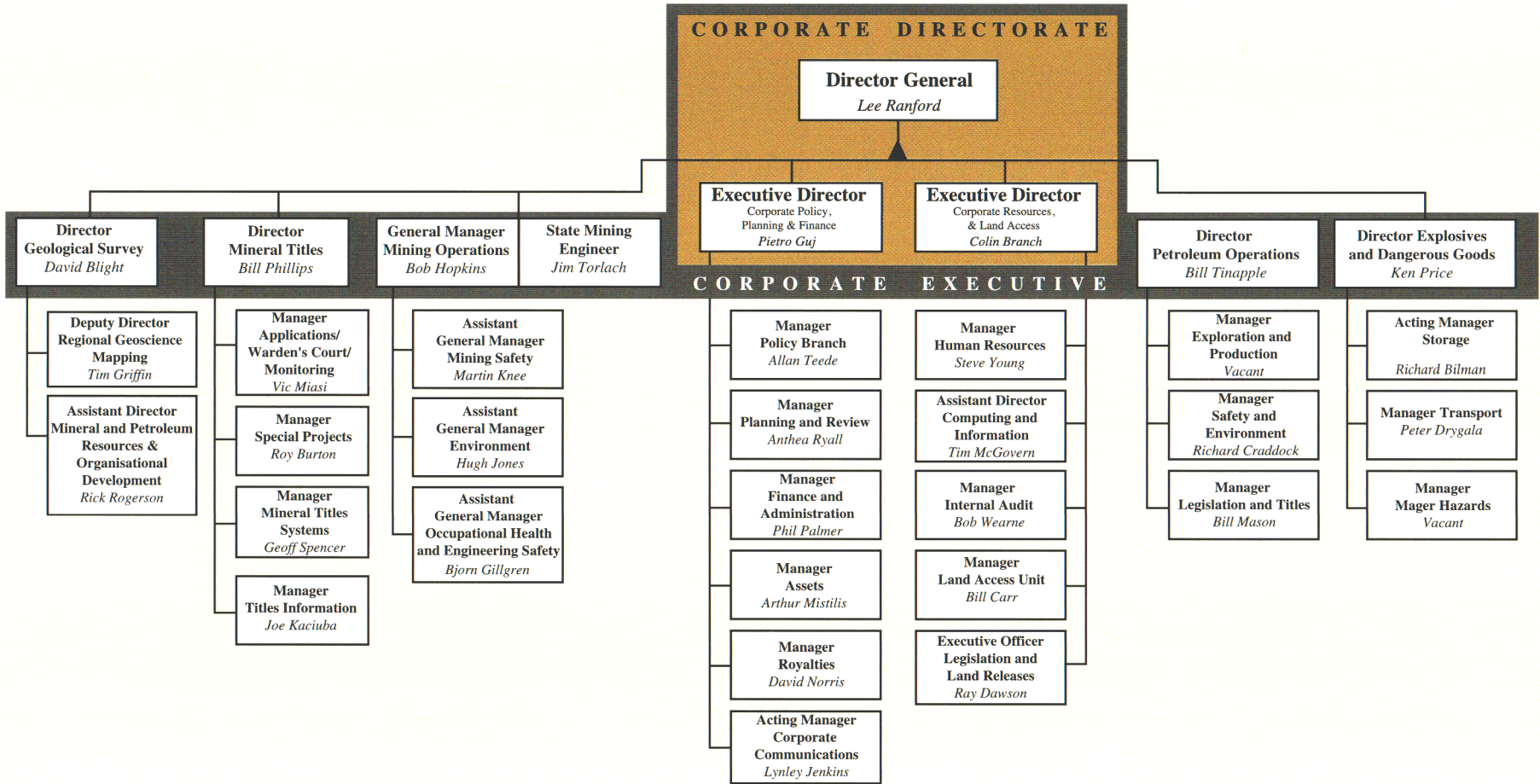
- we will acknowledge its responsibilities in serving industry and the community by maintaining our integrity, accountability, and skills.

### **Our colleagues:**

- we will strive together to achieve our vision; and
- we will develop good working relationships and an effective working environment through integrity, respect, innovation, support and competence.

## **Corporate Objectives**

- A global and strategic outlook on our operations through planning processes that create ownership and emphasise independent review of our performance;
- Resources concentrated on strategic elements of our core business by seeking ways to out-source and out-place work that can be better done by others;
- Legislation that is clear, consistent and workable;
- Positive cooperative relationships with other agencies and respect for their roles;
- Satisfied customers through continually improving service;
- Information that is accessible, timely, accurate and current;
- Continuously improving processes that are clear, consistent and auditable;
- Skilled managers with clearly defined roles and responsibilities;
- Open and honest two-way communication;
- A culture that celebrates diversity; and
- A work environment and employment conditions that encourage staff to perform at their best.





## Issues and trends

- The standard of living of all Western Australians is dependent to a large extent on the benefits derived from the development of the State's mineral and petroleum resources.
- A high level of investment in exploration and development is essential if current levels of mineral and petroleum production are to be sustained and expanded.
- The local mineral and petroleum industries compete nationally and internationally for investment and markets, but must operate in accord with local community standards.
- International economic issues that are likely to influence investment over the next five years include:
  - fluctuating commodity prices;
  - the impact of international financial instabilities; and
  - increased competition for exploration funds from developing countries.
- Native title is currently the single biggest land access issue and the uncertainty associated with this issue is expected to continue for at least the next three to five years.
- Important trends in community attitudes include:
  - increasing interest in the values used in assessing competing or sequential land-uses and the short-term and long-term effects of operations on the environment; and
  - increasing awareness and expectations about industry performance in relation to health and safety, the environment and indigenous people.
- Significant political developments include:
  - increasing influence of minor political parties and single issue lobby groups on policy decisions related to the mineral and petroleum industries; and
  - increasing involvement of the Federal Government in policy decisions related to major resource developments.
- The role of public agencies and the nature of public sector work and employment are being redefined throughout the Western world. Current trends emphasise:
  - cost effectiveness of Government agencies, smaller Government, and moving work from the public to the private sector; and

- a general shift towards short-term contract work, competency-based employment, and a wider variety of working conditions in the public sector.

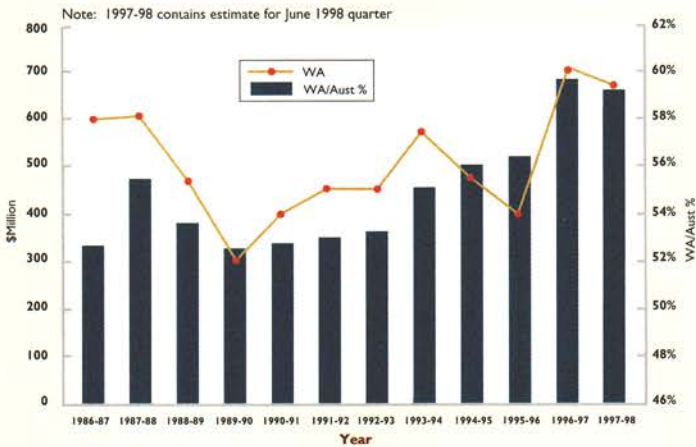
- Organisational change is under way in the Department of Minerals and Energy, reflecting changing community attitudes, management trends, and budgetary pressures. The changes include the introduction of flatter structures, better defined management roles, and performance-based bonuses.

## Resources Inventory and Exploration Effort

Mineral and petroleum exploration and development activities are dependent on a number of factors, including world commodity prices and Commonwealth and State fiscal, regulatory and land access policies. The level of control or influence the Department has over these driving factors varies considerably. The Department's initiatives are designed to respond to changes in these external factors and to contribute to a climate in which the industry sectors continue to be of significant benefit to the State. Industry activity is, therefore, a measure of the industry's response to a variety of influences to which the Department makes a contribution.

The level of exploration activity is also a lead indicator for the future contribution of the petroleum and mineral industry sectors to the State's economy. Exploration activity is a precursor to the discovery of resources (inventory) and, potentially, their subsequent development and sale. If the industry is to continue to grow and contribute to the State, exploration activity must continue.

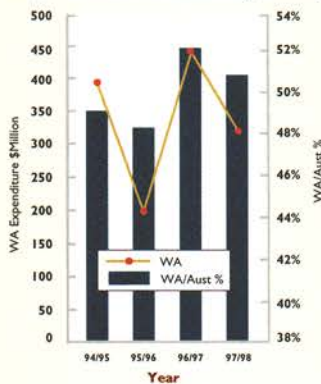
**Mineral Exploration Expenditure in W.A.** Dollars of the Day, Original Dollars



Total mineral exploration expenditure (excluding petroleum) in WA declined by an estimated 4% (\$25.4 million) from the record levels of 1996-97 (\$691.7 million) to \$666.3 million (estimated). Gold remains the focus, but its importance has declined from 75% of the total (1996-97) to 71% (1997-98). Western Australia continues to attract a very high proportion of the exploration expenditure within Australia, with about 60% of the total — close to the maximum level for the last decade.

**Petroleum Exploration Expenditure**  
WA versus Australia Original Figures  
Source: ABS

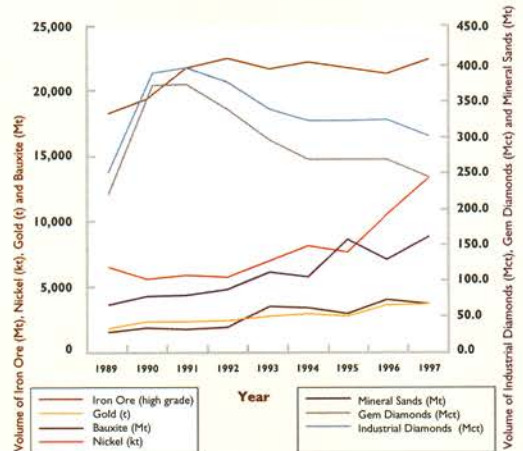
Note: 1997-98 contains an estimate for June 1998 quarter



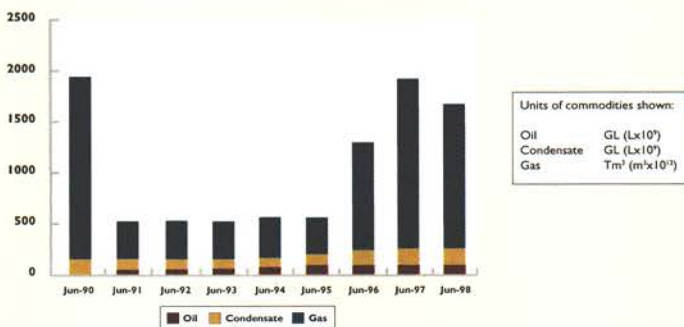
Total petroleum exploration expenditure in WA declined by an estimated 7% (\$31.5 million) from the record levels of 1996-97 (\$444.1 million) to \$409.6 million (estimated). Western Australia continues to attract a substantial proportion of the petroleum exploration expenditure within Australia, with about 48% of the total — slightly below the peak of 54% achieved in 1991-92 and 1996-97.

Gold resources have increased for the fifth year in succession, despite gold production continuing at high levels. The boom in nickel exploration, particularly directed at the large laterite-hosted deposits, is now reflected in a dramatic increase in the measured and indicated resources — these have increased by 77% over the last two years.

**Mineral Inventory**



**Inventory of Petroleum Reserves**  
at the 50% probability level



Current WA petroleum production rates are similar to last year at approximately 29 500 kilolitres of oil per day, 18 500 kilolitres of condensate per day and 66 million cubic metres of gas per day. For reserves to remain static while fields are in production, the rate of field discovery or extension must keep pace with the annual rate of production.

The petroleum reserve inventory has decreased this year due largely to oil production not being replaced by additional discoveries, and gas and condensate from the Scott Reef discovery being reclassified as static resources (that is no reserve at the 50% probability level) rather than a provable reserve.

Despite difficult global commodity market conditions, the value of mineral and energy production in 1997-98 increased by over eight per cent to reach \$17 900 million. As most mineral and petroleum prices are denominated in US dollar terms, the key factor behind the growth in the value of production was the substantial devaluation of the Australian dollar in 1997-98 compared to the previous year.

## Petroleum

A fall in crude oil output and poor oil prices resulted in a small 2% decrease in the overall value of production from Western Australia's petroleum industry. Nevertheless, this industry remained the State's most significant resource sector. Value of output was approximately \$4 900 million, representing 28% of the State's value of mineral and energy production and half of Australia's value of petroleum output.

LNG production, worth an estimated \$1 592 million was the most significant product. Its value of output was up by 4%. Western Australia has become a significant supplier in the world LNG market, accounting for approximately 10% of world LNG trade.

The shutdown of the Griffin project for three months for repairs had a major impact on crude oil production which fell 6%. In addition, global supply outstripped demand which led to an accumulation of large stockpiles. As a result, world oil market prices dropped significantly from their previous year's high. This compounded the State's fall in crude oil production to result in an 18% decrease in value of production to \$1 569 million.

Significantly greater output from the North West Shelf project, particularly North Rankin and Goodwyn was the chief factor behind condensate output increasing by 18%. However, low oil prices cut back the increase in value of production to 13% to reach an estimated \$1 065 million.

The value of natural gas production increased over 4% in 1997-98 to \$558 million. 1997-98 was also the second full year's production from Woodside Petroleum's liquefied petroleum gas (LPG) plant. In 1997-98 the plant produced over 635 000 tonnes of LPG butane and propane product worth approximately \$148 million. This represented a 29% increase on the previous year.

## Iron Ore

Iron ore output in 1997-98 amounted to 149 million tonnes worth \$3 900 million. Despite a poorly performing Japanese economy, Japan's steel making

output remained healthy and total Western Australian iron ore production tonnage was up 6%. Higher prices and a low value of the Australian dollar also resulted in a significantly higher value of production which was up 24% on the previous year. The growth in the value of output pushed the sector past gold to regain its position as the State's second largest resource industry.

Global economic developments, particularly in Asia, have enforced a more critical consideration of new iron ore projects and in particular, moves towards downstream processing. Significantly, BHP continued construction of its direct reduced iron (DRI) plant in Port Hedland. This will be Western Australia's first new downstream iron ore processing facility, with the first briquettes from this plant expected to be produced in 1999.

## Gold

Even though depressed gold prices led to the closure of some of the State's smaller gold projects and, the deferment of some gold mine expansions overall gold output continued to grow, increasing by over 13 tonnes or 6% to 241 tonnes in 1997-98. Western Australia also continued to account for over three quarters of Australia's gold production. Two outstanding contributors to the increased output were the Granny Smith operation and Sunrise Dam, which saw its first full year of operation.

In 1997-98 the price of gold continued to drift lower, hitting an 18-year low of US\$280/oz in January 1998. Overall, it averaged US\$306/oz, 16% down on the previous year. Consequently, the value of gold production, up by three per cent to \$3.5 billion, was unable to equal growth in physical output. Local producers were sheltered from the full effect of the lower gold price thanks to a depreciated Australian currency which translated to average Australian prices in 1997-98 being just 2% lower compared to the previous year. Local producers were also assisted by maintaining extensive gold hedging positions.

## Alumina

Alumina production increased by only two per cent to 8.5 million tonnes. However, value of production increased by 16% to reach \$2.3 billion. This was due to favourable Australian prices received by local producers resulting from Australian currency devaluation and relatively healthy alumina prices. Aluminium prices on average remained steady compared to the previous year. On the back of this, alumina prices, after slumping in the middle of 1997-98, recovered and stabilised to result in average and Australian dollar denominated prices being 17% higher over the year.

Significantly, Worsley Alumina commenced work to expand its refinery. The expansion will double the refinery's capacity and is the largest resource development project in the State's South West region for over a decade. Alcoa also announced during the year that it planned to increase the capacity of its Wagerup refinery as the first stage of an overall planned expansion by the construction of a third production train.

### **Nickel**

Output of matte, metal and concentrate nickel products in 1997-98 was up by 18% to reach 135 thousand tonnes. Value of production rose by only nine per cent to \$1.1 billion as the international price of nickel continued to fall. The average US price over 1997 was down dramatically by 20%. Weakness in nickel prices reflected surplus nickel stocks due to lacklustre demand by stainless steel producers and ready availability of nickel and steel scrap from Russia. This weakness was compounded in late 1997 with uncertainty created by disruptions to financial markets throughout Asia. However, due to the devaluation of the Australian dollar, local producers did not bear the full brunt of price weakness with Australian dollar prices down on average by around eight per cent.

Greater output from WMC's nickel operations including improvements at the Kwinana nickel refinery and a new mine meant that Western Australia's nickel production continued to climb in 1997. A new project which also helped boost output in 1997-98 was Black Swan Nickel's underground Silver Swan mine near Kalgoorlie. This operation commenced shipping concentrates from Esperance in July 1997.

### **Heavy Mineral Sands**

The heavy mineral sands industry continued to grow in value of production in 1997-98, increasing by nine per cent to reach \$659 million. This was largely attributable to significant increases in ilmenite and synthetic rutile production. In addition, local producers also received favourable prices for these products. A significant contribution to the increased output came from the commencement of operations at Westralian Sands' new synthetic rutile plant in Capel. Additional output was also brought on stream from Cable Sands' new Yarloop mining operation, BHP's new Beenup project and capacity increases by Tiwest at its Chandala plant.

### **Diamonds**

The volume of diamonds sold from Western Australia dropped over 19% to 42 million carats. However, due to the devaluation of the Australian dollar, the value of these sales in 1997-98 was up a very dramatic 36% to \$538 million. This was despite US denominated prices remaining on average little changed compared to the previous year. All production was from the Argyle operation. Underground mining plans at the Argyle diamond mine were dropped during the year in favour of a major expansion of the existing open pit operations to keep the mine operational into the next decade.

### **Other Minerals**

Total value of base metals production increased approximately 22% to \$187 million. The chief contributor to this was zinc. Western Australia's zinc production continued to come from two sources, Normandy's Scuddles operation and Western Metal's Lennard Shelf mining operations. Zinc prices held up on average over 1997-98 and the devaluation of the Australian dollar through the year translated to significant price increases resulting in the value of zinc production increasing 35% to \$121 million.

Unlike zinc, lead prices suffered a price fall which the devaluation of the Australian currency was unable to compensate for. However, a doubling of output meant that value of production increased by a significant 77% to around \$11 million. The end of 1997 also saw the resurrection of Derby as a shipping port with the commencement of monthly zinc and lead concentrate shipments from Western Metal's operations.

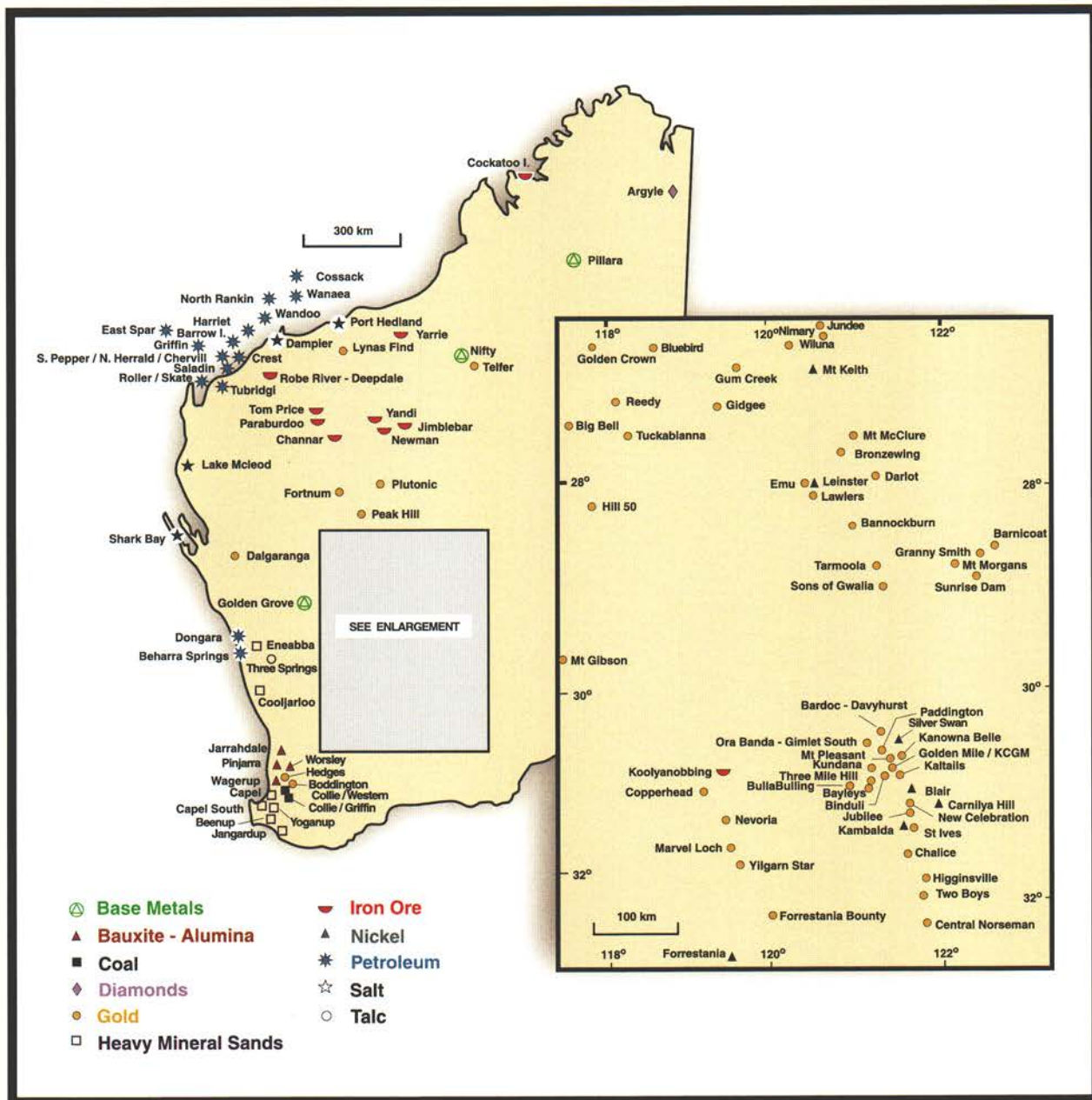
Western Australia's copper production increased four per cent increase to 29,000 tonnes. However, as the international price of copper was on average lower, this combined to result in the value of the production being down four per cent to \$56 million.

Salt production increased by an estimated eight per cent to 8.2 million tonnes and thanks to favourable prices and the devaluation of the Australian dollar, the value of this production increased by an estimated 21% to \$187 million. 1997-98 saw the commencement of construction of salt ponds and levee banks for the new Onslow salt project. Shark Bay Salt also commenced expansion of its primary ponds to increase production capacity.

Western Australia's coal production was up by approximately four per cent to 5.8 million tonnes in 1997-98. Value of production is estimated to have risen only marginally to \$261 million. State manganese production however, fell off to almost nothing due to the shutdown of the State's sole operation in the Pilbara.

**MAJOR MINERAL AND PETROLEUM PROJECTS  
IN WESTERN AUSTRALIA**

WITH AN ANNUAL VALUE OF PRODUCTION IN EXCESS OF \$10 MILLION



## Audited Key Performance Indicators

The Department is reporting its operations against the statements made in the 1997-98 Budget Papers.

*The Agency's mission is to support exploration for mineral and petroleum resources in Western Australia and manage their development in the best interest of the community.*

Key Performance Indicators are measures of the Department's success in meeting its Program objectives. They are used to account to Parliament and the community for expenditure of public money and to assist in the management of the Department.

The Key Performance Indicators in this Annual Report have been audited and published in accordance with the Financial Administration and Audit Act 1985, which requires that the Department disclose key efficiency and effectiveness indicators that:

- are relevant, free from bias and quantifiable;
- encompass the operations of the department; and
- are reproduced within the elements of the report on operations to which they relate.

Details of the Indicators and the results for this year are reported within the sub-program sections of this publication. An index of Key Performance Indicators is provided below, together with Certification by the Director General of the Department of Minerals and Energy and the Opinion of the Auditor General on the Key Performance Indicators.

The Department aims to produce Key Performance Indicators which are high level, assessing results rather than measuring activity, and recorded over a number of

years, where possible. The Indicators are most often displayed in this report in graphical form to indicate trends and the usual range of variation.

### A note on efficiency measures

Two types of cost efficiency measures have been reported: one a higher level measure describing the cost of service per program element, for example the average cost per title of issue and maintenance; and the other a productivity measure, using a Weighted Multi-Factor Productivity Index approach.

For the first type a "cost per unit" approach has been used. For any sub-Program, direct salary and operating costs have been added to its share of corporate costs to give an estimate of total expenditure (cash and accrued). Corporate costs have been allocated by each corporate unit estimating the proportion of its resources used for each sub-program. The unit cost is calculated by dividing the total expenditure by the number of units, such hectares of land under title or industry employees. The Department is continuing to focus on refining its cost accounting practices during 1998-99, to ensure a high degree of accuracy is achieved in the costing of outputs and the allocation of corporate service overhead.

To calculate a Weighted Multi-Factor Productivity Index for a sub-program, a weighting is applied to each output produced for that sub-program (for example titles grants, assessments), where the weighting represents the relative resources required to produce the product in the base year. The number of each product produced is multiplied by its weighting and these weighted totals are summed. This "total weighted product" is divided by the direct cash cost (salaries and operating, adjusted for inflation) of the sub-program (excludes corporate overhead factors and "accruals") to give "weighted output per million dollars". This model is also used to evaluate productivity levels for salary increases.

## Certification of Performance Indicators

I hereby certify that these performance indicators are based on proper records and fairly represent the performance of the Department of Minerals and Energy for the year ended 30 June 1998



L C Ranford  
Accountable Officer

14 August, 1998



## Auditor General

To the Parliament of Western Australia

DEPARTMENT OF MINERALS AND ENERGY  
PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 1998

### Scope

I have audited the performance indicators of the Department of Minerals and Energy for the year ended June 30, 1998 under the provisions of the Financial Administration and Audit Act 1985.

The Director General is responsible for developing and maintaining proper records and systems for preparing and presenting performance indicators in order to express an opinion on them to the Parliament as required by the Act.

My audit was performed in accordance with section 79 of the Act to form an opinion based on a reasonable level of assurance. The audit procedures included examining, on a test basis, evidence supporting the amounts and other disclosures in the performance indicators, and assessing the relevance of the performance indicators to the program objectives and the appropriateness of the performance indicators in assisting users to assess the Department's performance. These procedures have been undertaken to form an opinion as to whether, in all material respects, the performance indicators are relevant and appropriate having regard to their purpose and fairly represent the indicated performance.

The audit opinion expressed below has been formed on the above basis.

### Audit Opinion

In my opinion, the performance indicators are relevant to the objectives of the Department of Minerals and Energy. The indicators are appropriate for assisting users to assess the Department's performance and fairly represent the indicated performance for the year ended June 30, 1998.

A handwritten signature in black ink, appearing to read 'D D R Pearson'.

D D R PEARSON  
AUDITOR GENERAL  
October 5, 1998

**Program I: Industry and Resources Management 17**

*Objective: To ensure that the State's mineral, petroleum and dangerous goods industry sectors are managed for the benefit of the people of Western Australia.*

**Sub-program I.1: Mineral Titles 22**

*Effectiveness*

- Success in meeting targets for elapsed time to process title applications
- Average length of time between the application and grant of title

*Efficiency*

- Average cost of issuing and maintaining titles
- Weighted multi-factor productivity index

**Sub-program I.2: Mining Operations 28**

*Effectiveness*

- Lost-time injury frequency rate
- Lost-time injury incidence rate
- Lost-time injury index
- Number of lost-time accidents
- Number and incidence of fatalities
- Workers' compensation insurance premium rates
- Compliance with performance criteria on completion of operation

*Efficiency*

- Cost per industry employee
- Weighted multi-factor productivity index

**Sub-program I.3: Petroleum Industry Management 35**

*Effectiveness*

- Success in meeting target-elapsed time for processing of applications
- Elapsed time for processing of applications
- Frequency of total and lost-time injuries
- Compliance with the Department's environmental management criteria

*Efficiency*

- Average cost of administering the title registry
- Elapsed time for assessment of environmental plans
- Weighted multi-factor productivity index

**Sub-program I.4: Mineral and Petroleum Royalties 41**

*Effectiveness*

- Royalties collected as a percentage of mine/well head value
- Royalties due and paid by the required date

*Efficiency*

- Total cost and assessment per project royalty payer



**Sub-program 1.5: Dangerous Goods Management** **46**

*Effectiveness*

- Level of community confidence
- Compliance with safety standards in the transport of dangerous goods
- Compliance with safety standards in the storage of dangerous goods

*Efficiency*

- The cost of administering per site regulated
- Weighted multi-factor productivity index

---

**Program 2: Industry Support** **49**

*Objective: To increase the rate of discovery and development of the State's mineral and petroleum resources through the provision of comprehensive information about the geology and the mineral and petroleum resources of Western Australia, and of specialised mineral processing research and testing facilities.*

**Sub-program 2.1: Geological Survey** **53**

*Effectiveness*

- Publication time for geoscientific maps
- Customer satisfaction

*Efficiency*

- Weighted multi-factor productivity index
- Total weighted monthly data transactions per employee for statutory exploration data management

### Objective:

To ensure that the State's mineral, petroleum and dangerous goods industry sectors are managed for the benefit of the people of Western Australia.

### Description:

The program ensures that mineral and petroleum explorers have access to land; explorers and producers have secure titles on which to base their investments; exploration, development, mining and production activities are conducted with high and improving standards of worker safety, with due care for their impact on the environment and with regard for alternative or subsequent land uses; the community receives a fair return from the extraction of its mineral and petroleum resources; and that the community is assured of its safety from the storage, handling and transport of explosives and dangerous goods.



*TENGRAPH® digital data has enabled customers the convenience of producing tailored tenement plans to suit their specific requirements.*



*The Dangerous Goods Division provides the required information to effectively manage emergency situations involving the storage and transport of dangerous goods.*

### *Presentation of Awards to the recipients of the 1998 Golden Gecko Awards for Environmental Excellence*

*Mines Minister Norman Moore (second from left) with award recipients Mobil Exploration's Wandoo production manager George Wilson (left), producing manager Ken Fitzpatrick (second from right) and environmental health and safety advisor Peter Farrell.*

*Mines Minister Norman Moore presents Perilya Mines' health, safety and environmental co-ordinator Judy Giarola, mine manager Verne Cook and environmental advisory Harley Lacy with the Golden Gecko Award.*

*Hammersley Iron's archaeologist Elizabeth Bradshaw, general manager exploration Andy Connor, general manager external affairs Peter Eggleston, specialist environmental planner Neville Haveberg, and superintendent in training and land rehabilitation Stuart Robertson, after receiving the Golden Gecko Award for Environmental Excellence.*



# Sub-Program 1.1 Mineral Titles

## Objective:

To provide timely, secure and equitable titles and related information to facilitate mineral exploration and development.

## Description:

Accurate and up-to-date information on land status is provided, and systems are maintained to ensure the expeditious processing and determining of title applications. A public plans system and legal title registry are also maintained, and dealings creating legal interests are registered. A survey-based, title certification service is provided under a 'user pays' survey system, and compliance with expenditure commitments is monitored to ensure that land is being actively explored or made available.

Sub-program expenditure 1997-98: \$19.296 million

The requirements of the Native Title Act (NTA) continued to significantly impact on the Department's mineral titles activities during 1997-98. However, in spite of long delays in the native title process, the continued high level of applications suggested confidence by the industry in Western Australia as an attractive area to explore. The Department initiated a policy to support explorers if they had applied for substitute leases and if there was significant and continuing exploration.

The number of mining leases granted in Western Australia dropped substantially because of numerous native title claims and the requirements of the NTA.

During the year, 1836 lease applications were lodged but only 144 granted. At the end of the year, 4555 applications for leases still had to be submitted or cleared through the NTA process.

The effect of an increased number of exploration titles not being cleared through the expedited procedure, and thus subject to the 'right to negotiate' process (with relatively little chance of agreements being achieved), meant large areas of Western Australia were effectively sterilised from exploration. As well, there was, and still is, a drop in greenfields exploration activity and expenditure. Ultimately there will be a drop in the rate of discovery and development of resources, with consequent economic and social impacts.

## Tenure

The number of tenements granted during the year was 2061, a significant reduction on last year when 2540 were granted. This was well down on the 5007 grants made in 1993-94 being the last full period before applications for mining tenements were submitted to the provisions of the NTA.

A total of 3310 tenement applications were submitted to the 'future act' process of the Native Title Act during 1997-98. Of these, the expedited procedure was claimed for 2674 exploration and prospecting titles.

The clearance rate for exploration licences and prospecting licences through the 'future act' process was 68 per cent and 60 per cent respectively during 1997-98. The clearance rate has dropped from the pre-1997 standards of 90 per cent for exploration licences and 97 per cent for prospecting licences (March 1995 to December 1996) to only 46 per cent and 41 per cent respectively for the last half of 1997-98.

Before 1997, exploration titles were cleared through the expedited procedure on the basis of the low impact of exploration activities. Exploration was able to continue at an acceptable level because delays were not excessive in the granting of the 3600 or so exploration title applications received each year.

This changed significantly in 1997 because of Federal Court judgements relating to the grounds of objection to the expedited procedure, and an increase in native title claimants wanting to negotiate the grant of exploration titles.

The area of Western Australia now held under mineral title is 39.25 million hectares compared to 41.51 million hectares the previous year. In spite of the reduction in the number of new grants, this figure reflected a continuing industry trend to hold on to title already issued as a secure basis for further exploration.

A backlog of about 1700 applications for exemption from the compulsory reduction of exploration licences was dealt with during the year. The backlog was caused by explorers seeking to maintain access for exploration in light of the uncertainty as to when substitute leases would be cleared through the NTA processes and granted.

#### Table 1: Tenements

Applications for the period 1 July 1997 to 30 June 1998

	No.	Area (hectares)
Prospecting Licences	1 146	154 769
Exploration Licences	1 764	14 484 400
Mining Leases	1 855	1 076 575
Other	148	424 978
TOTAL	4 913	16 140 722

Tenements granted for the period 1 July 1997 to 30 June 1998

	No.	Area (hectares)
Prospecting Licences	723	94 216
Exploration Licences	1 124	11 896 640
Mining Leases	146	78 524
Other	68	118 562
TOTAL	2 061	12 187 942

Tenements in force as at 30 June 1998

(1978 Mining Act)	No.	Area (hectares)
Prospecting Licences	7 525	992 392
Exploration Licences	4 505	35 992 499
Mining Leases	5 106	2 031 389
Other	1 584	204 912
(1904 Mining Act)		
Mineral Claims and others	309	34 132
TOTAL	19 029	39 255 324

#### Land Access

Land use issues including the application of the NTA, Aboriginal heritage, the conservation estate and town and regional planning have the potential to significantly impact on access to land for exploration and development. This applies to both the mineral and petroleum sectors. For information on land access management for this year, please see page 60.

#### Title Monitoring

Compliance with expenditure and reporting obligations continued to improve in 1997-98. A total of 16145 reports were lodged, an increase of 1.8 per cent over the previous year. Applications for exemption from expenditure decreased by 2.7 per cent to 5115.

The number of tenements forfeited for non-payment of rent and non-compliance with expenditure requirements increased from 47 in 1996-97 to 70. During the year, 2361 notices of intention to forfeit were issued but, in most instances, rent and/or expenditure requirements were met and forfeiture action was stopped.

#### Table 2: Title monitoring

	1995-96	1996-97	1997-98
Reports received	15 812	15 849	16 145
Exemption applications	4 926	5 256	5 115
Tenements forfeited (rent/expenditure)	54	47	70

#### Mining Industry Liaison Committee

The Mining Industry Liaison Committee provides a forum to provide advice to the Minister and resolve issues related to the Mining Act. Key resolutions during the year included:

##### Penalty Provisions

The penalty for breaching the Mining Act and Regulations, in particular environmental conditions and mining without authority, will be increased from \$5000 to \$50,000 when the next package of amendments to the Act is made.

##### Expiry of licence under plaint

If a plaintiff is successful in proving a breach of expenditure conditions, or where a title is surrendered while under plaint, the plaintiff has the right to mark out or apply for a mineral tenement over the subject land. The Committee has recommended that this right

should be extended to include instances where a licence holder, who had a lease application keeping the licence in force, withdrew the lease application, thereby expiring the licence.

### Mining Act Amendments

The Acts Amendment (Marine Reserves) Act 1997 was proclaimed to operate from 29 August 1997.

The Act amended the Mining Act 1978 by classing certain offshore areas as marine management areas, marine nature reserves, or marine parks. The treatment of mineral tenement applications became the same as onshore provisions in conservation-related matters. Exploration may now start only after the recommendation or agreement by the responsible Ministers – the Minister for Mines and the Minister for Environment.

### Customer and Information Services

Outstanding service by Mineral Titles Division staff was recognised by the presentation of the Amalgamated Prospectors and Leaseholders Association's 1998 Service Award.

Mining tenement register searches increased by 11 per cent from 32,130 (124 a day) to 37,820 (145 a day). Lodged dealings on mining tenements increased 18 per cent, from 10,116 (39 a day) to 12,064 (46 a day) to continue the higher level of activity in trading tenement interests.

In response to customer demand, the Department continued to improve its computer-based information

systems. Activities ranged from the development of major information services to the introduction of the Department's revised Internet home page with a broader range of information and easier research links.

A shift by customers to the use of electronic services was evident this year, although printed information and personal service continue to be features of customer service in the mineral titles area.

Client registrations to access electronic titles information (TENDEX) increased by 75 per cent over the previous year, with 1500 users now registered. In contrast, there was a drop in the number of direct client counter requests at head office in Perth and at 11 regional offices. In Perth, there were 16 364 counter requests (63 a day), compared to 20 639 requests (78 a day) in 1996-97.

Orders for standard printed tenement plans decreased from 6 562 (25 a day) to 3 513 (14 a day). This 44 per cent reduction was attributed to the choice made by customers to use the TENGGRAPH® database to produce plans tailored to their specific requirements. Sales of TENGGRAPH® digital data also grew, with 450 sales to mining and mapping companies representing a 30 per cent increase on the previous year.

More support was provided to encourage industry use of TENGGRAPH® by converting operating systems, training staff and industry, and collecting more data to cover more areas. Three training sessions were held in Perth for 85 people from industry. Nine 1:250 000 map sheets covering Albany, Newdegate, Pemberton, Moora, and Geraldton were incorporated into TENGGRAPH®,

*The Department of Minerals and Energy's first floor staff were recently awarded the 1998 Service Award from the metropolitan branch of the Amalgamated Prospectors and Leaseholders Association.*



leaving less than two per cent of Western Australia's area requiring capture.

A pilot study assessed the feasibility of providing access to TENGRAPH® through the Internet. The results are being collated and analysed before a recommendation on implementation is made to the Minister for Mines.

The electronic register phase of the new Mineral Titles System (MiTiS) will be implemented in Kalgoorlie during 1999, followed by progressive installation throughout the State.

MiTiS will replace all paper-based mining tenement registers with an electronic system networked throughout the State, with access from any Mining Registrar office.

The introduction in the year 2000 of a new datum for referencing locations by latitudes and longitudes, the Geocentric Datum of Australia (GDA), will have a significant impact on the management of titles for the Department and industry. When GDA is introduced, a point on the ground in Western Australia will be described by a slightly different latitude and longitude (see page 64 for further details). This will have an impact on all products and services which use a mapping base described by coordinates.

The change is being managed to ensure there is no disruption to mineral tenement clients. This year an implementation strategy was written for the conversion of all databases to the new datum.

The Mineral Titles Division played a leading role in supporting the Western Australian Land Information System (WALIS) Council which is coordinating the implementation of GDA throughout Western Australia.

Several conference papers on the subject were presented. Planned regular newsletters will update industry on the progress of the move to GDA in the year 2000.

The Mineral Titles Division reviewed the Mining Act Information Series publications and reprinted several information pamphlets. The Mineral Titles Update newsletter was released quarterly to advise on Mining Act issues.

### Survey Services

Survey-based title certification services were provided under the User-Pays Survey System. The downturn in the commodities markets, coupled with the uncertainty

of access to land, caused requests for surveying mining tenements to fall by 40 per cent (from 257 to 146) from the previous year.

A total of 157 mining tenement survey documents were produced during the year.

The number of requests to prepare information to determine the ground position of mining tenements without authorised surveys increased significantly from the previous year. This was prevalent when converting exploration and prospecting licences to mining leases due to delays in granting mining leases under the native title process.

Several customer liaison programs with surveyors, prospectors, and the mining industry were held during the year. They included:

- a presentation on behalf of the Land Surveyors Licensing Board covering recent amendments to Section 16 of the *Licensed Surveyors Act 1909* and the requirements of DME Approved Surveyors in relation to the User-Pays Survey System; and
- training and familiarisation sessions on the use of the Department's Differential Global Positioning System units for prospectors. These were held at various locations throughout the State. The units are used to assist prospectors in the pegging and location of mining tenements, and for developing grids for geochemical sampling. The exercise also provided the Department with spatially accurate tenement information for integration into the TENGRAPH™ system.

During the year, \$460,000 were made available from previously unclaimed survey fees paid under the repealed Mining Act 1904. In consultation with prospectors, mining and surveying organisations the funds were used to:

- purchase Differential Global Positioning System (DGPS) units for Perth and backup units for use by prospectors;
- extend the use of the Optus satellite signal for the existing DGPS units in regional offices;
- continue the densification of the State survey control network and miscellaneous connections;
- conduct a pilot project to evaluate the costs and benefits for the application of spatial data relating to geological information, assets, and cultural topography; and
- fund contract personnel to speed up the release of the TENGRAPH™ system in the South West mineral field.

## Sub-program 1.1: Mineral Titles

**Objective:** To provide the mineral Industry with timely, secure and equitable titles and related information to facilitate mineral exploration and development.

**Effectiveness:** Timeliness of title processes

*Measure:* Success in meeting targets for elapsed time to process title applications

*Description:* The proportion of Prospecting Licence and Exploration Licence applications that are finalised or submitted to the Commonwealth Native Title Act 1993 procedures within the target periods. The proportion of Mining Leases granted or for which a determination on the right of grant is made within the target period.

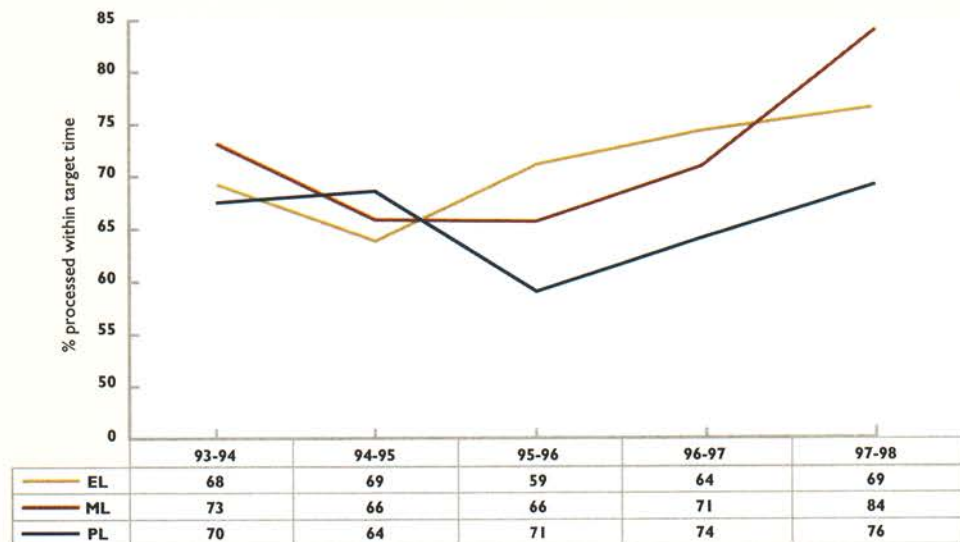
*Targets:*

	Timeframe	Per cent of applications
Prospecting Licence (PL)	4 months	75%
Mining Lease (ML)	7 months	75%
Exploration Licence (EL)	7 months	75%

Note: Target times have been based on the time taken to process titles where there is no dispute or where an application does not affect private land, averaged over a period of years before Native Title Act processes were in place.

*Result:*

**Percentage of applications processed within target time**



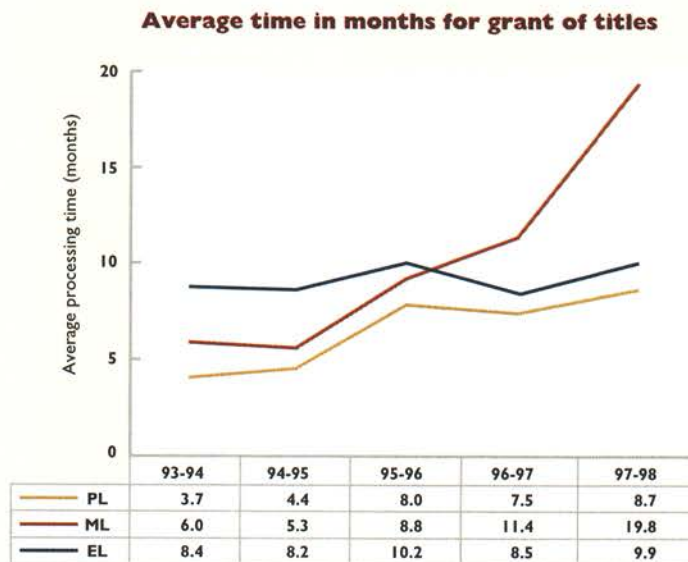
*Comments:* This measure generally indicates performance within the Department, however some applications are subject to delays beyond the control of the Department, for example, where applications affect private land, Aboriginal or Conservation Reserves or where legal disputes arise.

**Effectiveness: Timeliness of title processes.**

*Measure:* Average length of time between the application and grant of title

*Description:* The average length of time to determine each major title category.

*Result*



Note: An upper limit of 1000 days which previously applied to this measure has been removed so as to reflect the extent of delay being experienced through the Native Title Act.

*Comment:* This measure indicates the average total elapsed time to grant titles, including processes outside the Department's control.

The time taken to process mining lease applications continued to increase as a result of the right to negotiate process under the Commonwealth Native Title Act 1993. There is a substantial backlog of title applications for which the results of Native Title processes are not yet known. The delay on finalising these applications relative to those of the past three years is significant and will mean that the average length of time to grant will continue to increase.



**Efficiency: Administrative cost of providing mineral titles.**

*Measure:* Average cost of issuing and maintaining titles

*Description:* The grant and maintenance of mineral titles is primarily a land management function where the size of the land holding is a primary determination of the level service required, for example in assessing competing land uses or evaluating compliance with conditions in conducting exploration and mining activities. This indicator provides a measure of the cost of this land management per hectare.

The average annual cost per hectare of issuing and maintaining titles; calculated as direct salary and operating costs plus the applicable proportion of corporate overheads, divided the area of titles current as at 30 June.

*Result:*

	1996-97	1997-98
Cost per hectare	\$0.55	\$0.49

*Comment:* The cost per hectare is slightly lower than last year.

**Efficiency: Productivity**

*Measure:* Weighted Multi-Factor Productivity Index

*Description:* Weighted product per million dollars spent

*Result:* Productivity associated with this Sub-program was 8.6% greater than last year.

# Sub-Program 1.2 Mining Operations

## Objective:

To achieve improved safety, occupational health and environmental management in the mineral exploration and mining industry.

## Description:

An appropriate legislative framework is maintained and worksite visits are conducted to audit and ensure compliance with regulations, guidelines and conditions of title. Operations are obliged to implement safety, occupational health and environmental management systems that match world's best practice. They are supported by educational, training and research programs and the provision of specific advice. A security bond system is maintained to indemnify the State in the event of failure by a proponent to comply with environmental conditions of title.

Sub-program expenditure 1997-98: \$11.651 million

A spate of fatal accidents in the industry, most of which were in underground mines, raised grave concern in the industry and in the wider community.

The events were disturbing because they took place during a period of sustained and marked reduction in serious and minor injuries.

The Minister for Mines became seriously concerned at the trend in fatalities and in September 1997 directed the Mines Occupational Safety and Health Advisory Board (MOSHAB) to review the incidences and causes of fatalities in the past three years.

MOSHAB's taskforce gathered information via public forums and private submissions, reviewed earlier programs, and analysed new data.

By December 1997, MOSHAB provided the Minister with a report (*The Report on the Inquiry into Fatalities in the Western Australian Mining Industry*) outlining strategies for a whole-of-industry approach to eliminate fatalities and disabling injuries, in particular those caused by underground rockfalls.

The Minister endorsed the report and a program for the implementation of its recommendations. A total of 5000 copies were printed and distributed and the report was also published on the Department's Internet web site.

Industry response to the report was positive and generated momentum for change and improvement in safety performance. The report focused the attention of the Department's mining inspectorate more sharply on a number of critical issues.

## Mines Inspectorate

The Mining Operations Division's 55 inspectors carried out 2000 site safety inspections, 90 high impact function audits, and 23 mine management safety systems audits during the year.

A severe shortage of senior inspectors in the Karratha and Kalgoorlie regional inspectorates caused major difficulties in meeting outcomes from the mining safety program during the first half of the year. A successful international recruiting campaign resulted in five experienced senior mining engineers from South Africa taking up positions as inspectors of mines in January and February 1998.

## Industry Safety Performance

Industry safety performance improved in all mining sectors. For the mining sector, serious injuries fell from 359 in 1996-97 to 280 in 1997-98 and the incidence of minor injuries fell from 503 to 431 for the same time periods. The total drop of 151 injuries represented a 12.5 per cent improvement on last year.

The number of industry employees in mining rose marginally to 43,752.

There were 13 fatal accidents during the year - eight in the gold industry, two in the nickel industry, two in mining exploration activities, and one in the limestone industry. Nine of the 13 fatalities occurred underground, comprising seven in the gold industry and two in the nickel industry.

The Department's view is that no fatal accident is acceptable and that a fatal incidence rate of zero is achievable.

Performance in the underground mining industry improved during the year, with incidence and frequency of injuries decreasing by 27 and 33 per cent respectively. In the surface mining sector, injury incidence and frequency improved by 11 and 22 per cent respectively.

The year reflected a decade-long trend of continuous reduction in injuries in the Western Australian mining industry. The frequency fell from 38 (lost-time injuries per million hours worked) in 1987-88 to eight in 1997-98 representing a 79 per cent improvement. Although this performance was impressive, there is considerable scope for improvement as employers come to grips with their responsibilities to provide a safe working environment.

The Western Australian mining injury frequency rate compared favourably with that of other industries during the year.

### Major Hazard Facilities

Cyanide handling, use, and licensing was administered on mine sites by the Mining Operations Division. Under the WorkSafe national standard on the control of major hazard facilities, virtually all mine sites will be classified as major hazard facilities.

### Process Plant Risk Management

The mining industry's processing plants took up their responsibilities to ensure working environments were safely designed and that work systems were safe. The acceptance and application of risk management created a safer environment for workers. This was encouraging in light of the fact that many of Western Australia's new processing plants have a relative increase in the types and magnitude of hazards.

### Safety Information Systems

A system was initiated to collect, measure and record employees' exposure to contaminants in the Western Australian mining industry.

Called CONTAM, the system will be linked with AXTAT (the accident statistics database and program) and the more recent MineHealth system.

Placing selected information on the Department's new Internet web site [www.dme.wa.gov.au](http://www.dme.wa.gov.au) augmented the dial-in information service known as EXIS (External Information System). EXIS is updated regularly and includes:

- the Mines Safety and Inspection Act and Regulations;
- the quarterly safety journal Minesafe;
- short descriptions of incidents and accidents (For Your Information or FYI);
- accident data from AXTAT, including reports, charts, and tables;
- incident reports and monthly status forms for companies;
- a discussion database for industry to discuss safety-related information; and
- significant incident reports and safety bulletins.

Regulatory authorities in Queensland, New South Wales, and Victoria have indicated their intention to connect to the EXIS system.

### Environmental Program

The mining industry may now have its proposals to mine assessed by private individuals rather than Department staff.

Under a new scheme introduced in April, companies may have their project approval documents assessed by suitably qualified and experienced individuals who can certify that they meet the requirements of the State Mining Engineer.

An audit process will be used to maintain quality, with a percentage of certified documents receiving a full assessment by the Department.

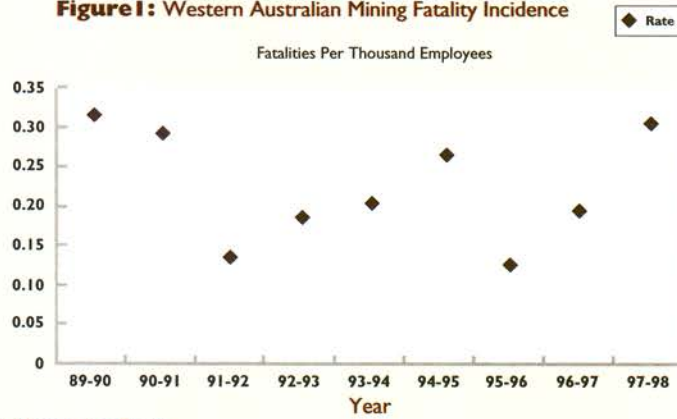
The new scheme provides industry with faster approvals and enables the Department to increase site inspections and environmental reviews of operations.

The new process will provide industry with greater self-management and will identify industry's accountability for its actions.

Since its introduction the scheme has been well received by the mining and environmental consultancy industries.

Reports from industry indicate that as at 30 June 1998, excluding land subject to Agreement Acts, some 6670 hectares of land disturbed by mining activity had been rehabilitated, while 49,137 hectares will require rehabilitation in the future.

**Figure 1: Western Australian Mining Fatality Incidence**



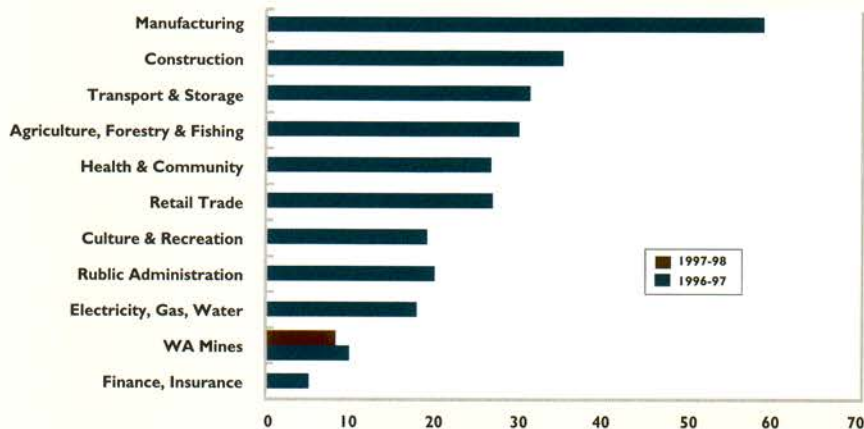
**Table 1: Lost Time Injury Incidence and Frequency Rates**

Mineral being produced	Employees	Fatal	Serious	Minor	Total
Gold	14321	8	137	178	315
Iron Ore	9158		36	79	115
Coal			7	38	45
Bauxite and Alumina	6039		24	30	54
Mineral Sands	2466		18	28	46
Diamonds	1267		4	1	5
Base Metals	1332		12	4	16
Salt	655		3	6	9
Nickel	6130	2	26	46	72
Construction Materials	426	1	4	2	6
Other	1244		9	19	28
<b>Total for mining</b>	<b>43752</b>	<b>11</b>	<b>280</b>	<b>431</b>	<b>711</b>
Exploration	1530	2	5	20	25

**Table 2: Lost Time Injury Incidence and Frequency Rates**

	1996-97		1997-98		% Reduced	
	Incidence	Frequency	Incidence	Frequency	Incidence	Frequency
<b>Metalliferous</b>						
Surface	1.8	9	1.6	7	11	22
Underground	3.3	15	2.4	10	27	33
<b>Total metalliferous</b>	<b>2.1</b>	<b>10</b>	<b>1.6</b>	<b>7</b>	<b>24</b>	<b>30</b>
Coal	6.9	41	6.3	34	4	17
<b>Total Mining</b>	<b>2.1</b>	<b>10</b>	<b>1.7</b>	<b>8</b>	<b>19</b>	<b>20</b>

**Figure 2: Western Australian Industry Injury Frequency Rate**



## Sub-program 1.2: Mining Operations

**Objective:** To improve safety, occupational health and environmental management in the mineral exploration and mining industry.

Note: Industry safety figures for 1997-98 are based on the twelve month period ending 30 April 1998, as final figures for the year ending 30 June 1998 are not available at the time of the auditing. Unaudited, up-dated figures are recorded for some measures in the preceeding report on operations for Sub-program 1.2

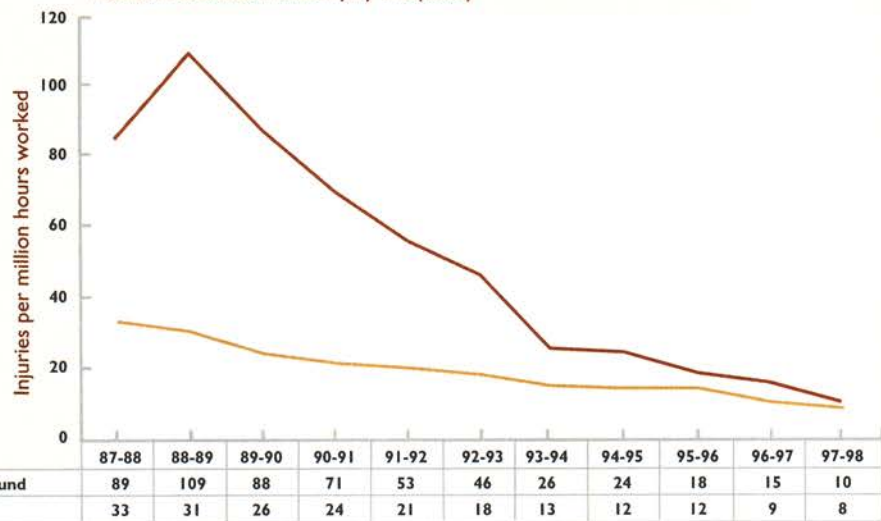
**Effectiveness: Safety in the minerals industry**

*Measure:* Lost-Time Injury Frequency Rate

*Description:* The number of occurrences of injury or disease for each one million hours worked as defined in Australian Standard AS 1885.1 - 1990.

*Result:*

**Lost Time Injury Frequency Rate**  
Western Australian Mines Injury Frequency



*Comment:* Further improvement in the overall safety performance of the mining industry has been evidenced by a continuing fall in the Lost-Time Injury Frequency Rate in both the surface and underground sectors of the industry.

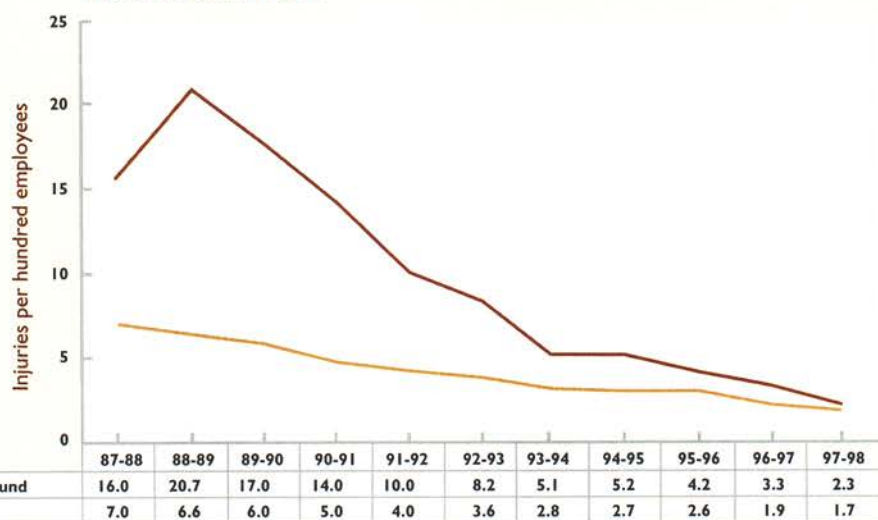
**Effectiveness: Safety**

*Measure:* Lost-Time Injury Incidence Rate

*Description:* The number of occurrences of injury or disease for each one hundred persons employed as defined in Australian Standard AS 1885.1 - 1990.

*Result:*

**Lost Time Injury Incidence Rate**  
Western Australian Mines



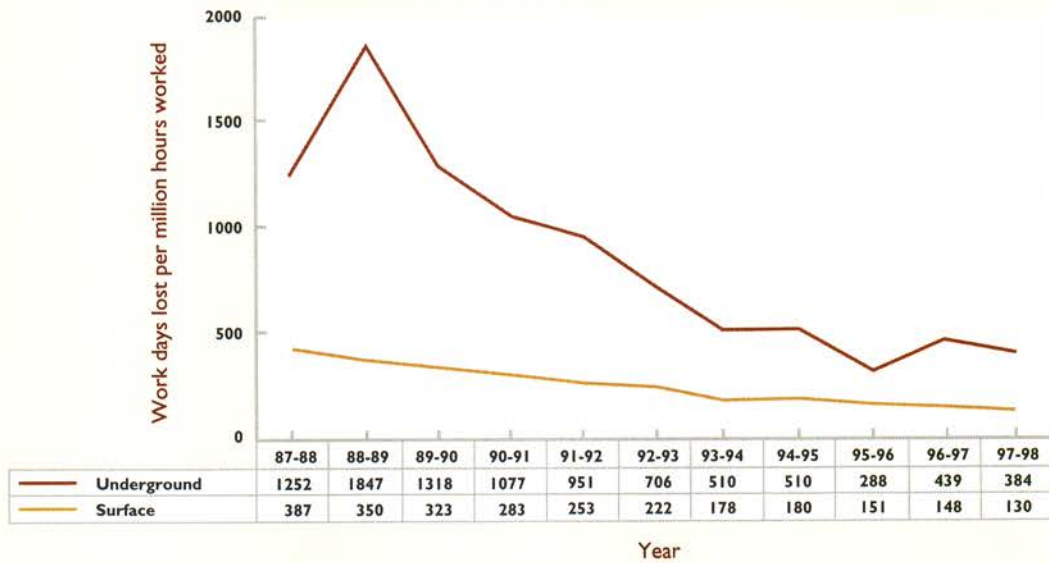
*Comment:* Continuous improvement in the overall safety performance of the mining industry has been evidenced by a continuing fall in the Lost-Time Injury Incidence Rate in both the surface and underground sectors of the industry.

**Effectiveness: Safety**

*Measure:* Lost-Time Injury Index

*Description:* The number of working days lost per one million hours worked (taken from the Department of Minerals and Energy AXTAT system) and calculated on the basis prescribed in Australian Standard AS 1885.1 – 1990.

*Result:* **Lost Time Injury Index**  
Western Australian Mines Injury Index



*Comment:* Improvement in the overall safety performance of the mining industry has been evidenced by a fall in the Lost-Time injury Index in both the surface and underground sectors of the industry.

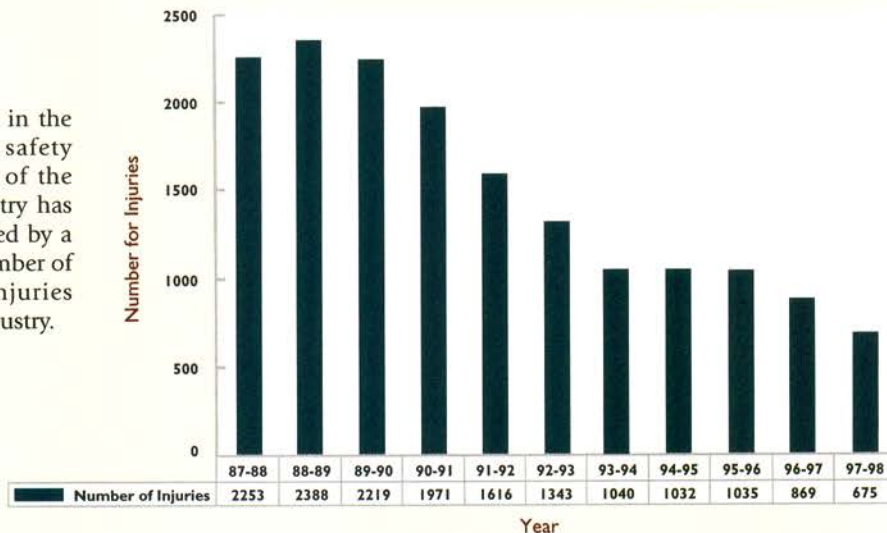
**Effectiveness: Safety**

*Measure:* Number of Lost-Time Injuries

*Description:* The number of Lost-Time Injuries as defined in Australian Standard AS 1885.1 – 1990.

*Result:* **Number of Lost-Time Injuries**  
Western Australian Mines Number of Injuries

*Comment:* Improvement in the overall safety performance of the mining industry has been evidenced by a fall in the number of Lost Time Injuries across the industry.



## Sub-program 1.2: Mining Operations

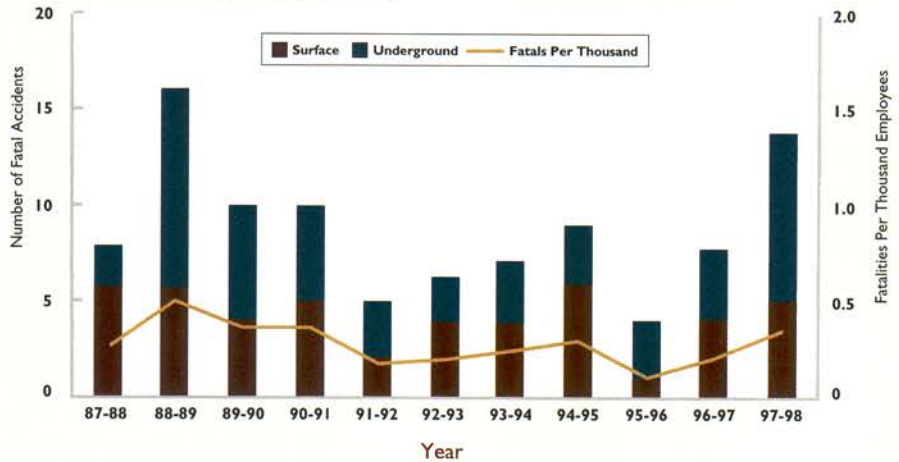
### Effectiveness: Safety

*Measure:* Number and Incidence of Fatalities

*Description:* The number of Fatal Accidents and the number of Fatalities per one thousand employees (taken from the Department of Minerals and Energy AXTAT system).

*Result:*

**Number and Incidence of Fatalities**  
Western Australian Mines Fatalities



*Comment:* Both the number of fatalities and the incidence of fatalities showed an increase in both the surface and underground sectors of the industry.

Improvement in the overall safety performance of the mining industry has been evidenced by a fall in the Lost-time Injury number, Rate, Incidence Rate and Index, however, the Number and Incidence of Fatalities showed an increase in both the surface and underground sectors of the industry. This rise prompted the setting up of a Mining Fatalities Inquiry under the Mines Occupational Health Advisory Board (MOSHAB). Recommendations of the Inquiry are to be implemented in 1998.

### Effectiveness: Safety

*Measure:* Workers' Compensation Insurance Premium Rates

*Description:* The percentage of salary (\$ per \$100) to be paid as premiums for Workers' Compensation Insurance in a variety of Mining and comparable General Industry sectors taken from the list published by the Rates Committee in the Government Gazette.

Year	Mining Sectors						Comparable General Industry Sectors					
	Coal	U/G Mining	Mineral Sands	Gold	Iron Ore	Average Mining	Structural Steel M/fr.	Clay Brick M/fr.	Non-Residential Const.	Forest/Logging	Agri-culture Sheep Farming	Gas Supply
1994/95	4.39	3.08	2.76	2.76	1.44	<b>2.89</b>	9.26	6.90	9.92	5.78	5.36	3.45
1995/96	5.88	3.07	2.28	2.28	0.95	<b>2.89</b>	7.04	5.61	7.04	5.61	4.71	2.96
1996/97	5.54	3.38	1.84	2.63	0.93	<b>2.86</b>	4.49	5.25	5.63	6.72	5.89	3.08
1997/98	5.77	3.02	1.61	2.16	0.79	<b>2.67</b>	7.74	5.66	4.31	6.19	5.62	3.62
1998/99	6.55	3.65	2.09	2.63	1.09	<b>3.20</b>	9.23	7.67	5.20	7.29	7.18	4.12

Mining rates are significantly lower than those for comparable heavy industry sectors, providing independent actuarial confirmation of the perceived risk level in mining as compared to similar general industry sectors.

% Incr 97 - 99	Coal	U/G Mining	Mineral Sands	Gold	Iron Ore	Average Mining	Structural Steel M/fr.	Clay Brick M/fr.	Non-Residential Const.	Forest/Logging	Agri-culture Sheep Farming	Gas Supply
	13.5	20.8	29.8	21.8	37.9	<b>19.8</b>	19.2	35.5	20.6	17.8	27.8	13.8

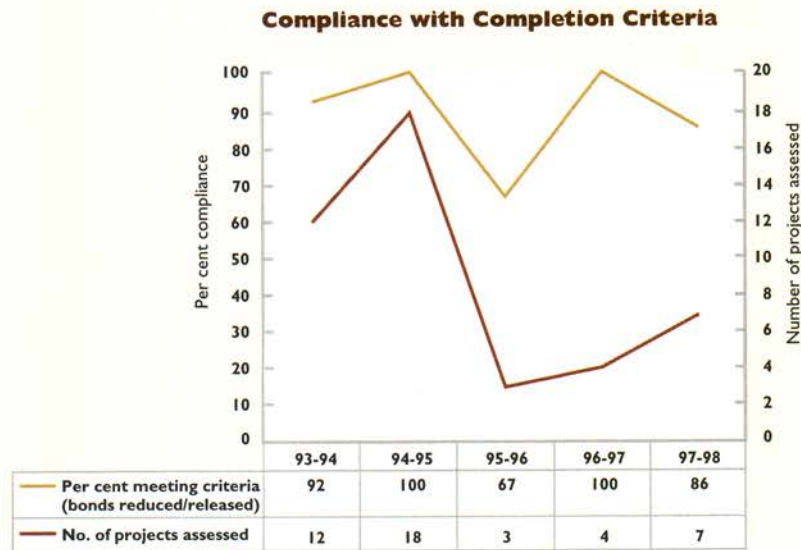
In general, the increases in the rates projected for cover during 1998/99 are due to an increased expectation of civil claims and are comparable over both mining and general industry sectors.

**Effectiveness: Environmental Management**

*Measure:* Compliance with performance criteria on completion of operation

*Description:* A security bond system is maintained to indemnify the State in the event of failure by a proponent of mining activity to comply with environmental conditions of title. Bonds are called on to rectify unsatisfactory environmental performance. Where rehabilitation work is completed to the satisfaction of the Department, bonds are reduced or released.

*Result:*



*Comment:* Six relatively small operations were completed and rehabilitation carried out satisfactorily. Three had the bonds retired and three had bonds substantially reduced. These bonds will be retired when sustainable vegetation has been established.

One bond of \$5,000 on an exploration licence was enforced when the licensee failed to carry out the required rehabilitation work on the licence.

**Efficiency: Cost efficiency**

*Measure:* Cost per industry employee

*Description:* The average annual cost per employee of safety regulatory services; calculated as direct salary and operating costs plus the applicable proportion of corporate overheads, divided by the average number of employees in the mining industry over the year.

*Result:*

	1996-97	1997-98
Cost per industry employee	\$297	\$266

**Efficiency: Productivity**

*Measure:* Weighted Multi-Factor Productivity Index

*Description:* Weighted product per million dollars spent.

*Result:* Productivity associated with this Sub-program was 9.2% greater than last year.



### Objective:

To facilitate and regulate exploration for onshore and offshore petroleum resources and their development by the timely award of secure and equitable titles while ensuring continuous improvement in safety and environmental management of operations.

### Description:

Activities include promoting exploration opportunities in Western Australia, evaluating and advertising exploration acreage, evaluating industry performance, and providing timely approvals for petroleum exploration and development proposals. Legal interests are registered and registration fees assessed. Compliance with expenditure commitments and work obligations are monitored to ensure that areas are being actively explored or made available to others.

Through educational programs, worksite audit visits and an appropriate legislative framework, operators are obliged to implement safety, occupational health and environmental management systems that match world's best practice. Mandatory insurance cover is maintained by companies to facilitate administration and emergency response in the event of any environmental mishap.

Work covered by this sub-program also encompasses the day-to-day administration of petroleum activities in Commonwealth offshore areas on behalf of the Commonwealth Government.

Sub-program expenditure 1997-98: \$3.539 million

### Industry Trends

Western Australia leads Australia in oil and gas production, generating 57 per cent of the nation's oil output and 51 per cent of its gas output in 1997-98.

Exploration - a leading indicator for industry activity - continued to grow in 1997-98, particularly offshore. Geophysical activity was at a record high. Australia's first multi-client 3D survey, the Paneus Survey, was run in Western Australia. The largest non-exclusive 2D seismic survey ever conducted in Australia, the Beagle Deep Survey, was completed during the year. Extensive aeromagnetic surveys were conducted onshore. A new record was also set for the drilling of new offshore field wildcats.

Although exploration drilling onshore was relatively active, there were signs that industry interest is waning. Oil and gas production rose, with significant increases in oil production from Goodwin condensate. Three new oil developments - Lambert Hermes, Agincourt, and Stag - started production.

Planning and evaluation accelerated for three major developments:

- North West Shelf Project LNG expansion using Perseus Field gas;
- Gorgon Field development for an LNG project; and
- Scott Reef Field development for an LNG project.

All these activities will have an impact on the Western Australian economy now and in the future.

Western Australia's reputation as one of the most attractive oil and gas exploration areas in the world was undiminished in 1997-98. There were increases in the number of new international companies applying for acreage and in the levels of proposed work, putting pressure on an understaffed Petroleum Operations Division. Ironically it was because the petroleum industry was so active that it was difficult to recruit experienced staff. Eight out of 36 positions were vacant at the end of the year, including five in the safety area.

During the year the AlintaGas Dampier-to-Bunbury natural gas pipeline was sold to Epic Energy. The sale brought the pipeline under the jurisdiction of the Petroleum Pipelines Act, triggering the issue of a new title and ongoing safety and environmental monitoring.

No applications were received for the quarterly State Acreage release which closed in March. Native Title Act requirements were seen as a major dissuading factor because of the lengthy "right to negotiate" process and uncertain outcomes.

The Department participated in an evaluation of the Commonwealth Department of Minerals and Energy (DPIE) Petroleum Program. The recommendations arising from the review reflect a shifting emphasis for the unit from administration to policy. This will mean greater State responsibilities under new administrative arrangements for the area under joint jurisdiction to be developed in 1998-99.

A new Director of Petroleum Operations, Mr Bill Tinapple, was appointed and took up the position in early June 1998.

### **Titles**

Amendments to the State Petroleum Acts were developed to better facilitate administration of the Commonwealth Native Title Act (NTA). These amendments are aimed at avoiding duplication of effort and allowing title conditions to be imposed that could restrict access to contentious areas. In addition, they assign responsibility for Native Title compensation to the petroleum titleholder. The amendments are to be considered by Parliament in 1998-99 and will affect the Petroleum Act 1967 and the Petroleum (Submerged Lands) Act 1982. For further information on land access issues refer to page 60.

The possible effects of the Commonwealth amendments to the NTA were studied and consideration was given to developing processes necessary to accommodate these amendments. A key element is a State Commission, which would carry out various functions now performed by the National Native Title Tribunal.

It is hoped that both the amendments to the State's petroleum legislation and the Commonwealth amendments will help encourage onshore exploration.

Petroleum titles are granted in terms of graticular sections. To manage the change to the Geocentric Datum of Australia (GDA) in 2000 (see page 64), it has been proposed that the grid will retain its on-ground position but be redescribed in terms of the new GDA co-ordinates. This strategy only requires minimum change and the new grid co-ordinates will be seconds off those of the existing five-five-minute grid.

The number and type of titles at the end of the year were:

	Exploration Licence	Retention Permit	Production Lease	Pipeline Licence
Petroleum Act	-	63	-	11
Petroleum (Submerged) Lands Act 1982	13	-	7	12
Petroleum (Submerged) Lands Act 1967	58	10	16	6
Petroleum Pipelines Act	-	-	-	36
Total	134	10	34	54

The total number of titles being administered at the end of the year was 232.

### **Exploration and Production**

As producing oil and gas fields mature and the smaller, more marginal fields are brought into production, more monitoring and resource assessment activity is required. Six production development proposals were assessed in 1997-98 and reservoir modelling was developed for four fields.

Two papers promoting the petroleum prospectivity of Western Australia were presented at international conferences in Houston, namely the Worldwide Independents Forum in April and the Offshore Technology Conference in May.

### **Safety Management**

The Petroleum Safety Bill was developed to create uniform occupational health and safety standards for all Western Australia's petroleum exploration and production operations. The Department lead a tripartite committee during the process. The Bill was presented to the Lower House of Parliament during the year and Regulations will be developed in 1998-99.

Five Safety Cases detailing safety management systems were assessed and accepted during the year. These were for the *Griffin Venture* Floating Production Storage and Offloading (FPSO) vessel, the Stag Project's production facility and FSO vessel, and three Mobile Offshore Drilling Units. Nineteen bridging documents, which described safety procedures for the drilling of over 40 wells, were also assessed and accepted.

The petroleum safety section had the first audit of its safety management procedures and records conducted by the Commonwealth DPIE and objectives agreed for the 1998 audit.

The Department took over, as part of its Petroleum Industry Management Sub-program, the management of the Australian Diver Accreditation Scheme (ADAS) from the Victorian Department of Natural Resources and Environment for most of the year. All ADAS records were collated before being transferred to the DPIE late in the year.

A significant safety incident occurred during the year with an explosion on the *Griffin Venture* on the Griffin Field. No serious injuries occurred. The vessel was taken off production for six months and repairs were carried out in Singapore. A revision of the vessel safety case was accepted before operations recommenced.

Prosecution by the Department against three companies and one individual over a fatality during operations on the Goldfield Gas Transmission pipeline in March 1996, proceeded to court. AJ Lucas was found guilty of committing an offence under the Petroleum Pipelines Act and Saipem Pty Ltd was found guilty of being knowingly concerned with the committing of this offence. An appeal by AJ Lucas against the conviction was successful early in 1998-99.

**Industry Safety Performance**

Safety performance in the industry improved and no fatalities occurred in operations. The overall industry Lost-Time Incident Rate decreased to 4.7 lost-time injuries per million person-hours and the total Injury Frequency Rate decreased to 22.5 injuries per million person-hours worked (see Audited Key Performance Indicators).

Of reported injuries, 34 per cent were sprains and strains and 20 per cent were back injuries (see Figure 1). This

indicates that manual handling injuries remain an area that requires improvement. The number of injuries was highest to the hands and back, with eye injuries remaining at ten per cent of the total. The majority of injuries resulted from contact with objects (hitting/being hit), falls and muscular stress.

**Environment Management**

220 environmental submissions were assessed in 1997-98 compared with 96 in 1996-97. Additional contract environmental staff were employed to handle the increase.

Two of the Airlie Island project fields (on the North West Shelf 40 km north-northeast of Onslow) were decommissioned under the Department's administration.

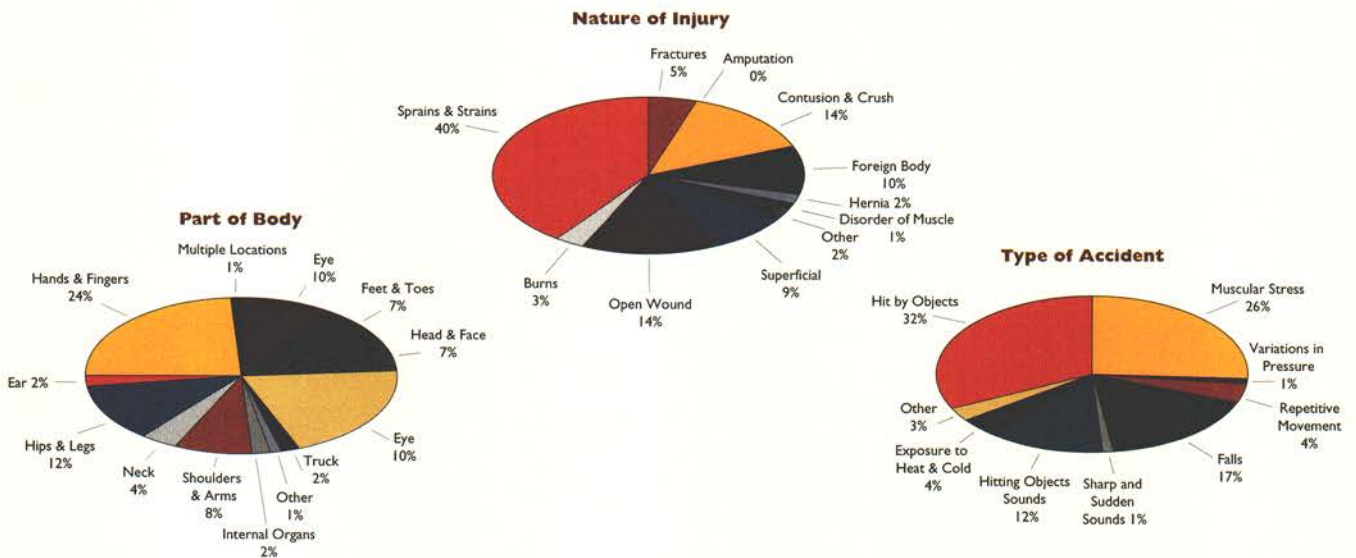
During the year the Department streamlined and formalised its approval process for Western Australian petroleum operations in conjunction with the Department of Environmental Protection.

The Department participated in drafting of environmental regulations for the Commonwealth Petroleum (Submerged Lands) Act through a working group of the Australia and New Zealand Mining and Energy Council (ANZMEC). It is planned that these regulations be enacted by mid-1999.

The Department is currently revising *Environmental Guidelines for Petroleum Operations in WA* to provide information on the environmental management and the approval process.

A paper entitled *Minimising the Environmental Effects of Drilling* was presented at the Conference in Aberdeen, Scotland during the year.

**Figure 1: Analysis of injuries in the petroleum industry 1997-98**



## Sub-program 1.3: Petroleum Industry Management

**Objective:** To facilitate and regulate the exploration for onshore and offshore petroleum resources and their development by the timely award of secure and equitable titles while ensuring continuous improvement in the safety and environmental management of operations.

**Effectiveness: Timeliness of Title System**

*Measure:* Success in meeting target-elapsed time for processing of applications

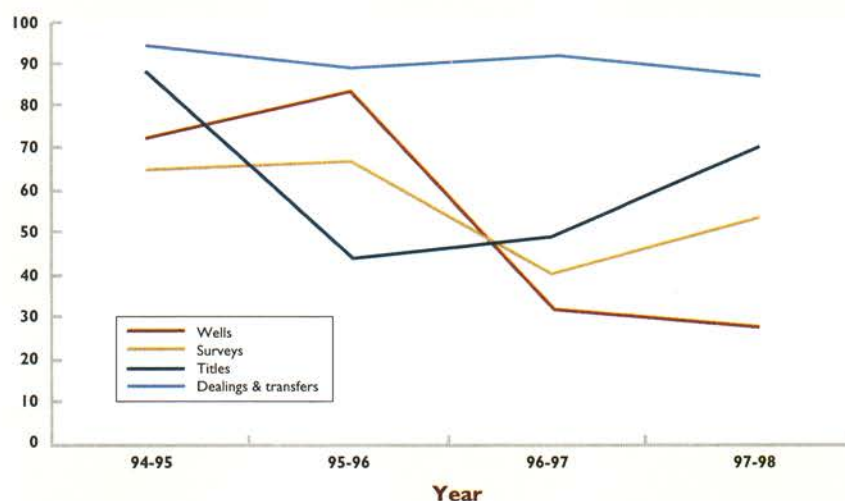
*Description:* The proportion of applications finalised within a target time period.

*Target:*

Application type	Jurisdiction	Target
Well	State	30 days
Well	Commonwealth	45 days
Seismic survey	State	20 days
Seismic survey	Commonwealth	35 days
Title	All	Three months
Title dealing and maintenance	All	Three months

*Result:*

**Per Cent Meeting Target Elapsed Time and Number Finalised**



Type	1994-95		1995-96		1996-97		1997-98	
	%	No.	%	No.	%	No.	%	No.
Wells	72	*71	83	82	33	66	27	110
Surveys	64	*33	67	57	40	40	53	47
Titles	86	77	44	126	49	71	70	151
Title dealings and maintenance	95	1501	89	1510	92	2054	86	1525

\* Number received

*Comment:* Targets were set as an incentive to continued improvement, however, the increasing number of applications made and changes to submission processes, coupled with more complex environmental and land access issues has made these targets largely unachievable. The measures and targets will be reconsidered during 1998-99.

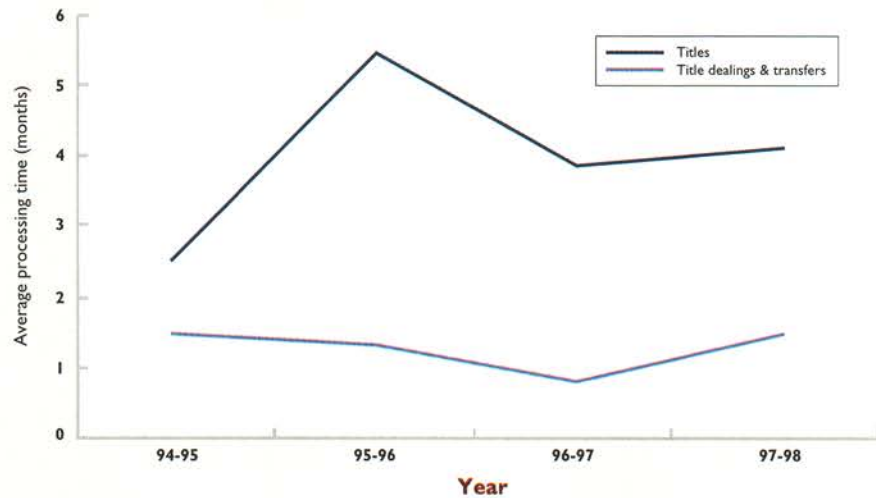
### Sub-program 1.3: Petroleum Industry Management

*Measure:* Elapsed time for processing of applications

*Description:* The average period of time from receipt of application to finalisation.

*Result:*

#### Average processing time in months for finalisation of applications



Type	1994-95		1995-96		1996-97		1997-98	
	Time (months)	No.	Time (months)	No.	Time (months)	No.	Time (months)	No.
Titles	2.5	77	5.6	126	3.9	71	4.1	151
Title dealings and maintenance	1.5	1 501	1.4	1 510	0.8	2 054	1.5	1 525

*Comment:* Performance in turn-around time for dealings and maintenance applications has continued to improve over the past two years.

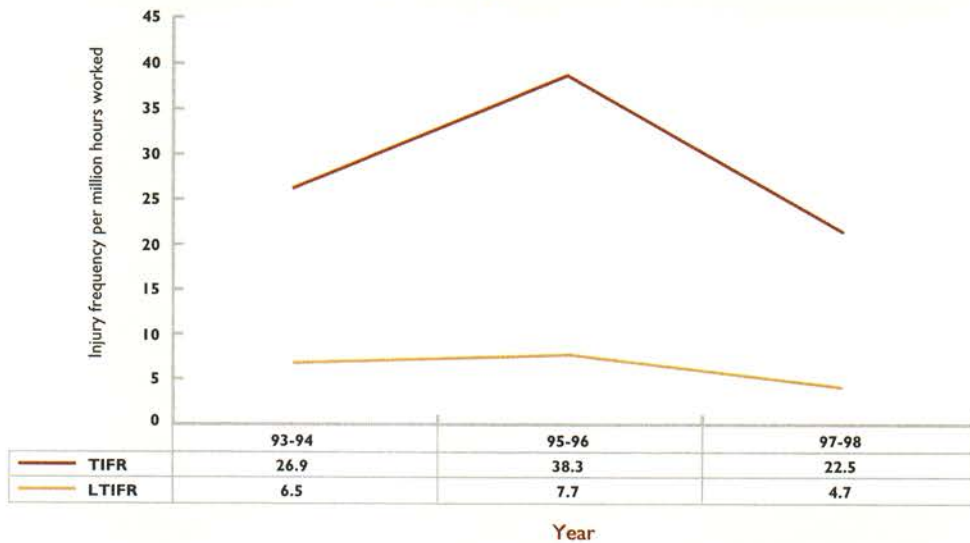
**Effectiveness: Safety**

*Measure:* Frequency of total injuries and lost-time injuries

*Description:* The Total Injury Frequency Rate (TIFR) and the Lost-Time Injury Frequency Rate (LTIFR) are the number of occurrences of these injuries or diseases for each one million hours worked (as defined in Australian Standard AS1885.1-1990). The TIFR and LTIFR is a lag indicator of industry performance and may not reflect current safety management initiatives. Results for this financial year are based on data reported by 11 August 1998. Results of previous years have been updated using available data.

*Result:*

**Total and Lost-Time Injury Frequency Rates for the Petroleum Industry**



*Comment:* This year's Total Injury Frequency and Lost-Time Injury Frequency rates were both lower than the previous two years.

**Effectiveness: Standards of Environmental Management**

*Measure:* Compliance with the Department's environmental management criteria.

*Description:* Non-compliances are defined as specific infringements of commitments made in project Environmental Management Plans (EMP) or of conditions of approval, or practices not in accordance with Best Environmental Practice and which warrant formal notification by the auditor to the project operator. Non-compliances are identified in field audits. Audits are conducted on a cross section of projects selected on a risk-assessment basis.

*Result:* Compliance with environmental management criteria

	1995-96	1996-97	1997-98
Cost per industry employee	12	7	9
Percentage of audited projects with zero non-compliance %	50	57	66

## Program 1.3: Petroleum Industry Management

**Efficiency: Cost efficiency**

*Measure:* Average cost per title of administering the title registry

*Description:* The average annual cost per title of issuing and maintaining titles; calculated as of the direct salary and operating costs plus the applicable proportion of corporate overheads, divided by the number of titles for the year.

*Result:* Compliance with environmental management criteria

	1996-97	1997-98
Cost per title \$	5 871	5 370

**Efficiency: Assessment of environmental plans**

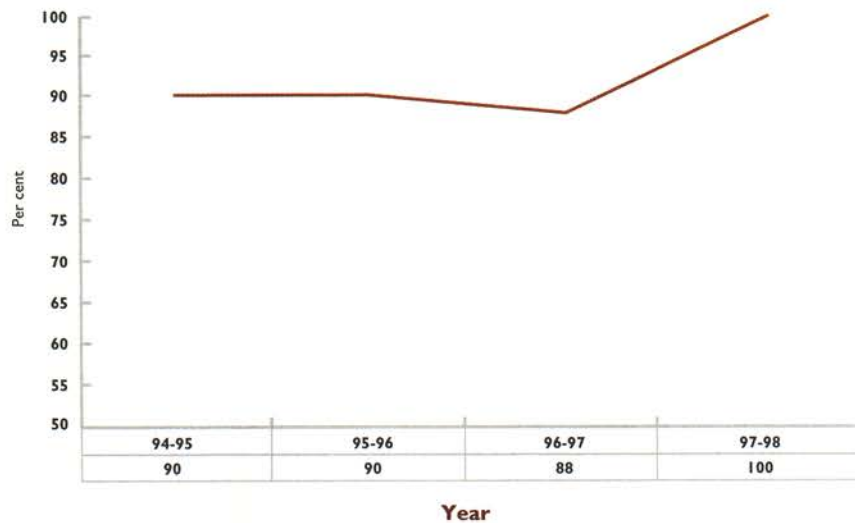
*Measure:* Elapsed time for assessment of environmental plans

*Description:* Success in meeting target-elapsed time in working days for assessments.

*Target:* The target period is 15 working days, set as an improvement target.

*Result:*

**Percentage of assessments performed within target elapsed time**



*Comment:* All assessments this year were made within the target time period.

**Efficiency: Productivity**

*Measure:* Weighted Multi-factor Productivity Index

*Description:* Weighted product per million dollars spent

*Result:* Productivity associated with this Sub-program was 6.7% greater than last year.

## Objective:

To collect a fair return for the community as compensation for the extraction of the State's mineral and petroleum resources.

## Description:

The strategies adopted involve the development and implementation of royalty systems to collect and verify royalty payments by mineral and petroleum producers. Royalty systems and verification arrangements are formulated in consultation with producers within a common framework, determined in the context of national and international comparisons, and formalised through legal arrangements.

Sub-program expenditure in 1997-98: \$1.184 million.

## Royalty systems

Under the Western Australian legal system, most mineral and petroleum resources belong to the community. Royalties are paid by developers for the right to extract these non-renewable resources. The State Government determines the appropriate level and form of royalties to compensate the community for the depletion of the resources. The Department provides royalty policy advice to the Government and performs the assessment, collection, and verification of royalty payments.

Determining a fair return to the community is a complex issue. Royalty rates under the Mining Act were derived by adopting a benchmark of 10 per cent of mine head value. Royalty rates levied on petroleum projects are generally between 10 per cent and 12.5 per cent of the well head value.

Mineral royalties are levied under the Mining Act or under State Agreement Acts which apply to particular projects. Royalties for petroleum are implemented through either the Petroleum Act 1967, Petroleum (Submerged Lands) Act 1967, Petroleum (Submerged Lands) Act 1982, or the Barrow Island Royalty Variation Agreement Act 1985.

Five royalty systems are used to determine the amount of royalty to be paid in areas of State jurisdiction. Three are used for mineral production and two for petroleum production. Royalties may be based on:

- the quantity of mineral produced (specific-rate royalties). This system is generally applied to low value products such as sand or construction minerals. Rates are generally 30 or 50 cents per tonne;
- the value of mineral produced and sold (ad valorem royalties). This system is applied to most minerals such as iron ore, nickel, mineral sands, and base metals. Rates under the Mining Act range from 2.5 per cent to 7.5 per cent depending on the extent of value-adding before the sale point;

- the net profit from the mining operation (profit-based royalties). Currently one operation has a 22.5 per cent profit-based component included in its royalty system;
- the value of petroleum recovered at the well head (well-head royalties); and
- a percentage of net cash flow (resource rent royalties). This system is currently used for one petroleum operation to which a rate of 40 per cent is applied.

Preparation for the introduction of a gold royalty and a change to royalty payment timings were among the challenges addressed in 1997-98.

## Royalty arrangements and policy advice

During the year the Department provided advice on the options for the introduction of a gold royalty, royalties for base metal producers, and the royalty for a proposed vanadium pentoxide operation.

The criteria for providing royalty relief under the Mining Act were amended to include provisions relating to gold producers. No royalty relief was provided for mineral producers during the year and one petroleum producer continued to receive relief through a temporary reduction in the royalty rate.

Arrangements to administer the gold royalty were developed and owners of gold royalty projects were notified of their obligations. The Department expects about 55 gold projects to pay a royalty during the 1998-99 financial year.

Royalty arrangements for four large petroleum projects and three major mineral projects were finalised. Issues that involved significant negotiations were resolution of the Argyle stock valuation dispute, the recovery of outstanding royalty, 110 royalty adjustments, and three applications for royalty relief.



## Sub-program 1.4: Mineral and Petroleum Royalties

### Royalty regulations

Royalty regulations were amended during the year to include a gold royalty, simplification of royalty categories of minerals attracting royalty, and removal of the minimum royalty rates on mineral sands. A royalty on gold was introduced to apply to production from 1 July 1998, with no royalty payable in respect of the first 2500 ounces of gold produced during a financial year.

### Assessment, collection, and verification

The timing for royalty payments was changed from monthly to quarterly to simplify administration for producers under the Mining Act. Minor teething troubles were expected with the change and some

producers did experience difficulties and submitted payments a few days late for the March quarter.

During the year an average of 266 companies or individual projects paid royalty. A total of 1559 royalty returns were received and assessed and 197 visits were made to royalty payers. Adjustments to royalty collections from audit activities resulted in an additional \$4.1 million in royalty payments.

A total of \$730.1 million was collected for the year, comprising \$374.8 million for minerals and \$355.3 million for petroleum. From this, \$123.2 million was paid to the Commonwealth Government under petroleum royalty-sharing arrangements.

**Table: 1997-98 Royalty Collection (\$m)**

	Revenue State	Revenue Commonwealth	Total Consolidated	Paid Into Fund	
<b>State Legislation</b>					
Minerals	374.8	-	374.8	374.8	
Petroleum	29.2	23.3	52.5	44.5	
Sub-total	404.0	23.3	427.3	419.3	
<b>Commonwealth Legislation</b>					
Petroleum	202.9	99.9	302.8	202.9	
<b>Total</b>	<b>1997-98</b>	<b>606.9</b>	<b>123.2</b>	<b>730.1</b>	<b>622.2</b>
	1996-97	545.0	122.9	667.9	560.8
	1995-96	468.2	74.7	542.9	486.0
	1994-95	371.2	58.9	430.1	390.5

**1997-98 Total Collections \$730.1m**



The value of royalty collections exceeded that for the previous year by 9.3 per cent. This was mainly because of the favourable effect of a lower exchange rate on the sales revenues of mineral and petroleum producers, higher alumina sales volumes, and a diamond royalty adjustment. This was partially offset by lower oil prices and lower prices and sales volumes for nickel and mineral sands producers.

Apart from a few payments, all royalties were received on time. A dispute was resolved with the Argyle Joint Venture regarding the valuation of diamond stocks in the context of its profit-based royalty calculation. This resulted in the receipt of \$4.9 million relating to profit royalties due from previous years.

Arrangements to administer the collection of Christmas Island royalties were finalised with the Commonwealth. The Department will assess, collect, and verify the royalty payments and then transfer them to the Commonwealth.

## Sub-program 1.4: Mineral and Petroleum Royalties

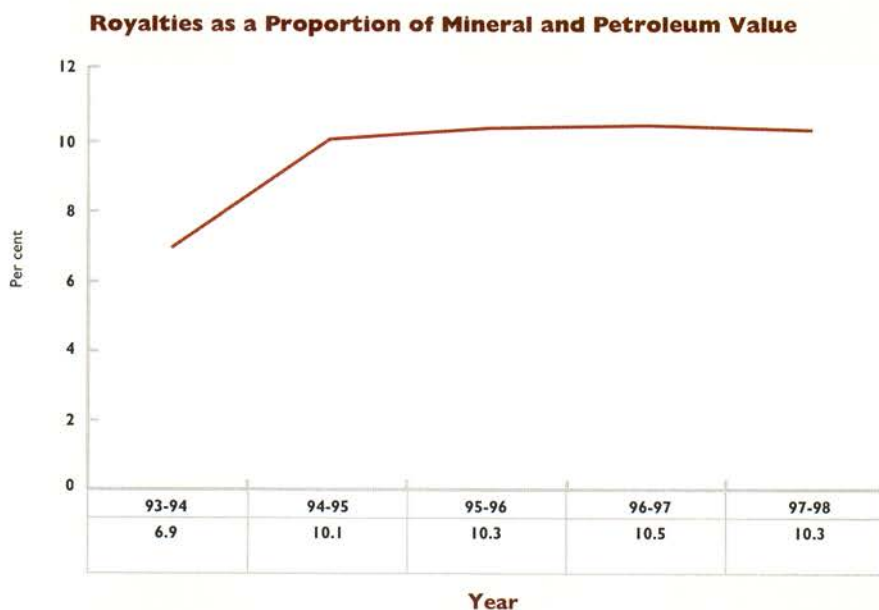
**Objective:** To collect a fair return for the community as compensation for the extraction of the State's mineral and petroleum resources.

**Effectiveness: Royalties collected**

*Measure:* Average royalty rate

*Description:* Total royalties collected as a proportion of mine head and well head value

*Result:*



*Comment:* Determining a fair return to the community is a complex issue. Royalty rates under the Mining Act were derived by adopting a benchmark of 10 per cent of mine head value. Royalty rates levied on petroleum projects are generally between ten per cent and 12.5% of well head value.

The average royalty rate is consistent with the past two years.

*Measure:* Compliance with payment schedule

*Description:* The proportion of royalties reported due that were paid by the required date, excluding those unpaid because of disputes on the amount of royalty payable.

*Result:*

1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
99.9%	99.9%	99.8%	99.2%	99.4%	95.9%

*Comment:* Royalty must be paid in accordance with legislation. The administrative system for managing royalty payments includes efforts to ensure that royalty payments are paid on time.

The lower 1997-98 royalty due-and-paid-indicator reflects late payments from mineral producers who experienced difficulties in changing from monthly to quarterly returns. The quarterly payment system was introduced during the year for producers under the Mining Act.

## Program 1.4: Mineral and Petroleum Royalties

### Efficiency: Cost per royalty payer

*Measure:* Average cost per royalty payer

*Description:* The average annual cost per royalty payer of royalty services; calculated as direct salary and operating costs plus the applicable proportion of corporate overheads, divided by the number of royalty payers.

*Results:*

	1996-97	1997-98
Total cost per royalty payer (\$)	\$4,109	\$4,452
Assessment cost per royalty (\$)	\$2,124	\$1,865

*Comment:* The definition of "royalty payer" has been revised from last year's report to better reflect the number of entities involved. This new approach includes all projects as separate entities and has been applied to the past two years.

The assessment cost per royalty payer has reduced due to improvements in systems. The total cost per royalty payer has increased due to a reduction in the number of payers and an increase in demand for royalty policy and forecasting services.

### Objective:

To achieve a community confident that measures are in place to keep it safe from hazards associated with the storage, handling and transport of dangerous goods.

### Description:

Industrial development and activities in Western Australia are dependent upon the safe storage, handling and transport of explosives and other dangerous goods. The strategy adopted to achieve the objective is based on the regulation of industry, ensuring compliance with legislation developed and maintained to the best national and international standards.

A comprehensive database of the sites where dangerous goods are manufactured and stored is maintained to assist in monitoring and auditing compliance with the regulations, and to provide the information required when an emergency response is necessary. Educational material and technical advice are also provided about compliance with the regulations; hazard control plans; and more general aspects of handling and storing dangerous goods.

**Sub-program expenditure in 1997-98: \$2.484 million**

The main focus in 1997-98 for the Department's Explosives and Dangerous Goods Division was to encourage industry to accept its responsibility to make public safety a priority.

The Department oversaw regulations, educated industry, improved community confidence, improved safety, and reduced the likelihood of accidents to ensure the community was protected from explosives and dangerous goods in transport, storage, and use.

The Division maintained and enforced legislation to ensure hazards were kept at a low level and assistance was provided to companies to store and transport chemicals in a safer way. Community consultation continued with groups such as the Kwinana Community Advisory Panel and the Dangerous Goods Liaison Committee.

### Legislation

The National Occupational Health and Safety Commission (NOHSC) released the draft National Standard and Code of Practice for the Storage and Handling of Dangerous Goods for public comment in May 1998. The closing date of the review period was 31 July 1998.

The standard complements the national standard for the control of major hazard facilities, addressing sites which pose a significant offsite risk. It also complements hazardous materials legislation, which addresses occupational hazards.

The national standard was developed after extensive consultation between the Department, industry, and other government agencies throughout Australia to create regulations removing duplication and obstacles faced by industries dealing with State legislation.

The move to performance-based legislation will provide industries with more flexibility, enabling them to meet public safety needs by using innovative methods better suited to their industry type.

When comments from around Australia have been collated by NOHSC, a final version of the Standard will be released. If it is shown to be workable and effective, it will be adopted as regulations in Western Australia and the Dangerous Goods Regulations 1992 will be repealed.

The transport of dangerous goods by road and rail will be safer with the introduction of the Dangerous Goods (Transport) Bill 1998 in the spring session of Parliament.

The new legislation will lead to better compliance because legal obligations for safety on prime contractors, consignors, drivers, vehicle owners, packers and loaders have been clarified.

New provisions include a duty of care, infringement notices, and higher penalties for breaches of regulations. These provisions will also help in enforcement.

The Bill is based on national legislation developed by the Federal Office of Road Safety and the National Road Transport Commission. For the first time, Australia will have nationally uniform requirements for the transport of dangerous goods by road and rail.

The Division has approval to spend \$250,000 to enforce regulations associated with the new legislation.

### **Dangerous Goods Accidents**

The Department's dangerous goods safety program ensured that - in a growing dangerous goods market - the accident rate was contained.

There were 15 storage incidents, three explosive incidents, and 19 transport incidents during the year. The most severe involved the misuse of explosives, where an unqualified and inexperienced person lost his right eye and right hand. The Department's Explosives Regulations prevented the illegal possession of explosives and, with rare exceptions, were successful.

A significant storage incident was the seepage of 60,000 litres of diesel fuel into the ocean from an above ground tank at Christmas Island. An Explosives and Dangerous Goods inspector supervised the clean up. To guard against a recurrence, the Department insisted on a rigorous testing and maintenance program which resulted in decommissioning of the ageing tanks.

Road transport incidents were caused by:

- crashes resulting from unsafe driving or mechanical problems;
- bulk liquids spilling in transit or transfer;
- packages falling off trucks because of insecure restraint; or
- leaking packages.

About 30 per cent were single vehicle road crashes caused by driver error. The main causes were fatigue or inattention, and speed. The Department believes the

transport industry requires more control over drivers' actions and needs to establish closer relationships between management and drivers. Industry initiatives such as the PACIA Carrier Accreditation Scheme and the TruckSafe Accreditation Scheme are yet to be introduced but hold great promise for building those relationships.

### **Major Hazard Facilities (MHF) Standard**

Western Australia now leads Australia in the implementation of the National Standard for the Control of Major Hazard Facilities (MHF).

Thirty major hazard facilities were identified in Western Australia, including nine which had already been designated as MHFs by the Explosives and Dangerous Goods Act 1961.

The Explosives and Dangerous Goods Division's Major Hazards Branch also identified facilities which stored or possessed quantities of dangerous goods but which were below the threshold level for classification as an MHF. These sites had significant hazards and are subject to further screening to see if they should be classified as MHFs. Of the database of 6000 premises licensed to store dangerous goods, 172 sites were selected for screening by the Explosives and Dangerous Goods Division. This is expected to be completed by 1 July 1999. None of the 50 sites screened to date was classified as an MHF.

Consultation with facilities classified as MHFs is under way. Schedules to achieve compliance with the national standard were agreed to by facility operators.

The national standard incorporated local expertise and systems previously used in managing the State's designated MHFs and there has been minimal disruption to industry in implementing the national standard.

### **Ammonium Nitrate Storage Site at Wyndham**

The Department advised local government, residents and the Department of Environmental Protection (DEP) on safety issues associated with the importing of ammonium nitrate through the Port of Wyndham.

As there was no significant threat to public safety or the environment, an exemption was given to the importer to enable the import to be carried out while the DEP appeals process proceeded.

### **Accredited Consultants**

Thirteen consultants and five companies were accredited to assess dangerous goods storage proposals. During the year 55 per cent of applications were assessed by external people, a cost-efficient approach the Department is looking to increase.

### **Partnership with Fire and Rescue Service (FRS)**

A full training program was conducted for all Fire and Rescue Service officers to assist in the development of a partnership. This was completed in October 1997.

As a trial, the building inspection program carried out by FRS officers included inspections of premises storing dangerous goods. FRS officers were supplied with an inspection form which suited the needs of both agencies.

The Department is reviewing data from the trial to identify sites requiring more investigation and identify any extra training needs for FRS officers to further inspect premises storing dangerous goods.

## Sub-program 1.5: Dangerous Goods Management

**Vision:** Our vision is a community confident that measures are in place to keep it safe from hazards associated with the storage, handling and transport of dangerous goods.

**Objective:** To ensure an acceptably low level of risk to the public from the storage, handling and transport of explosives and dangerous goods in Western Australia.

### Effectiveness: Community Confidence

*Measure:* Level of community confidence

*Description:* The percentage of people responding to a customer survey who say they are very confident or fairly confident that potentially dangerous goods and materials are stored, handled and transported safely.

*Result:* Percentage of population confident in dangerous goods management

June 1996	June 1997	June 1998
59%	63%	61%

*Comment:* The results are based on a general community telephone survey of 600 Western Australians from metropolitan and regional areas aged 18 years and over conducted between 29 April and 13 May 1998.

A noticeable change since 1996 is that city residents now feel as confident as country residents, where in the past city people felt less confident.

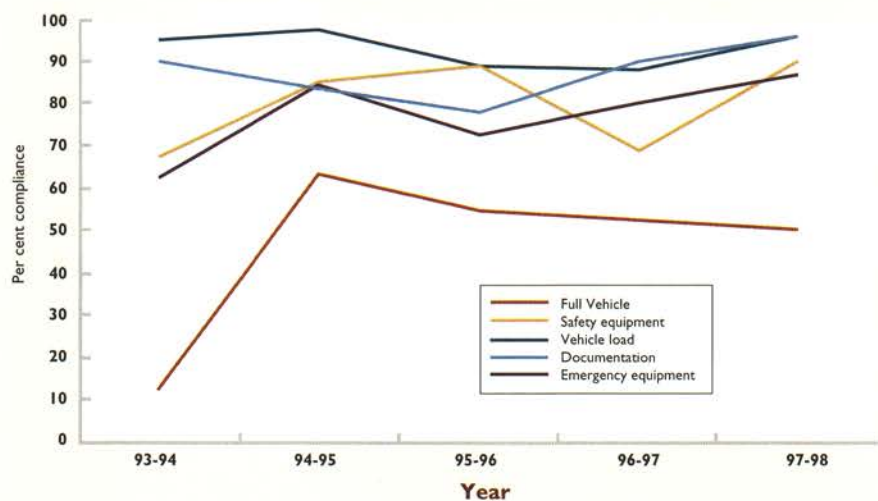
### Effectiveness: Safety

*Measure:* Compliance with safety standards in the transport of dangerous goods

*Description:* The proportion of vehicles complying with safety standards set in the Dangerous Goods Regulations. Full compliance means the vehicle complied with all requirements.

*Result:*

**Per cent compliance with safety standards**  
in the transport of dangerous goods



	93-94	94-95	95-96	96-97	97-98
	%	%	%	%	%
Full vehicle	n/a	63	54 (42)	52	50
Documentation	90	83	78 (88)	90	97
Safety equipment	67	84	88 (92)	68	91
Emergency equipment	61	84	72 (93)	80	89
Vehicle load	96	98	88 (99)	88	97

*Comment:* The introduction of a computerised information management system (DEXIS) in early 1996 has resulted in a review of historical compliance level data and consequent revision of figures for 1995-96. The old data are listed in brackets in the above table.

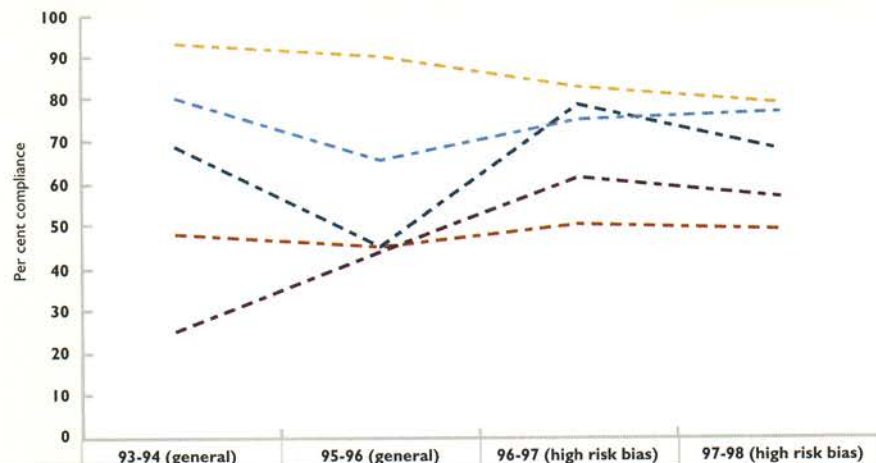
The marked increase in compliance for 1997-98 may be due in part to relatively few number of inspections conducted in relation to previous years, hence producing a skewing of statistical data. The standard of compliance is essentially at a plateau, suggesting a need for change in enforcement strategy. The introduction of new legislation providing for on-the spot infringement notices, and the out-sourcing of on-road enforcement inspections are expected to provide an increase in the level of compliance.

*Measure:* Compliance with safety standards in the storage of dangerous goods

*Description:* The level of compliance with regulations observed at premises where dangerous goods are stored and handled.

*Result:*

**Per cent compliance with safety standards**  
in the storage of dangerous goods



	93-94 (general)	95-96 (general)	96-97 (high risk bias)	97-98 (high risk bias)
Placarding of premises	47	44	50	49
Location of stores	93	90	83	79
Secondary containment	69	44	79	68
Fire protection	80	66	75	77
Emergency plans	28	43	61	57

*Comment:* For the second time random target inspections with a focus on highest risk sites were conducted in 1997-98 to enable a comparison to be made on the 1996-97 results. The results from both of these samples can not be completely comparable to the general range of industry in the preceding years.

The 1997-98 results reinforce the suggestion made in the previous year that



## Sub-program 1.5: Dangerous Goods Management

highest risk sites have better compliance levels than general industry data gathered in 1993-94 and 1995-96. It suggests that those sites that pose a higher risk are more likely to comply with the Dangerous Goods Regulations 1992 than the general industry.

Comparison of 1996-97 and 1997-98 data does not reveal any significant change except in the area of secondary containment. There has been increased focus on planning for older sites to upgrade of their secondary containment to meet the requirements of the Dangerous Goods Regulations 1992.

### **Efficiency: Administration cost efficiency**

*Measure:* The cost of administering legislation per site regulated

*Description:* The annual cost per storage site of dangerous goods regulation; calculated as direct salary and operating costs plus the applicable proportion of corporate overheads, divided by the number of sites at the end of the year.

*Result:*

	1996-97	1997-98
Cost per storage premise	\$284	\$273

*Comment:* Regulatory costs have not changed significantly since last year.

### **Efficiency: Productivity**

*Measure:* Weighted multi-factor productivity index

*Description:* Weighted product per million dollars spent.

*Result:* Productivity associated with this Sub-program was 1.56% greater than last year.

### Objective:

To increase the rate of discovery and development of the State's mineral and petroleum resources through the provision of comprehensive information about the geology and the mineral and petroleum resources of Western Australia, and of specialised mineral processing research and testing facilities.

### Description:

The program provides regional geoscience maps and compilations of geoscientific and resource information obtained from field and laboratory investigations by Government and industry. The information is used by industry to develop new exploration concepts and improve discovery rates. It is also used internally in policy development and advice, and by other agencies with responsibilities for land use planning and major infrastructure developments. The program also provides specialist mineral processing and extractive metallurgical research services. These services increase the efficiency of mineral extraction, thereby reducing costs, facilitating development and helping to maintain or improve the competitiveness of the State's mineral industry.



*By using helicopters, the Department's Geological Survey Division will be able to map some of the most inaccessible country in the world.*



*Rick Rogerson (left) Assistant Director of the Department's Geological Survey Division, Mines Minister Norman Moore (centre) and Dr Ivor Roberts, the Department's Kalgoorlie Geological Survey Division Manager, at the new drill core library in Kalgoorlie. Mining Exploration companies will reap the benefits of a \$9 million commitment over five years to build drill core libraries in Kalgoorlie and Perth.*

## Objective:

To provide up-to-date, enhanced regional geoscientific and resources information to support resource exploration and development, and informed land-use planning.

## Description:

Industry exploration reports and geological samples are archived and made publicly available. Geological, geophysical and geochemical information from field investigations and industry reports are analysed to provide regional maps, reports and digital data, that include integrated geoscientific information, mineral deposit and petroleum basin analysis packages.

Assessments of mineral and petroleum resource and resource potential are made as a basis for decision making by Government. Assistance and advice are given on a variety of community needs, including land use, urban and development planning.

Sub-program expenditure in 1997-98: \$19.568 million

During the year the Department accelerated its promotion of the mineral and petroleum prospectivity of Western Australia by:

- publishing 31 maps (at various scales), 45 manuscripts, and seven digital datasets, including geological, soil geochemical, mineral occurrences, geochronological, and geophysical information;
- shortlisting architects and creating design briefs for new drill core library facilities, the first of which will be built in Kalgoorlie in 1999;
- releasing new maps, reports, and digital datasets on CD-ROM to outline the mineral potential for part of the Mid West, the north eastern Goldfields, and part of the South West; and
- expanding staff at the Geological Survey Division's regional office at Kalgoorlie to seven geologists and a cartographer.

The Division also collected gravity readings in tandem with the helicopter-assisted regional soil-geochemical sampling program. More than 1000 gravity stations were collected per 1:250 000 map sheet area at a small marginal cost to the geochemical sampling program. The gravity readings were used to develop a three dimensional model of the earth's subsurface and helped to better define petroleum and mineral resource potential, adding a high level of value to an existing program.

The Division increased its productivity by 5.7 per cent during the year.

## Strategic focus

The State Government has allocated special funding of \$56 million between 1993 and 2001 for strategic mineral and petroleum initiatives; two exploration initiatives and new capital works. These initiatives are:

- accelerated Mapping Initiatives which support the mining exploration industry by producing more geological, airborne geophysical, regolith geochemical, and mineral occurrence maps. An initial allocation in July 1993 of \$10 million over four years was followed in July 1997 by \$5 million a year until June 2001; a total investment of \$30 million to enhance mineral prospectivity;
- the Petroleum Exploration Initiative, a six-year program to promote the prospecting of onshore sedimentary basins in Western Australia. This was introduced in 1994-95, with a total investment of \$17 million over six years. Expenditure during 1997-98 was \$3.5 million; and
- Drill Core Library Facilities to store rock and mineral samples to support the mineral and petroleum industries. This project will cost \$9 million over three years.

There are two fundamental objectives in supporting the Division's customers:

- enhancement of the State's prospectivity through regional geoscientific mapping; and
- effective provision of exploration data and information services to industry and the community

## Work program activities in 1997-98

In 1997-98 the Department spent \$13.75 million (cash) directly on mapping, mineral and petroleum resource studies and management of exploration data, with 90% of funds allocated to the geoscientific studies. An additional \$1.32 million was allocated to pre-construction planning for the drill core library facilities to be built in Kalgoorlie and Perth. Table 1 shows the allocation of Divisional expenditure on the components of the work program.

Exploration incentive initiatives accounted for 62 per cent of the Geological Survey Division's human and financial resources and 83 per cent of its field-based mapping activities.

The Division produced integrated maps, carried out resource studies, archived and disseminated exploration information, and edited and published exploration-related material. Performance measures, reported below, indicate that the Division has improved its effectiveness and efficiency in carrying out these activities.

The Division carried out finite length projects and frequently hired short-term specialist expertise for particular projects. This meant contracting-in of expertise and contracting-out of services was critical to its success. Managers were trained in project management, contract management, and risk analysis to ensure the Division's effectiveness.

### *Regional Geoscience Mapping*

Geological and regolith mapping teams were active in the Pilbara, the Mid West, Gascoyne, the northern margin of the Yilgarn Craton, the Southern Cross area, and the Eastern Goldfields. These areas are shown on page 52.

Six geologists and a cartographer joined the Division's Kalgoorlie Regional Office to upgrade mapping activities and customer facilities in one of the State's most important mining areas. A 'seamless' database of geological information was created for the Kalgoorlie-Menzies-Edjudina-Kurnalpi area. Such a 'seamless' database eliminates mismatches of geological units at map boundaries and ensures all similar rock units are shown with common names and descriptions. This allows computer plotting of maps which straddle traditional map sheet boundaries. The process will be repeated in other parts of the State.

### *Mineral and Petroleum Resource Studies*

The Division continued to add information to the Western Australian mineral occurrence and mine-site (MINEDEX) databases. Mineral occurrence data and non-confidential mineral exploration activity data were captured for the north eastern Goldfields, part of the Mid West, and the south west of the State (Figure 2, page 52).

Another new product was a CD-ROM containing geological maps, mineral occurrence and exploration data for three regions of the State. The CD incorporates user-friendly free software that enables inexperienced computer users to view these data.

The collection and synthesis of geoscientific data relating to the petroleum potential of the onshore Perth, Carnarvon, Officer, and Canning Basins (Figure 2) continued. The highlight of the year was the drilling of a 1600 metre deep stratigraphic drill hole through almost the entire section of the Officer Basin in the Great Victoria Desert. The drill hole yielded a wealth of new information which, when combined with new gravity data obtained by the Division during the year, produced enhanced insight into the petroleum potential of this frontier basin.

### *Statutory Exploration Information Management*

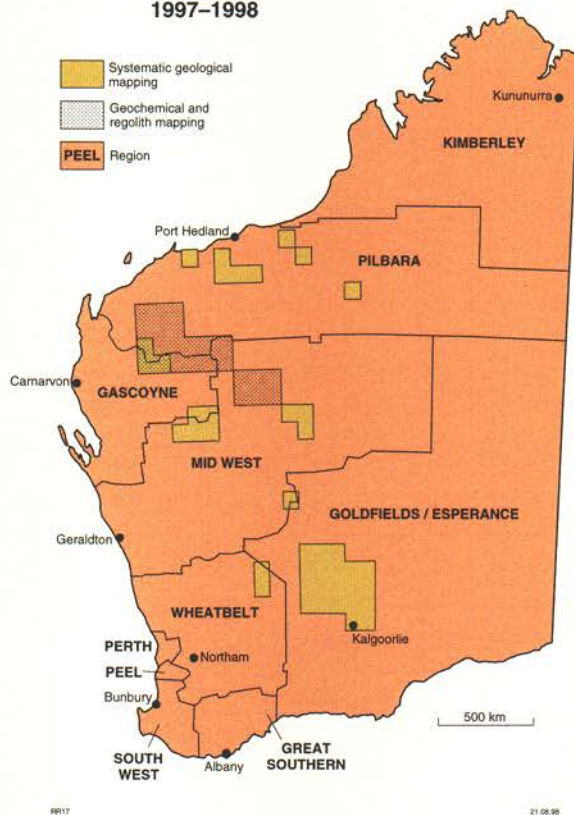
The Division acquired, stored, and - after a period of confidentiality - released information given to the Department under statutory regulations by mineral and petroleum tenement holders. The reports were used by other potential and existing investors to make choices about where to explore and what commodities to look for, and to avoid the costly exercise of repeating previously unsuccessful exploration techniques. The well-indexed databases of statutory reports held by the Division reduced the risk in exploration and increased the prospectivity of Western Australia.

During 1997-98 a major study was carried out to look into upgrading these databases to provide improved services to customers into the next century.

This year 3510 mineral exploration reports were received from industry. A total of 55,113 sets of petroleum-related data (seismic tapes, logs, well tapes, reports, and samples) were checked for completeness and suitability for reproduction. Index data was extracted and the reports were archived. Some 1255 mineral reports were released to the public after the expiration of the confidentiality period. The Division also responded to requests from industry for 19,448 sets of petroleum data.

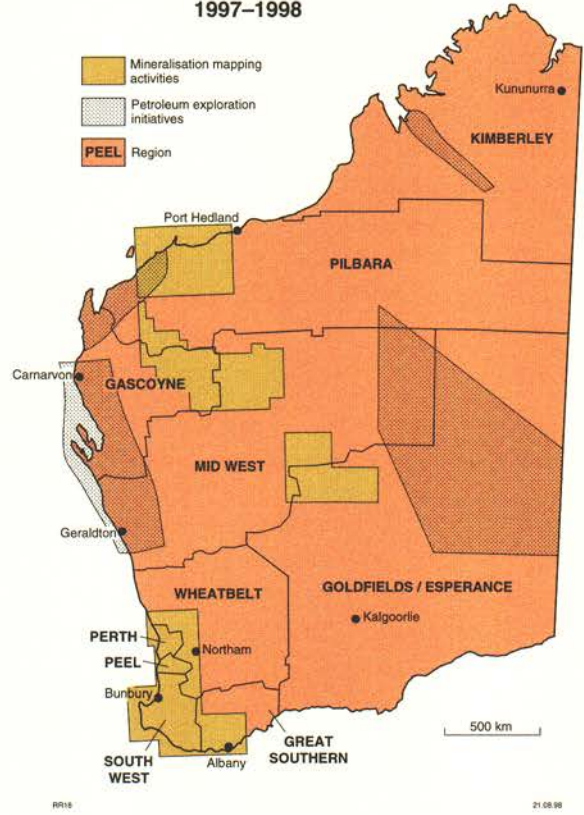
## Sub-program 2.1: Geological Survey

**Geoscience Mapping Activities  
1997–1998**



**Figure 1**

**Mineral and Petroleum Resources Activities  
1997–1998**



**Figure 2**

### *Drill Core Library Facilities*

This year land was acquired in Kalgoorlie and a program was developed to manage mineral and petroleum drill core obtained throughout regional Western Australia. Architectural briefs were prepared for a combined drill core library and operational base in Kalgoorlie, and a

drill core library in Perth. A Value Management Study confirmed the scope of works and estimate of costs. An architect will be appointed in early 1998–99 with construction of the Kalgoorlie facility scheduled for completion by the end of 1999.

Table 1: Direct cash cost – Geological Survey work programs

Work Program	Budget \$ millions (cash)	Proportion of total GSD recurrent expenditure (%)	Staff numbers
<b>Component 1</b>			
Regional Geoscience Mapping	6.182	44.9	62
Mineral and Petroleum Resource Studies	6.088	44.3	69
<b>Component 2</b>			
Statutory Exploration Information Management	1.484	10.8	23
Core Library Development	1.320		
<b>Total</b>	<b>15.074</b>	<b>100.0</b>	<b>154</b>

## Sub-program 2.1: Geological Survey

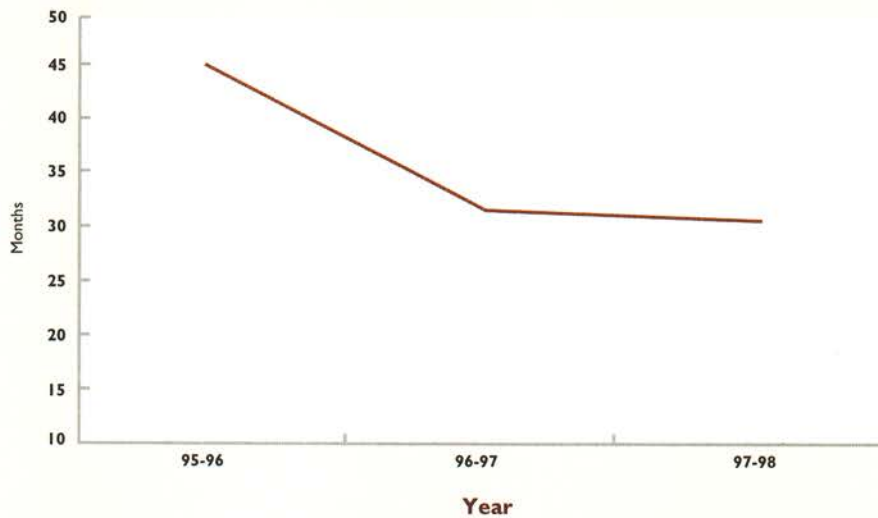
**Objective:** To provide up-to-date, enhanced regional geoscientific and resources information to support resource exploration and development, and informed land-use planning.

**Effectiveness: Geological knowledge**

*Measure:* **Production time for geoscientific maps**

*Description:* Average time to produce a 1:100 000 geological map sheet from the commencement of ordering the compilation sheets, through field work and drafting, and finishing on publication of map.

*Result:* **Production time**  
1:100 000 geological series maps



*Comment:* Geoscientific maps are widely used by mineral and petroleum explorers and developers and by land-use planners as a critical source of information on which to base resource-allocation decisions. The Geological Survey Client Satisfaction Survey (carried out in 1994 by the Institute for Research into International Competitiveness, Curtin University) showed some client dissatisfaction with the long time taken to publish geoscientific maps.

The indicator reflects the extent to which the Department has decreased the elapsed time between commencement of fieldwork and final publication, and gives strong support to the findings of the 1998 (follow-up) Client Survey by Curtin University which stated "...mean satisfaction on the product and rate dimensions improved impressively from 1994".

**Effectiveness: Quality**

*Measure:* Customer satisfaction

*Description:* Results of a customer satisfaction survey for Australian-based customers of regional geoscience mapping products and letters tabled through the Geological Survey Liaison Committee. This committee comprises industry representatives nominated by the Australian Petroleum Production and Exploration Association, the WA Chamber of Minerals and Energy, the Association of Mining and Exploration Companies, and other geoscience customers (e.g. the Australian Geological Survey Organisation, CSIRO, and universities). It meets twice a year to consider reports by its Technical Advisory Sub-committees and to provide guidance for future programs and feedback on past performance.

*Result:* The Customer Satisfaction Survey was a follow-up to a similar survey conducted in 1994. A questionnaire was sent to those on the mailing lists of a third-party geological journal (*WA Geologist*) and of the Department's *Fieldnotes* newsletter (Sub-program activities, results and products). The effective sample size covered by the mail-out was 741 with a 17 per cent response rate (129 responses). Given that the population exceeds 750, the error rate at the 95 per cent confidence level is between five and ten per cent.

Respondents rated their satisfaction with key parameters of the sub-program on a scale between one (very dissatisfied) and five (very satisfied). The analysis of the survey results suggested that, in comparison with the survey in 1994, "...perceived quality and release of information have been stepped up in clients' minds since 1994". In addition "The greatest improvement in the last 3 years occurred in the quality of products..."

**Satisfaction Rating**

Element	1998 Per cent of respondents rating satisfaction between neutral and very satisfied	1998 mean score	1994 mean score
Quality of products	92.2%	3.86	3.88
Accuracy of information	92.9%	3.68	3.64
Comprehensiveness of information	89.0%	3.51	3.40
Rate of publication	66.4%	2.94	2.63

This year's reports of the four Technical Sub-committees to the Geological Survey Liaison Committee endorsed the work of this program as meeting the agreed objectives and goals, and expressed satisfaction with the quality and quantity of products.

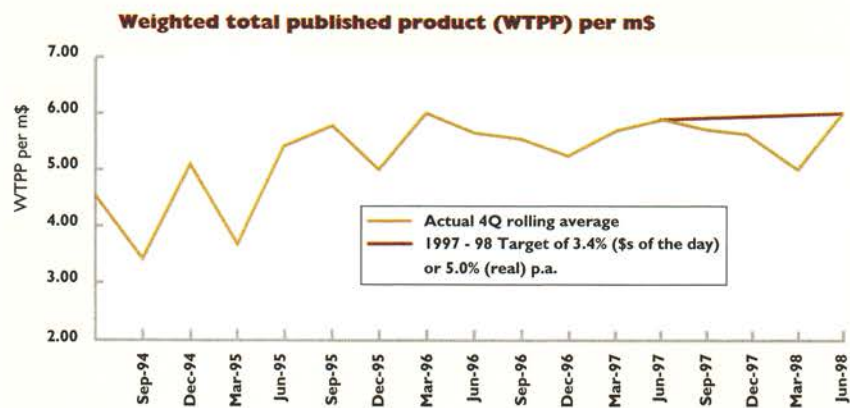
**Efficiency: Cost Efficiency**

*Measure:* Weighted multi-factor productivity index

*Description:* The weighted quarterly published map and publication output per unit of expenditure. Various types of published products (e.g. maps and books) have each been assigned a "weight" which attempts to quantify the relative effort required to proceed from their respective initial field work to final publication. The total weighted products for each quarter are then divided by the total expenditure in that quarter. The quarterly weighted products per dollar or Productivity Index is then smoothed using a four-quarter rolling average to compensate for output peaks and troughs caused by the different completion time for various products.

In 1997-98, a target was set of a real 5 percent improvement in productivity using the "Gross State Product Deflator" of 1.5%. Actual real productivity improvement delivered was 5.65%.

*Result:*



*Comment:* The increase in output per \$million invested in 1997-98, displayed in the above graph, resulted in an average productivity improvement of 5.66% over the previous year. The decreasing figures for the first three-quarters do not denote falling productivity but the fact that a large proportion of the products were published and brought to account in the last quarter.

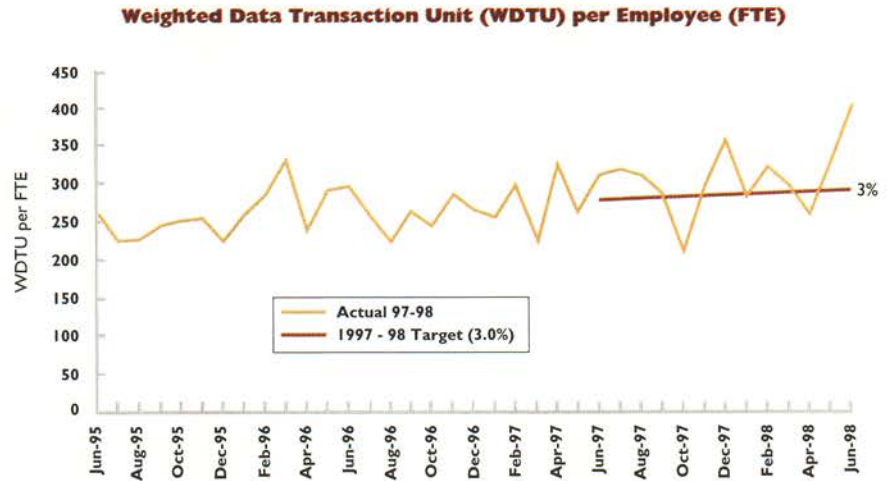


## Sub-program 2.1: Geological Survey

*Measure:* Total weighted monthly data transactions per employee for statutory exploration data management

*Description:* Exploration data management primarily involves accessioning, monitoring, curation and public release of statutory exploration and production reports. The transactions are weighted according to their complexity, aggregated and divided each month by the input in terms of number of staff involved in the process to provide a measure of their efficiency.

*Result:*



*Comment:* This index shows that a significant improvement, well beyond the 3% target, was achieved in 1997/98. The trough in October 1997 is a low production period attributed to a multiskilling-training exercise undertaken by staff. The monthly variability is due to the batching up of processes that are only measured on completion.

**Objective:**

To undertake metallurgical research and test work, and provide consultancy services and advice to companies, Government agencies and individuals operating in the mining and mineral processing sector.

**Description:**

Optimum recovery of minerals from ores can represent the difference between commercial success and failure of mining ventures and is a key contributor to the economic return the State receives from the exploitation of its mineral resources. The highly specialised nature of mineral processing and extractive metallurgy test work acts against the development of a comprehensive competitive market for the supply of test work services. The Mineral Processing Laboratory works in collaboration with other State, Federal, university and private institutions to offer test work programs, research and development projects and consultancy and advisory services to customers on a full cost-recovery basis.

The Mineral Processing Laboratory was established by the State Government in the 1950s for metallurgical research and testing to assist the downstream processing of the State's minerals.

The laboratory moved to new premises at Waterford in 1994.

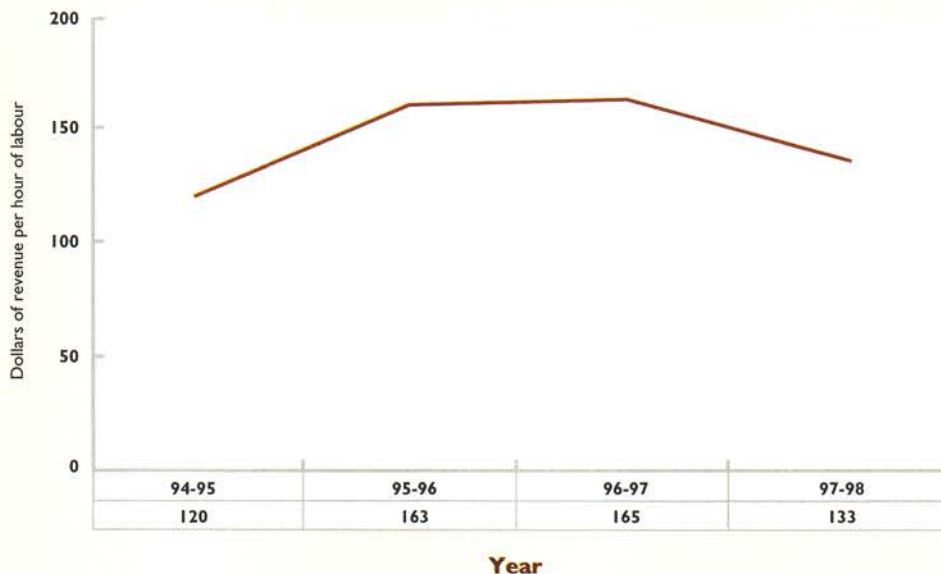
The laboratory provides metallurgical test work and pilot plant services to industry. In 1997/98 about 25 per cent

of its activities centred on research and development projects as part of its membership of the A.J. Parker Cooperative Research Centre for Hydrometallurgy. The other members of the A.J. Parker CRC are CSIRO's Division of Minerals, Curtin University, and Murdoch University.

Despite having a modern facility, the laboratory had difficulty meeting financial targets. This was caused by vigorous competition from private metallurgical laboratories in Western Australia for test work contracts.

Staffing levels were below what was needed to carry out the laboratory's nominated research functions. Replacement staff were hard to find, especially those who could undertake both research and development as well as commercial test work and the laboratory had difficulty retaining staff because of higher salaries offered by industry. To control costs the laboratory has not replaced any equipment for several years and this has impacted on its ability to undertake certain test work and research.

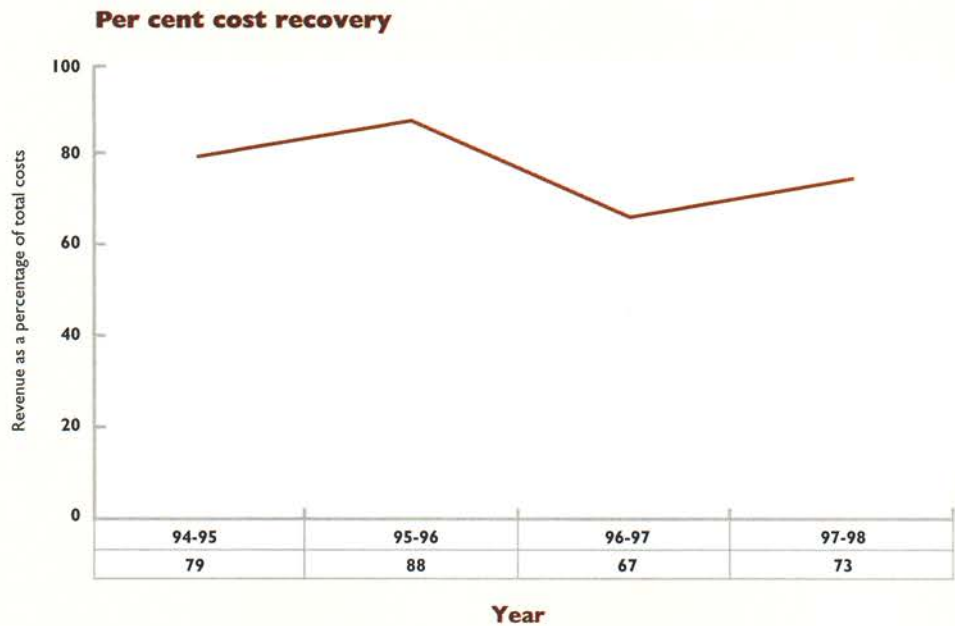
**Revenue per hour of staff time**



The revenue for 1997-98 has remained at the same level as 1996-97 but there has been a more disciplined approach taken in recording hours.

## Sub-program 2.2: Mineral Processing Laboratory

The improved financial performance in 1997-98 is a result of a tight control on expenditure and a reduction in contract salaries.



### Negotiations with CSIRO

During the year the Department examined options to achieve optimum benefits to the State from the Waterford laboratory. A Steering Committee chaired by the Department's Director General and comprising senior representatives from Treasury, the Department of Commerce and Trade, the Department of Resources Development, and the Ministry of the Premier and Cabinet's Public Sector Review Division was established for this purpose.

Negotiations were commenced with CSIRO's Mineral Division for CSIRO to enter into a long-term lease of the facilities and on 4 May 1998 State Cabinet gave approval for the Department to enter into a commercial long-term lease with CSIRO.

The lease arrangement will lead to:

- a more comprehensive and intense metallurgical research and development effort from a larger team of Western Australia-based researchers;
- an equipment replacement program funded by the Commonwealth to ensure facilities are upgraded to state-of-the-art standards; and
- continued support for the A.J. Parker Cooperative Research Centre through which much of the increased research and development will be channelled.

### Launch of Roller Press

During the year an agreement was entered into to rent several items of mineral processing equipment,

including a roller press from German supplier Humboldt Wedag. Other items of equipment were a Jig, WHIMS, and a pneumatic flotation cell.

Mines Minister Norman Moore launched the pilot-scale roller press on 20 March 1998. The laboratory is one of three places in the world to have a pilot-scale roller press, the other two being in Minnesota, USA, and Cologne, Germany.

The roller press was installed in Perth to see if the predicted benefits of small-scale laboratory test work could be realised in a larger commercial-size roller press. The new roller press requires 25 per cent less energy than currently used methods of reducing ore size, requires minimal space, emits minimal noise and pollution, and enhances the reactivity of ores, resulting in better quality products for pelletisation of iron ore and leaching of gold and base metal ores. The roller press also produces fine and uniform particle size and forms micro-fractures which decrease downstream grinding energy.

### Projects

Several significant projects were undertaken during the year. These included iron ore processing and the development of a new hydrometallurgical route for processing zinc ores.

In August 1997, a senior staff member visited the Changsha Institute of Mining and Metallurgy and the



*Mines Minister Norman Moore officially launched the pilot-scale roller press, the first to be made available in the Southern Hemisphere.*

Central Iron and Steel Research Institute (CISRI) in Beijing as part of the Marra Mamba Iron Ore Project. The joint project between the Mineral Processing Laboratory and CISRI in China has been going for two years and is funded by the Western Australia-China Economic and Technical Research Fund and managed by the Department of Resources Development. Additional sponsorship was obtained from BHP Iron Ore, Hamersley Iron Pty Ltd, and Hancock Prospecting Pty Ltd.

Four core A.J. Parker CRC projects were carried out at the laboratory, with the principal activity being the solvent extraction project which examined the separation of nickel and cobalt. The mineral industry experienced unprecedented interest in nickel-cobalt extraction from laterite ores through acid pressure leach followed by solvent extraction. The separation of cobalt from nickel becomes difficult if the solution contains manganese. The aim of the project was to separate the metals in the solution using solvent extraction. Almost 1500 hours were spent on this work.

The Laboratory convened or participated in a number of conferences. A successful two-day AusIMM Conference on Iron-making Reserves and Resources was held at the Burswood Convention Centre in Perth. Papers were presented at the Iron and Steel Forum in Sydney in March 1998 and the World Gold Conference in Singapore; the latter supported by the A.J. Parker Co-operative Research Centre. For the first time, five Curtin chemical engineering students undertook their fourth year project assignments with laboratory staff.

Orders were received from An Feng Kingstream Steel Limited for a major program of test work which started in October 1997 and will continue under the laboratory's new management. Confidential test work was also carried out for private companies.

## Role

The Department maintains and enhances land access for Western Australia's mining and petroleum industries by:

- reviewing and developing State and national policies;
- working with local authorities;
- producing maps;
- negotiating grants of tenements in environmentally sensitive areas;
- taking part in negotiations of grants affected by native title;
- assessing proposed land changes;
- providing information to the community; and
- giving advice about environmental issues.

The Department's Land Access Unit's 19 staff included geologists, environmental scientists, anthropologists, other Aboriginal issues specialists, cartographers, and administrative personnel.

## Native Title Act

Native title continued to be a major issue for Government, with 82 per cent of Western Australia under claim in 302 native title claims.

Rejection of the Native Title Act amendments in December and April in Federal Parliament meant the Land Access Unit negotiated title grants under the Act's existing 'right to negotiate' provisions. This was handled with five case managers, three administrative staff, and a cartographer.

During the year, the Land Access Unit advised tenement applicants and Aboriginal communities about native title procedures and took part in negotiations, NNTT mediations, and the submission of applications to the NNTT for the determination of tenement grants. The rate of objections to the advertising of exploration tenement applications under the 'expedited procedure' increased dramatically. This resulted in an increase in NNTT 'consent determinations' where all parties agreed that the 'right to negotiate' process should apply. Accordingly the number of exploration titles subject to negotiation greatly increased.

In March, the National Native Title Tribunal (NNTT) found the Department had negotiated in good faith the grant of two mining leases near Meekatharra. This

decision was appealed by the Aboriginal Legal Service (ALS) to the Federal Court.

A separate ALS appeal to the Federal Court concerning the first NNTT determination for seven tenements north of Leonora was upheld in August 1997 and returned to the Tribunal. Its subsequent determination was made in June 1998 following agreement with the Department's suggestion that formal assessment by the Environmental Protection Authority was the most appropriate trigger for undertaking a social impact assessment.

## Aboriginal Liaison

Consultation with Aboriginal communities and mineral and petroleum explorers and developers occurred throughout Western Australia.

The Unit's two Aboriginal liaison staff – based in Perth and Kununurra – provided advice to Geological Survey Division staff at the start of mapping and sampling programs and followed up with talks and visits to Aboriginal communities. After the surveys finished, outcomes were discussed with Aboriginal communities.

Negotiations were facilitated between exploration and mining companies operating in the Kimberley and the Kimberley Land Council on how to manage Aboriginal heritage sites. It is hoped that when the final agreement is reached, the number of objections to the 'expedited procedure' will reduce. The process has potential to be repeated in other parts of the State.

*Guidelines for Aboriginal Consultation by Mineral and Petroleum Explorers and Notes on Effective Agreements with Native Title Claimants and Aboriginal Communities* were updated. Specialised guidelines were prepared for *Aboriginal Liaison for Geological Survey of Western Australia Project Managers*.

The Land Access Unit's efforts contributed to a decision by the Mugarinya Community to lift a moratorium on the grant of tenements over the most prospective part of the Yandeyarra Aboriginal Reserve.

Liaison staff discussed Aboriginal consultation issues at a National Aboriginal Liaison Workshop in Adelaide.

## Environmental and Planning Access Issues

A number of environmental policy and access matters were dealt with by land use planning geologists and an environmental scientist, with cartographic support.

State and national environmental policy proposals were reviewed. The Unit took the lead in progressing national issues through its Manager, who chaired the Australian and New Zealand Minerals and Energy Council Task Force on environmental policy.

The Unit negotiated amendments to the Environmental Protection Act and reviewed proposed changes to Federal environmental impact assessment. It substantially contributed to a draft National Oceans Policy released in May.

Moves were made to integrate mineral resource data and conservation proposals to comply with the Regional Forest Agreement process for Western Australia's southwest forests.

Initiatives were taken to assist exploration and development in sensitive areas. These included:

- working with local authorities and the mining industry to develop a *Code of Practice for Mineral Exploration* on private land in seven wheatbelt shires;
- developing a draft Memorandum of Understanding with the Environmental Protection Authority for offshore mineral exploration and mining;
- preparing guidelines to assist the resource industry including those dealing with Declared Rare Flora (*Information Notes No 16*) and the 'No Mining Condition' (*Information Notes No 17*); and
- reprinting the popular paper 'Guidelines for Exploration in Sensitive Areas' (*Information Notes No 11*).

By the end of the year, draft maps of titanium mineralisation in the Bunbury to Augusta area were being finalised to assist local authorities in land use planning.

Increasing conflict over access to basic raw materials in nature reserves became a major issue during the year. Departmental staff worked with the Ministry for Planning to develop a Statement of Planning Policy to protect access to basic raw material deposits in the metropolitan area. They also took part in the State Rural Strategy and the revision of the Model Scheme Text.

Examples of conflict included the Department of Conservation and Land Management's (CALM) opposition to sand mining in a timber reserve near Coolgardie and access to nature reserves for gypsum and lime.

Proposals for tenements over limestone and lime sand in the proposed Jandakot Botanic Park and proposed Beeliar Regional Park raised local government concern because of the potential impact on native vegetation.

It was decided that the possible vibrations from blasting associated with quarrying Bunbury basalt would be studied by the Ministry for Planning to determine if buffer zones are needed between the quarries and proposed subdivisions. The Land Access Unit will provide technical support for the study.

Resource assessments were conducted in relation to a range of land change proposals and the National Parks and Nature Conservation Authority was briefed on tenement applications on conservation reserves. General maps of resources were developed to give CALM an early indication of resource issues in relation to the purchase of pastoral leases. The maps will also provide a basis for improved consultation between the Department for Minerals and Energy and the Ministry for Planning.

A Memorandum of Understanding was drawn up between the Department and the Western Australian Planning Commission on town planning and subdivision to fulfil a Coalition Government commitment. Signing of the MOU was scheduled for 1 September 1998.

## Compliance with Public Sector Standards

The Commissioner for Public Sector Standards released a report on Compliance with Standards 1996-97 within the Western Australian Public Sector. Of the 28 public sector bodies that had an independent compliance review, this Department was one that met all the standards. The Department had five Applications for Breach of Standard (Recruitment and Selection Standard) received and no breaches were established. This compared well with the average of 25% of breaches established in the 28 bodies reviewed. In 1997-98, the Department continued to meet public sector standards.

*Statement of Compliance with Public Sector Standards, 1997-98*

1. In the administration of the Department of Minerals and Energy I have complied with the Public Sector Standards in Human Resource Management and the Western Australian Public Sector Code of Ethics.
2. I have put in place procedures designed to ensure such compliance and conducted appropriate internal assessments to satisfy myself that the statement made in statement 1 is correct.
3. The applications made for breach of standards review and the corresponding outcomes for the reporting period are:
  - Number lodged: Three
  - Number of breaches found: Nil
  - Number of breaches still under review: Nil

LC Ranford  
DIRECTOR GENERAL



## Equal Opportunity

A new Equal Employment Opportunity and Diversity Management Plan was developed to define and support the Department's commitment to the principles of equal employment opportunity and diversity. The structure and content of the Management Plan were developed in the context of a review of the Department's performance in relation to EEO and diversity, carried out in late 1996. An EEO and Diversity Steering Committee, chaired by the Director General, was established to work through the review and to prepare the Management Plan and an Implementation Strategy.

## Occupational Safety and Health

New Occupational Safety and Health and Occupational Rehabilitation policies, including one for workers compensation, were implemented after a review of existing relevant policies.

User-friendly forms for reporting hazards, incidents, and accidents were introduced to promote and facilitate hazard reporting. The drive for continuing improvement in occupational safety and health is focused through a departmental committee headed by the Director General which encourages a major contribution from employee Health and Safety Representatives.

## Workers Compensation

During the year there were 17 claims for workers compensation, all of which were accepted. This was an increase of three from the previous year.

The Workers Compensation frequency rate for the year was 3.22. The estimated cost of claims was \$0.25 per \$100 wage roll and the premium rate was 1.02 per cent.

## Disability Services Plan

The Department's Disability Services Plan has been in place since 1 January 1996.

The Department continues to customise its services as needs are identified to ensure that people with disabilities can access our services.

Experience gained since the implementation of the Disability Services Plan supports this approach, which can be managed within existing arrangements.

A contact number for the Department's Teletype Relay Service (TTY) is included in the Department's Customer Service Charter, and all new DME customer publications.

A door alarm has been provided to improve disabled access to the Kalgoorlie Regional office of the Mining Operations Division.

The Department's "on hold" telephone message has been modified to include information to assist disabled customers.

## Risk Management

*Statement of Compliance with Treasurer's Instruction 109*

The Department considers that the requirements of Treasurer's Instruction 109 have been met by way of integrating risk management policy, objectives, and procedures into the existing organisational structure.

LC Ranford  
DIRECTOR GENERAL



External consultants were employed by the Department to complete a comprehensive and detailed risk management assessment applying the principles contained in the Australian Standards on Risk Management AS/NZ4360.

Risk consequence was assessed against a scale expressed both in terms of dollars and in term of loss of reputation of the Department.

As a result of this project the Department has:

- developed and issued a policy statement on risk management;
- prepared divisional, property and whole-of-organisation risk management manuals;
- complied with Treasurer's Instruction 109; and
- developed implementation and responsibilities plans.

### Year 2000 Project

The Department has introduced a comprehensive program to ensure it is in a good position to ensure that it is Year 2000 compliant by 31 December 1998.

Good progress was made with the program to minimise the risk to Government, industry, and the community of potential failure of the Department's critical services because of the Year 2000 problem.

In July 1997 a team of two began full-time work on the project. Since that time more than 50 staff and contractors have assisted in the project.

Key elements completed during the year were:

- compilation of an inventory of items likely to be affected by the Year 2000 date change, with priorities and compliance targets;
- implementation of policies for the purchase of Year 2000 compliant goods and services;
- specification, installation, and testing of a dedicated Year 2000 test environment that mirrors the functionality of the Department's mainframe and local area network environment;
- assessment of compliance of most items (the Department has more than 800 PCs and more

than 500 different items to be considered from GPS unit to cameras and building security systems);

- completion of all planned remediation on corporate information systems; and
- developing test plans focusses on date functionality for commencement on 15 July 1998.

### Expenditure related to advertising and Market Research Organisations

This report is made in compliance with Section 175ZE of the Electoral Act 1907

During 1997-98 the Department expended a total of \$502,327 with advertising and market research organisations, dispersed as given below.

<i>Advertising agencies</i>	\$478,272
Marketforce Productions	e.g. Native Title advertising, positions vacant
Media Decisions WA	e.g. Red FM safety campaign
<i>Market research organisations</i>	\$24,055
A C Nielsen	Survey of community confidence in management of dangerous goods
Polling organisations	Nil
Direct mail organisations	Under the specified amount

### Program Evaluation

#### *Evaluations Conducted In 1997-98*

The evaluation of the safety component of Sub-program 1.2 Mining Operations, which commenced in 1996-97, was completed during 1997-98. An evaluation of the environment component of this Sub-program was conducted in place of a proposed review of Sub-program 1.3 on Petroleum Industry Management.



Activity	Key results	Actions
Mining Operations Sub-Program	<p><b>Safety</b></p> <p>The evaluation report expressed concern over the ability of the Department to attract and maintain suitable staff, with emphasis on remuneration levels, personal attributes, and system auditing skills.</p> <p>The report reinforced the continued emphasis on safety systems management and placed emphasis on developing indicators for industry safety and agency effectiveness.</p> <p><b>Environment</b></p> <p>The evaluation identified areas for further clarification of roles between agencies and the reinforcement of relationships with other stakeholders.</p> <p>The report identified potential improvements in effectiveness through changes to the organisational structure and management, and has identified key issues for the medium term.</p>	<p>A new Work Place Agreement has been negotiated for highly specialised staff on contract that includes an industry comparison factor. Emphasis is being placed on communication and auditing skills in appointments and training.</p> <p>New measures are currently being developed with emphasis on the safety culture at mine sites, which is consistent with the recommendations of the <i>The Report on the Inquiry into Fatalities in the Western Australian Mining Industry</i>.</p> <p>Informal and formal communication channels have been strengthened and the roles and responsibilities of the Department of Minerals and Energy and the Department of Environmental Protection/Environmental Protection Authority have been clarified and information provided to industry.</p> <p>A separate Environment Branch has been established under a senior manager. A strategic plan has been developed incorporating a review of staffing levels, strategies for considering generic completion criteria, managing abandoned mine sites, and improving enforcement processes, and development of new performance indicators.</p>

**Evaluation Proposed for 1998-99**

**Activity**

Activities related to the petroleum sector for Departmental Outcomes 1-3:

- Optimum use of land and resources.
- Safe and healthy mineral and petroleum industry workforce.
- Acceptable environmental standards for mineral and petroleum exploration, development, production, and project completion.

**Evaluation objective**

To evaluate the roles and responsibilities of the Department of Minerals and Energy with respect to the petroleum industry in State and Commonwealth jurisdictions.

**Geocentric Datum 94**

The Geocentric Datum of Australia (GDA) project involves adoption of a new internationally compatible geographic coordinate system that will be introduced throughout Australia in the year 2000.

It will have a significant impact on many of the spatial data products and services of the Department as any location on the ground has different coordinates

(expressed in latitude and longitude) when described using the current Australian Geodetic Datum (AGD) than when using the proposed GDA system. A grid point in Western Australia described in GDA, such as 28 degrees South and 114 degrees East GDA, is located on the ground about 200 metres northeast of the ground location of the grid point with the same coordinates on the AGD grid.

All coordinates on computer systems and printed products such as TENGRAPH will need to be converted to GDA or identified by appropriate stamps and labelling as being mapped in the old AGD system.

Many mineral and petroleum titles are defined by "graticules", blocks with one or five minute sides. The minute lines of latitude and longitude in the new GDA system will be describing graticular blocks in a different position on the earth than those on the old system. Hence, there is potential for "gaps" and "overlaps" between titles drawn in the different systems.

Transitional arrangements are being made to deal with title applications made after the introduction of GDA, although the on-ground positions of existing mineral and petroleum titles will not be affected and their co-ordinates will merely be redescribed.

## Corporate Planning and Review

Corporate planning activities took place in the context of a newly appointed Director General and significant changes to the public sector. The focus was on developing a more strategic view across the organisation.

A Corporate Statement was developed, with staff input to establish a new framework and direction involving new vision, mission, context statements, plus a statement of values, and corporate objectives.

The Department is being managed as a conglomerate with separate business units within a single organisation. Strategic business unit plans were developed consistent

with the over-arching vision and mission, values and corporate objectives. The planning process focussed on identifying and re-assessing assumptions, developing a common understanding between upper and mid-level management and the Corporate Directorate, and linking corporate service plans to business plans.

An Outcome-Output model was developed for the Department in line with Treasury requirements and some changes were made to accounting codes to accommodate better costing. A comparison between the year's Program structure and the new Outcome-Output approach is shown below.

PROGRAM STRUCTURE	OUTCOME-OUTPUT STRUCTURE
<p><b>Program 1.0 Industry and Resources Management</b></p> <p>Sub-program 1.1: Mineral Titles</p> <p>Sub-program 1.2: Mining Operations</p> <p>Sub-program 1.3: Petroleum Industry Management</p> <p>Sub-program 1.4: Mineral and Petroleum Royalties</p> <p>Sub-program 1.5: Dangerous Goods Management</p> <p><b>Program 2.0 Industry Support</b></p> <p>Sub-program 2.1: Geological Survey</p> <p>Sub-program 2.2: Mineral Processing Laboratory</p>	<p><b>Outcome 1:</b> Optimum use of land and resources</p> <p>Output 1: A system for the grant and maintenance of titles to explore for and mine minerals.</p> <p>Output 2: A system for the grant and maintenance of titles to explore for and produce petroleum.</p> <p>Output 3: A geological framework of the State and its resources.</p> <p>Output 4: An archive of geoscientific and resource exploration data.</p> <p>Output 5: Mineral processing, test-work, project and consultancy services.</p> <p><b>Outcome 2:</b> Safe and healthy mineral and petroleum industry workforce.</p> <p>Output 1: A system for regulating and promoting health and safety in the mineral industry.</p> <p>Output 2: A system for regulating and promoting health and safety in the petroleum industry.</p> <p><b>Outcome 3:</b> Acceptable environmental standards for mineral and petroleum exploration, development, production and project completion.</p> <p>Output 1: A system for regulating and promoting environmental management in the mineral industry.</p> <p>Output 2: A system for regulating and promoting environmental management in the petroleum industry.</p> <p><b>Outcome 4:</b> Appropriate returns to the community for the exploitation of its mineral and petroleum resources.</p> <p>Output 1: A system to establish royalty rates and ensure that appropriate royalties are paid when due.</p> <p><b>Outcome 5:</b> A community confident that it is safe from hazards associated with the storage, handling and transport of dangerous goods.</p> <p>Output 1: A system for regulating the storage, handling and transport of dangerous goods.</p>

A summary of program evaluations is on page 63

## Economic Policy and Statistics

Legislation was passed in State Parliament in April 1998 to introduce a royalty on gold. The royalty was a significant issue for the Department and considerable economic policy input was provided to Government by way of advice, forecasts, and options.

In addition, the policy for royalty relief was refined specifically to recognise problems identified by the gold industry regarding the introduction of the new royalty regime. An options paper on assistance for the gold industry was prepared for the Minister for Mines to

present to the Gold Round-table discussions in Canberra.

Other policy issues in 1997/98 included examining the royalty arrangements for vanadium, magnesite, and certain low-value commodities in response to company submissions. The Argyle diamond royalty issue was finalised and advice was prepared on two petroleum retention lease applications as part of the approval process.

The Policy Branch continued to coordinate the Department's response to the State's National Competition Policy objectives and to the State's international treaty considerations. A response was prepared for Treasury to input to the Commonwealth Grants Commission's 1999 review and submissions were examined for the Commonwealth Foreign Investment Review Board.

A study was completed for the Department on the implications for government revenue of trends in the well head system of petroleum royalties.

The biannual *Statistics Digest* publication was also published to the Department's web site to provide wider and more timely access to official statistical information about the State's mining and petroleum industry, including commentary on national and international context.

### **Corporate Communications**

A comprehensive corporate communications plan was introduced to define communications programs and projects, improve efficiency and effectiveness, and monitor progress towards objectives in a broad range of activities.

Emphasis was placed on building positive media relations and was supported by a media training program for key staff. This was supplemented by the introduction of an annual journalists' information session in Perth and distribution of a media handbook.

A new bimonthly external corporate newsletter was introduced to better inform external customers of the Department's activities.

The Department's Internet Home Page web site was upgraded to provide a more effective service for external customers. Preparations were advanced for the Corporate Communications Branch to take the

coordinating operational role in the Department's web publishing activities, including development of an Intranet to support improved internal information flows.

### **Human Resource Management**

Progress on significant changes in work practices within the Department in recent years was further bedded down in 1997/98.

The primary focus was directed towards employee development and awareness of behavioural and performance standards. Significant issues and challenges have included:

- EEO – see page 62;
- Occupational health and safety - see page 62;
- Public sector standards - see page 62;
- Management development; and
- Industrial, work, and family issues

#### *Management Development*

Following the introduction of "Stratified Systems Theory" as the Department's management style several years ago, the Department has adopted a management development strategy to ensure its success. This has been implemented through workshops, coaching, and external mentoring to support strategic workforce development and to assist managers reach their potential as leaders. The major instrument continues to be the Performance Enhancement System which has been designed to allocate tasks, measure performance, and reward staff who contribute to meeting organisational goals.

#### *Industrial, Work, and Family Issues*

Considerable effort went into workplace bargaining in 1997/98, with the third round of industrial agreements and fourth round of workplace agreements. In addition, a number of individual workplace agreements with unique conditions were registered.

The agreements introduced a number of work and family initiatives consistent with Government wages policy and staff needs and designed to improve productivity through flexibility.

A Peak Forum was established with representatives from unions and the Department to discuss reforms and monitor the initiatives in the Enterprise Bargaining

Agreements. The forum was instrumental in highlighting issues relating to the new initiatives to avert potential problems.

Human resource management policies in the Department were reviewed over the period to ensure they reflect Government policy and contemporary human resource management practices. In accordance with the new enterprise agreements, a number of new policies have been introduced.

### *Staffing*

The Department had a staff turnover of around 14% during 1997-98. This was a drop of 3.6% from the previous year. A separation of permanent and contract staff confirmed a decrease in turnover for each area, with permanent staff turnover down to 8.53%.

The movement towards short-term assignment employment continued to increase, with 104 (17%) contract workers among a total workforce of 608.

### **Facilities Management**

The Asset Management Branch worked towards achieving excellence in providing a safe, effective, and efficient physical working environment thus contributing to the success of the operations of the Department.

In doing so, policies, information systems, administrative procedures, and processes in the provision and management of the physical facilities of the Department were developed in consultation with clients, and by the application of the principles of continuous process improvement.

This ensured the provision of a functional and safe physical working environment and the effective and efficient use of the physical facilities.

Formalisation of the Branch structure and the development of a Branch Plan facilitated the delivery of services from external sources by clearly defining central agencies' and clients' requirements, and requiring staff to become expert in the specification, awarding, managing and evaluation of contracts for works, services and consultancies.

### *Energy Management*

Actions taken in the past in respect to energy management have resulted in annual savings of an estimated \$170 000.

The Department has reviewed its energy management practices and has developed a formal energy management policy.

### **Finance and Supply Services**

In order to prepare the organisation for full accrual-based financial management in 1999/2000, a comprehensive program of financial management courses began within the agency. The program includes a series of six one-day courses provided for front line managers and project/cost centre managers and two six-day executive certificate courses for senior managers and divisional finance/administration managers.

The Department is in the process of implementing new technology point-of-sale terminals in Perth and Kalgoorlie to streamline the operation, thus reducing the level of manual processing work involved in receiving payments.

The supply function has worked all year towards achieving Quality Certification to ensure that our supply practices and procedures are of the highest quality. Advice received before 30 June 1998 to year-end was that the agency had met all certification requirements and has been recommended for Quality Certification.

Work has progressed on the Department's electronic commerce initiative, with regard to electronic procurement. Final testing was under way at year-end and it is anticipated that the system will be fully operational early in 1998/99.

### **Information Systems and Services**

The Department outsourced many of its information technology services this year. The outsourcing contract, which began in October 1997, was the result of an 18-month intensive tendering and evaluation exercise conducted by a consortium of 10 Western Australian government agencies. A five-year contract was awarded to Computer Science Corporation Australia (CSC) to provide a range of IT services to the participating agencies.

Good progress has been achieved on the implementation of outsourcing arrangements with the transition of all contracted services to CSC. Further refinements will be made to the contracted service arrangements to enable an acceptable/competitive level of service to be delivered and formal conclusion of the transition phase.

Steady progress has been made in making the internal changes flowing-on from outsourcing.

Appropriate processes are being put in place to successfully manage risk exposures in information technology, including disasters such as fires and unsuccessful contractual arrangements.

During the year there was significant work on dial-in and the Internet-remote access facilities to a number of the Department's databases. This included testing the feasibility of remote access to the data-intensive graphics-based TENGRAPH system.

The Department's Information and Records Management Function successfully collaborated with a number of selected Western Australian agencies on the composition and submission of amendments to the Draft WA Public Records Management Act.

### **Internal Audit**

There was an acceleration of the trend away from compliance-based auditing to embrace the broader control environment during 1997-98. Lower risk audit work was contracted out to a private accounting firm while the Department pursued its traditional divisional audit program, IT control issues, and new initiatives. The new initiatives included participation of internal auditors of the MTD Information Centre Automation Committee, Risk Management consultancy, and Electronic Commerce projects.

# **Financial** Statements

<b>Certification of the Financial Statements</b>	<b>70</b>
<b>Opinion of the Auditor General</b>	<b>71</b>
<b>Operating Statement</b>	<b>73</b>
<b>Statement of Financial Position</b>	<b>74</b>
<b>Statement of Cash Flows</b>	<b>75</b>
<b>Program Schedule of Expenses and Revenues</b>	<b>76</b>
<b>Program Schedule of Assets and Liabilities</b>	<b>77</b>
<b>Summary of Consolidated Fund Appropriations and Revenue Estimates</b>	<b>78</b>
<b>Notes to the Financial Statements</b>	<b>80</b>

---

**Certification of Financial Statements**



The accompanying financial statements of the Department of Minerals and Energy have been prepared in compliance with the provisions of the *Financial Administration and Audit Act 1985* from proper accounts and records to present fairly the financial transactions for the year ended 30 June 1998 and financial position as at 30 June 1998.

At the date of signing we are not aware of any circumstances which would render the particulars included in the financial statements misleading or inaccurate.



L C Ranford  
Accountable officer



P H Palmer FCPA  
Principal Accounting Officer

14 August 1998



## Auditor General

To the Parliament of Western Australia

DEPARTMENT OF MINERALS AND ENERGY  
FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 1998

### Scope

I have audited the accounts and financial statements of the Department of Minerals and Energy for the year ended June 30, 1998 under the provisions of the Financial Administration and Audit Act 1985.

The Director General is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing and presenting the financial statements, and complying with the Act and other relevant written law. The primary responsibility for the detection, investigation and prevention of irregularities with the rest of the Director General.

My audit was performed in accordance with section 79 of the Act to form an opinion based on a reasonable level of assurance. The audit procedures including examining, on a test basis, the controls exercised by the Department to ensure financial regularity in accordance with legislative provisions, evidence to provide reasonable assurance that the amounts and other disclosures in the financial statements are free of material misstatement and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with applicable Accounting Standards, other mandatory professional reporting requirements (urgent Issues Group Consensus Views and the Treasurer's Instructions).

The audit opinion expressed below has been formed on the above basis.

### Audit Opinion

In my opinion,

- (i) the controls exercised by the Department of Minerals and Energy provide reasonable assurance that the receipt and expenditure of moneys and the acquisition and disposal of property and incurring of liabilities have been in accordance with legislative; and
- (ii) the Operating Statement, Statement of Financial Position, Statement of Cash Flows, Program Schedules and Summary of Consolidated Fund Appropriations and Revenue Estimates and the Notes to and forming part of the financial statements are based on proper accounts and present fairly in accordance with applicable Accounting Standards, other mandatory professional reporting requirements and the Treasurer's Instructions, the transactions for the year ended June 30, 1998 and the financial position at that date.

A handwritten signature in black ink, appearing to read 'D D R Pearson'.

D D R PEARSON  
AUDITOR GENERAL

October 5, 1998



## **Accounting**

The financial statements for the year ended 30 June 1998 have been prepared in accordance with the provisions of the Financial Administration and Audit Act 1985, Treasurer's Instructions issued pursuant thereto, and relevant accounting standards of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia, and other mandatory professional reporting requirements (Urgent Issues Group Consensus Views). To assist in comparisons with other Government Agencies they follow the format suggested in the appendices to the Treasurer's Instructions.

Mineral and petroleum royalties represent the bulk of revenue collections but, as they are administered revenues they are not integral to the Department in carrying out its functions, and are therefore disclosed in schedules to the financial statements forming part of the general purpose financial report of the Department.

## **Revenue**

### **Consolidated Fund**

During the financial year the Department was responsible for the collection of \$681 million through the Consolidated Fund (CF). Mineral and petroleum royalties collected from companies operating under State legislation comprised 87 per cent of this amount. Part of the revenue was also payments collected by the State on behalf of the Commonwealth for petroleum produced within Commonwealth waters. These receipts were subsequently paid to the Commonwealth by way of special purpose payments after payment into the Consolidated Fund.

In addition to royalties, the Department also collected lease and other rental charges (representing approximately 10.9 per cent of revenue), taxes and licences (approximately 1.5 per cent) and departmental revenue (approximately 0.2 per cent).

## **Expenditure**

### **Consolidated Fund**

Funds are appropriated by the Parliament through the Consolidated Fund to provide for recurrent services and capital expenditure.

## **Recurrent Services**

This appropriation includes provision for operating costs of the Department, refunds of revenue collected in previous years and payments to the Commonwealth. Payments to the Commonwealth are made under the provisions of the Petroleum (Submerged Lands) Act 1982 for the Commonwealth share of royalties received from offshore operations. The Commonwealth revenue has been collected by the State into the Consolidated Fund. Payments to the Commonwealth totalled \$14.87 million in the year, compared with \$16.91 million paid in the previous year.

## **Capital Expenditure**

During the year, \$2.18 million was provided for capital projects.

## **Financial Management**

The Department continued the development of its integrated new generation financial management information system (FMIS). Work included the development of electronic commerce.

## **Pricing Policy**

The Department generally adopts a full-cost-recovery user-pays approach in determining fees and charges for services provided to the public and industry. With some services, where there is considered to be an element of service to the general public, a nominal fee has been determined. However, this represents only a small fraction of services provided and has minimal impact on revenue. In other cases the data collected are considered to be a freely available resource for the public and for industry, but a charge is levied to cover the cost of supplying this data in user-friendly formats.

## **Royalty Policy**

The Department has a corporate objective of ensuring that the community receives a fair return for the extraction of non-renewable resources owned by the people of the State. The Department continually aims to develop royalty systems and collect royalties on time, economically and efficiently.

## Operating Statement for the year ended 30 June 1998

	Note	1997-98 (\$'000)	1996-97 (\$'000)
<b>COST OF SERVICES</b>			
Operating expenses			
Salaries	5	29 749	29 869
Superannuation	6	1 724	3 213
Depreciation	7	2 514	2 732
Administration expenses	8	24 941	24 564
Net loss on disposal of non-current assets	9	60	679
<b>Total cost of services</b>		58 988	61 057
Operating revenues			
User charges and fees	10	899	935
User charges and fees retained under a net appropriation agreement	10	981	1 006
Other revenues	11	131	222
		2 011	2 163
<b>Net Cost of Service before Abnormal Items</b>		56 977	58 894
Abnormal items	12	( 23)	798
<b>Net cost of services</b>		56 954	59 692
<b>REVENUES FROM GOVERNMENT</b>			
Appropriations	13	56 391	51 001
Receipts paid into Consolidated Fund	14	( 1 030)	( 1 218)
Resources received free of charge	15	924	3 224
Liabilities assumed by the Treasurer	16	1 724	3 213
<b>Total revenues from Government</b>		58 009	56 220
<b>INCREASE IN NET ASSETS ARISING FROM RESTRUCTURING</b>	17		13 277
<b>CHANGE IN NET ASSETS RESULTING FROM OPERATIONS</b>		1 055	( 3 472)
<b>CHANGE IN NET ASSETS</b>		1 055	9 805

## Statement of Financial Position as at 30 June 1998

	Note	1997-98 (\$'000)	1996-97 (\$'000)
<b>CURRENT ASSETS</b>			
Cash and amounts in suspense	18	5 119	1 511
Inventories	19	2 337	2 337
Accounts receivable	20	270	404
Prepayments	21	129	110
<b>Total current assets</b>		7 855	4 362
<b>NON-CURRENT ASSETS</b>			
Property, plant, equipment and vehicles	22	37 835	37 513
Works in progress	23	1 032	917
<b>Total non-current assets</b>		38 867	38 430
<b>Total assets</b>		46 722	42 792
<b>CURRENT LIABILITIES</b>			
Accounts payable	24	2 587	1 490
Accrued Salaries	25	307	395
Employee Entitlements	26	4 742	5 077
Treasurer's advances	27	-	20
<b>Total current liabilities</b>		7 636	6 982
<b>NON-CURRENT LIABILITIES</b>			
Employee Entitlements	26	2 946	2 774
<b>Total non-current liabilities</b>		2 946	2 774
<b>Total liabilities</b>		10 582	9 756
<b>EQUITY</b>			
Accumulated surplus/ (deficiency)	28	14 254	12 804
Asset revaluation reserve		21 886	20 232
<b>Total equity</b>		36 140	33 036
<b>Total liabilities and equity</b>		46 722	42 792

## Statement of Cash Flows for the year ended 30 June 1998

	Note	1997-98 (\$'000) Inflows (Outflows)	1996-97 (\$'000) Inflows (Outflows)
<b>CASH FLOWS FROM GOVERNMENT</b>			
Receipts from capital appropriations		2 130	1 800
Receipts from recurrent appropriations		54 261	49 201
Receipts paid to Consolidated Fund		( 1 030)	( 1 218)
Repayment of Treasurer's Advance		( 20)	
Net cash provided by government		55 341	49 783
Utilised as follows:			
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Payments			
Salaries and related costs		( 29 030)	( 28 457)
Administration		( 23 731)	( 20 728)
Receipts			
User charges and fees and other revenues		1 030	1 218
Receipts in Suspense		7	39
User charges and fees retained under a net appropriation agreement		1 003	994
Net cash used in operating activities	30	( 50 721)	( 46 934)
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Payments for purchase of non-current assets		( 1 058)	( 1 568)
User charges and fees retained under a net appropriation agreement		46	12
Net cash used in investing activities		( 1 012)	( 1 556)
<b>TOTAL OF CASH FLOWS FROM OPERATING &amp; INVESTING ACTIVITIES</b>		( 51 733)	( 48 490)
<b>Net increase in cash held</b>		3 608	1 293
Cash at the beginning of the reporting period		1 511	218
<b>Cash at the end of the reporting period</b>	31	5 119	1 511

**Program Schedule of Expenses and Revenues for the year ended 30 June 1998**

PROGRAM	INDUSTRY AND RESOURCES MANAGEMENT		INDUSTRY SUPPORT		GENERAL NOT ATTRIBUTED		TOTAL	
	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Operating expenses								
Salaries	14 765	15 154	7 975	7 321	7 009	7 394	29 749	29 869
Superannuation	842	1 616	474	849	408	748	1 724	3 213
Administration Expenses	7 296	9 755	6 408	4 490	11 237	10 319	24 941	24 564
Depreciation	1 050	843	469	354	995	1 535	2 514	2 732
Net loss on disposal of non-current asset	28	30	( 4)	31	36	618	60	679
<b>Total cost of service</b>	<b>23 981</b>	<b>27 398</b>	<b>15 322</b>	<b>13 045</b>	<b>19 685</b>	<b>20 614</b>	<b>58 988</b>	<b>61 057</b>
Operating revenues								
Users' Fees & Charges & Other Revenues	586	588	313	327	131	242	1030	1 157
Users' Fees & Charges under Net Appropriation			981	1 006			981	1 006
<b>Total revenue from services</b>	<b>586</b>	<b>588</b>	<b>1 294</b>	<b>1 333</b>	<b>131</b>	<b>242</b>	<b>2 011</b>	<b>2 163</b>
<b>Net Cost of services before abnormal items</b>	<b>23 395</b>	<b>26 810</b>	<b>14 028</b>	<b>11 712</b>	<b>19 554</b>	<b>20 372</b>	<b>56 977</b>	<b>58 894</b>
Abnormal items	( 22)	473	( 32)	287	31	38	( 23)	798
<b>Net cost of service</b>	<b>23 373</b>	<b>27 283</b>	<b>13 996</b>	<b>11 999</b>	<b>19 585</b>	<b>20 410</b>	<b>56 954</b>	<b>59 692</b>
Revenues from Government								
Appropriations	26 806	23 215	14 464	11 663	15 121	16 123	56 391	51 001
Receipts paid into Consolidated Fund	( 634)	( 590)	( 295)	( 386)	( 101)	( 242)	( 1 030)	( 1 218)
Resources received free of charge	840	3 100			84	124	924	3 224
Liabilities assumed by the Treasurer	842	1 616	474	849	408	748	1 724	3 213
<b>Total revenues from Government</b>	<b>27 854</b>	<b>27 341</b>	<b>14 643</b>	<b>12 126</b>	<b>15 512</b>	<b>16 753</b>	<b>58 009</b>	<b>56 220</b>
INCREASE IN NET ASSETS ARISING FROM RESTRUCTURING				13 277			0	13 277
CHANGE IN NET ASSETS RESULTING FROM OPERATIONS	4 481	58	647	127	( 4 073)	( 3 657)	1 055	( 3 472)
<b>CHANGE IN NET ASSETS</b>	<b>4 481</b>	<b>58</b>	<b>647</b>	<b>13 404</b>	<b>( 4 073)</b>	<b>( 3 657)</b>	<b>1 055</b>	<b>9 805</b>

**Program Schedule of Assets and Liabilities as at 30 June 1998**

PROGRAM	INDUSTRY AND RESOURCES MANAGEMENT		INDUSTRY SUPPORT		GENERAL NOT ATTRIBUTED		TOTAL	
	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>Assets</b>								
Current								
Cash & Amounts in Suspense	1 630	472	2 135	607	1 354	432	5 119	1 511
Inventories	19	19	2 318	2 318			2 337	2 337
Accounts Receivable	125	223	145	181			270	404
Prepayments	9	13		6	120	91	129	110
<b>Total Current Assets</b>	<b>1 783</b>	<b>727</b>	<b>4 598</b>	<b>3 112</b>	<b>1 474</b>	<b>523</b>	<b>7 855</b>	<b>4 362</b>
Non-current								
Property Plant & Equipment	1 897	2 648	852	1 033	35 086	33 832	37 835	37 513
Works in Progress	894	837	138	80			1 032	917
<b>Total Non-Current Assets</b>	<b>2 791</b>	<b>3 485</b>	<b>990</b>	<b>1 113</b>	<b>35 086</b>	<b>33 832</b>	<b>38 867</b>	<b>38 430</b>
<b>Total assets</b>	<b>4 574</b>	<b>4 212</b>	<b>5 588</b>	<b>4 225</b>	<b>36 560</b>	<b>34 355</b>	<b>46 722</b>	<b>42 792</b>
<b>Liabilities</b>								
Current								
Accrued Salaries	162	240	86	107	59	48	307	395
Accounts Payable	568	528	998	363	1 021	599	2 587	1 490
Employee Entitlements	2 538	2 606	869	1 000	1 335	1 471	4 742	5 077
Treasurer's Advances						20	0	20
<b>Total Current Liabilities</b>	<b>3 268</b>	<b>3 374</b>	<b>1 953</b>	<b>1 470</b>	<b>2 415</b>	<b>2 138</b>	<b>7 636</b>	<b>6 982</b>
Non-current								
<b>Total Non-Current Liabilities</b>	<b>1 472</b>	<b>1 461</b>	<b>774</b>	<b>687</b>	<b>700</b>	<b>626</b>	<b>2 946</b>	<b>2 774</b>
<b>Total Liabilities</b>	<b>4 740</b>	<b>4 835</b>	<b>2 727</b>	<b>2 157</b>	<b>3 115</b>	<b>2 764</b>	<b>10 582</b>	<b>9 756</b>
<b>Net assets</b>	<b>( 166)</b>	<b>( 623)</b>	<b>2 861</b>	<b>2 068</b>	<b>33 445</b>	<b>31 591</b>	<b>36 140</b>	<b>33 036</b>

# Summary of Consolidated Fund Appropriations and Revenue Estimates

for the year ended 30 June 1998

	1997-98			1996-97		
	Estimate \$	Actual \$	Variation \$	Estimate \$	Actual \$	Variation \$
<i>Details of Appropriation Items and Expenditures Authorised by Other Statutes</i>						
Amount required for Recurrent Services for the year	50 698 000	55 106 589	4 408 589	48 239 000	50 036 901	1 797 901
Less Retained Revenue	1 025 000	1 002 963	22 037	1 005 000	994 495	10 505
Item 147 Amount provided for Recurrent Services for the year	49 673 000	54 103 626	4 430 626	47 234 000	49 042 406	1 808 406
Amount Authorised by Other Statutes						
- Salaries and Allowances Act 1975	158 000	158 000	0	147 000	170 818	23 818
- Petroleum (Submerged Lands) Act 1982	12 300 000	14 874 449	2 574 449	12 200 000	16 906 413	4 706 413
Total Recurrent Services	62 131 000	69 136 075	7 005 075	59 581 000	66 119 637	6 538 637
Amount required for Capital Services for the year	2 205 000	2 176 033	( 28 967)	1 370 000	1 799 751	429 751
Less Retained Revenue	75 000	46 033	28 967	65 000	11 751	53 249
Item 230 Amount provided for capital services for the year	2 130 000	2 130 000	0	1 305 000	1 788 000	483 000
<b>Grand Total</b>	<b>64 261 000</b>	<b>71 266 075</b>	<b>7 005 075</b>	<b>60 886 000</b>	<b>67 907 637</b>	<b>7 021 637</b>
<i>Details of Expenditure</i>						
<b>RECURRENT</b>						
Corporate Services	220 000	220 000	0	220 000	220 000	0
Refunds of Revenue	1 960 000	3 686 705	1 726 705	1 960 000	3 686 032	1 726 032
Aboriginal Lands Trust	155 000	150 508	( 4 492)			
<b>Programs</b>						
Industry and Resources Management	30 601 000	31 277 974	676 974	30 146 000	30 681 610	535 610
Sub-Program details:						
Mineral Titles	14 821 000	14 839 256	18 256	13 880 000	15 722 045	1 842 045
Mining Operations	9 740 000	10 228 503	488 503	10 000 000	9 500 039	( 499 961)
Petroleum Industry Management	3 190 000	3 143 798	( 46 202)	3 150 000	2 601 314	( 548 686)
Mineral and Petroleum Royalties	870 000	945 975	75 975	766 000	830 931	64 931
Dangerous Goods Management	1 980 000	2 120 442	140 442	2 350 000	2 027 281	( 322 719)
Industry Support	17 920 000	17 729 515	( 190 485)	16 060 000	15 120 062	( 939 938)
Sub-Program details:						
Geological Survey	16 690 000	16 535 372	( 154 628)	14 850 000	13 743 437	(1 106 563)
Mineral Processing Laboratory	1 230 000	1 194 143	( 35 857)	1 210 000	1 376 625	166 625
Less Retained Revenues Recurrent	1 025 000	1 002 963	22 037	1 005 000	994 495	10 505
Recurrent Services	49 831 000	52 061 739	2 230 739	47 381 000	48 713 209	1 332 209
Transfer to Operating Trust Account ( Unexpended Appropriation)		2 699 902	2 699 902		500 015	500 015
Less Carry-over from 1996/97		500 015	( 500 015)			
Total Recurrent Services	49 831 000	54 261 626	4 430 626	47 381 000	49 213 224	1 832 224
<b>CAPITAL</b>						
Capital Services	2 205 000	1 049 449	(1 155 551)	1 370 000	1 567 766	197 766
Less Retained Revenues Capital	75 000	46 033	28 967	65 000	11 751	53 249
Transfer to Operating Account (Unexpended Appropriation)		1 358 569	1 358 569		231 985	231 985
Less Carryover From 1996/97		231 985	( 231 985)			
Total Capital Services	2 130 000	2 130 000	0	1 305 000	1 788 000	483 000
Appropriations per operating statement	51 961 000	56 391 626	4 430 626	48 686 000	51 001 224	2 315 224
Appropriations for administered expenses	12 300 000	14 874 449	2 574 449	12 200 000	16 906 413	4 706 413
<b>GRAND TOTAL OF APPROPRIATIONS</b>	<b>64 261 000</b>	<b>71 266 075</b>	<b>7 005 075</b>	<b>60 886 000</b>	<b>67 907 637</b>	<b>7 021 637</b>

	1997-98			1996-97		
	Estimate	Actual	Variation	Estimate	Actual	Variation
	\$	\$	\$	\$	\$	\$
<i>Details of Revenue Estimates</i>						
<b>Revenues Disclosed as Operating Revenues</b>						
Departmental	900 000	1 104 987	204 987	1 241 000	1 217 966	( 23 034)
	900 000	1 104 987	204 987	1 241 000	1 217 966	( 23 034)
<b>Revenues Disclosed as Administered Revenues</b>						
<b>Business</b>						
Petroleum Permits and Licences	3 700 000	5 846 381	2 146 381	3 643 000	3 824 569	181,569
Prospecting Exploration and Other Mining Licences	3 400 000	3 335 177	( 64 823)	3 156 000	3 871 576	715 576
Explosives & Dangerous Goods Regulations	1 000 000	1 064 461	64 461	1 012 000	1 055 195	43 195
	8 100 000	10 246 019	2 146 019	7 811 000	8 751 340	940 340
<b>Mining</b>						
<b>Royalties:</b>						
Iron Ore	178 000 000	197 744 007	19 744 007	174 500 000	161 908 466	(12 591 534)
Petroleum	223 000 000	247 403 490	24 403 490	221 000 000	229 746 771	8 746 771
Alumina	31 500 000	36 205 237	4 705 237	38 500 000	33 622 840	(4 877 160)
Diamonds	35 500 000	40 086 339	4 586 339	32 500 000	35 266 731	2 766 731
Mineral Sands	27 000 000	21 594 522	(5 405 478)	21 500 000	20 936 711	( 563 289)
Nickel	29 000 000	22 853 615	(6 146 385)	27 500 000	24 659 213	(2 840 787)
Gold	19 000 000		(19 000 000)			
Other	28 500 000	29 507 498	1 007 498	33 500 000	29 769 372	(3 730 628)
Lease and Other Rentals	67 000 000	74 050 736	7 050 736	67 000 000	71 622 218	4 622 218
	638 500 000	669 445 444	30 945 444	616 000 000	607 532 322	(8 467 678)
<b>TOTAL REVENUE ESTIMATES</b>	<b>647 500 000</b>	<b>680 796 450</b>	<b>33 296 450</b>	<b>625 052 000</b>	<b>617 501 628</b>	<b>(7 550 372)</b>

Explanations of variations between the current year estimates and actual results compared with the immediately preceding year, are set out in note 34



## I Departmental mission and funding

The Department's mission is to develop policy, information systems, a legislative framework and administrative processes for the Western Australian mineral, petroleum and dangerous goods industries in order to:

- enhance and promote the prospectivity of WA;
- facilitate access to land;
- meet community standards in the management of risk to people and the environment; and
- ensure the community receives appropriate benefits from the extraction of its resources.

The Department is predominantly funded by Parliamentary appropriation. A net appropriation agreement between the Treasurer and the Accountable Officer is in place to allow the Mineral Processing Laboratory (MPL) to retain its revenue. Details of expenditure and revenues retained as per the agreement are as follows:

MPL Gross Expenditure	- Recurrent	\$1,194,143
	- Capital	\$46,033
		\$1,240,176
Revenues Retained		\$1,048,996
MPL net expenditure against appropriation		\$191,180

The financial statements encompass all funds through which the Department controls resources to carry on its functions. In the process of reporting on the Department as a single entity, all intra-entity transactions and balances have been eliminated.

## 2 Significant accounting policies

### (a) General Statement

The financial statements constitute a general purpose financial report which has been prepared in accordance with Australian Accounting Standards and UIG Consensus Views as applied by the Treasurer's Instructions. Several of these are modified by the Treasurer's Instructions to vary the application, disclosure, format and wording. The Financial Administration and Audit Act and the Treasurer's Instructions are legislative provisions governing the preparation of financial statements and take precedence over Australian Accounting Standards and UIG Consensus Views. The modifications are intended to fulfil the requirements of general application to the public sector together with the need for greater disclosure and also to satisfy accountability requirements.

If any such modification has a material or significant financial effect upon the reported results, details of that modification and, where practicable, the resulting financial effect is disclosed in individual notes to these financial statements.

### (b) Basis of accounting

The financial statements have been prepared in accordance with Australian Accounting Standard AAS29 as modified by Treasurer's Instruction 1101A.

The totals of user charges (being fees for services rendered by the Department that are not regulatory in nature), recoups, reimbursements and proceeds from the sale of assets controlled by the Department are included as operating revenues of the Department notwithstanding that the amounts or parts thereof are required to be paid directly into the Consolidated Fund and are not controlled by the Department in the sense of being retained by the Department through a net appropriation or otherwise. Inclusion of these amounts in operating revenues discloses a more accurate cost of services, which would not otherwise be disclosed. If the provisions of AAS29 had been followed and only user charges and fees retained by the Department (under a net appropriation agreement treated as operating revenues) the net cost of services would have been reported as \$57.984m.

The financial statements have been prepared on the accrual basis of accounting using the historical cost convention, with the exception that certain non-current physical assets have been introduced at written down current cost as at 30 June 1995. Additions to non-current physical assets since valuation are stated at cost.

Administered assets, liabilities, expenses and revenues are not integral to the Department in carrying out its functions and are disclosed in schedules to the financial statements, forming part of the general purpose

financial report of the Department. The administered items are disclosed on the same basis as is described above for the financial statements of the Department. The administered assets, liabilities, expenses and revenues are those which the Government requires the Department to administer on its behalf. The assets do not render any service potential or future economic benefits to the Department, the liabilities do not require the future sacrifice of service potential or future economic benefits of the Department, and the expenses and revenues are not attributable to the Department. As the administered assets, liabilities, expenses and revenues are not recognised in the principal financial statements of the Department, the disclosure requirements of Australian Accounting Standard AAS33, Presentation and Disclosure of Financial Instruments, are not applied to administered transactions.

(c) Appropriations

Appropriations in the nature of revenue, whether recurrent or capital, are recognised as revenues in the period in which the Department gains control of the appropriated funds. The Department gains control of appropriated funds at the time those funds are deposited into the Department's bank account.

(d) Operating Accounts

This is the first financial year in which the Department has operated through an individual operating account. Amounts appropriated are deposited into the account and any revenues which are the subject of net appropriation determinations are also deposited into the account. Revenues not subject to net appropriation determinations are deposited into the Consolidated Fund. All payments of the Department are made from the Operating Account.

In previous years the Department has operated directly from the Consolidated Fund.

(e) Employee entitlements

1. Annual leave

The provision for annual leave represents the amount which the Department has a present obligation to pay resulting from employees' services provided up to balance date. The provision has been calculated at current remuneration rates and includes related on-costs.

2. Long Service Leave

The liability for employee entitlements to long service leave represents the present value of the estimated future cash outflows to be made by the employer resulting from employees' services provided up to balance date.

Liability for long service leave which is not expected to be settled within twelve months is discounted using the rates attaching to national government securities at balance date, which most closely match the terms of maturity of the related liabilities.

In determining the liability for long service leave, consideration has been given to future increases in salary rates and the Department's experience with staff departures. Related on-costs have also been included in the liability.

3. Sick leave

Experience indicates that on average sick leave paid during the reporting period is equal to the amount due and no liability for non-vesting sick leave exists.

4. Superannuation

Staff may contribute to the Superannuation and Family Benefits Act Scheme (a pension scheme now closed to new members), or to the Gold State Superannuation Scheme (a lump sum scheme now also closed to new members), which are both defined benefits schemes. All staff who do not contribute to either of these schemes become non-contributory members of the West State Superannuation Scheme, an accumulation fund complying with the Commonwealth Government's Superannuation Guarantee (Administration) Act 1992. The employer's portion of liability for all schemes is assumed by the Treasurer.

The superannuation expense comprises the following elements:

- (i) change in the unfunded employer's liability in respect of current employees who are members of the Superannuation and Family Benefits Act Scheme and current employees who accrued a benefit on transfer from that Scheme to the Gold State Superannuation Scheme; and

(ii) notional employer contributions which would have been paid to the Gold State Superannuation Scheme and the West State Superannuation Scheme if the Department had made concurrent employer contributions to those Schemes.

(The superannuation expense does not include payment of pensions to retirees as this does not constitute part of the cost of services provided by the Department in the current year. The total unfunded liability for pensions and transfer benefits assumed by the Treasurer at 30 June 1998 in respect of current employees is \$9.328m [1997 \$10.086m]).

(f) Property, Plant, Equipment and Vehicles.

1. Acquisition

Items of property, plant, equipment and vehicles are recorded at cost and depreciated as outlined below. The Department controls approximately 100 Crown Reserves throughout the State. The majority are decommissioned explosives reserves.

They have been brought to account under the asset category of land. A large number have negligible future economic value and will be relinquished in due course.

2. Revaluations

Certain non-current assets have been revalued from time to time as disclosed in the financial statements.

Increments of \$2.354m on land have been taken to assets revaluation reserve. Decrements of \$0.699m on improvements have been offset against previous increments relating to the same class of assets.

Other assets are recognised at cost.

Land and buildings which comprise some 90% of the total value held are based on Integrity 3 (kerbside) valuations by the Valuer General. The remainder are mainly decommissioned explosive reserves, having negligible future economic value and have been based on Integrity 1 and 2 "desktop" valuations.

All properties are held on the government property register at these valuations.

Government has directed the Valuer General's office that over each three-year period every property particularly those with improvements will be valued to an Integrity 3 level.

All other items of property, plant, equipment and vehicles are carried at the lower of cost, less accumulated depreciation, and recoverable amount.

3. Depreciation of non-current assets

All non-current assets having a limited useful life are to be systematically depreciated over their useful lives in a manner which reflects the consumption of their service potential.

Depreciation is to be provided as follows:

Buildings	50	years	Straight Line Method		
Furniture	10	"	"	"	"
Office Equipment	5	"	"	"	"
Computer Equipment	5	"	Diminishing Value Method		
Computer Software	3-5	"	Straight Line Method on written down value		

These rates are reviewed annually.

Motor Vehicles are not depreciated. As the Department is exempt from sales tax, experience has indicated that the resale value returns an amount approximately equivalent to the purchase price.

Proprietary computer software is not capitalised as it is not owned by the Department. The Department merely pays for a licence to use it. However, in-house developed software is capitalised and hence depreciated over a period of three to five years (depending on the assessed useful life) once full costs have been determined.

(g) Valuation of Inventories

All inventories brought to account are chargeable publications, as are maps produced by the organisation. They are generally valued on the basis of the selling price which in turn approximately equates to the marginal cost of publishing the end product.

Inventories are carried at the lower of cost and net realisable value. Cost is based on the first in first out principle. Net realisable value is determined on the basis of average demand over recent years.

In accordance with national policy under the National Geoscience Mapping Accord (NGMA) maps older than 20 years are systematically written off. The value of maps younger than 20 years is in turn reduced to 80%, 50% and 20% of their original selling value dependent on average demand over recent years.

(h) Leases

The Department has entered into an operating lease arrangement for motor vehicles where the lessor effectively retains all of the risks and benefits incident to ownership of the items held under the operating lease. Equal instalments of the lease payments are charged to the operating statement over the lease term as this is representative of the pattern of benefits to be derived from the leased property.

(i) Accounts Receivable, Accounts Payable and Accrued Salaries

Accounts Receivable generally settled within 30 days are carried at amount due.

No provision for doubtful debts made as all outstanding debts considered recoverable.

A debt will only be considered bad once all avenues of collection have been exhausted. Bad debts are written off in the period in which they are identified. Previous write offs have been of small values and therefore based on materiality no provision has been warranted.

Accrued salaries suspense account consists of amounts paid annually into a suspense account over a period of 10 financial years to largely meet the additional cash outflow in each eleventh year when 27 pay days occur in that year instead of the normal 26. No interest is received on this account.

Accounts Payable, including accruals not yet billed, are recognised when the Department becomes obliged to make future payments as a result of a purchase of goods or services. Accounts payable are generally settled within 30 days.

Accrued salaries represent the amount due to staff but unpaid at the end of the financial year as the end of the last pay period for that financial year does not coincide with the end of the financial year. The Department considers the carrying amount approximates net fair value.

(j) Net Fair Values of Financial Assets and Liabilities

Net fair values of financial instruments are determined on the following basis:

- Monetary Financial assets and liabilities not traded in an organised financial market i.e. accounts receivable, accounts payable and accruals - cost basis (this approximates net market value).
- Leave liabilities - current market rate adjusted for risk.

(k) Comparative Figures

Some adjustments have been made to classifications this year to reflect more appropriately certain categories of transactions. As a result, comparative figures shown in these statements are not directly comparable with figures shown in last year's financial statements.

### 3 Changes in accounting policy

In previous years, a provision for accrued payroll was made in Accrued Salaries Suspense account (current asset) and Accrued Salaries (current liability) to meet, in the year 2004/5, the likelihood of 27 pay fortnights. An amount equivalent to accrued payroll working days was remitted to Treasury.

A change in accounting treatment now makes a provision only in the Accrued Salaries Suspense account. Accrued salaries now only accounts for accrued payroll at year end and is cleared in the following financial year.

Adjustments have been made to accumulated surplus and Accrued Salaries to reflect the new accounting procedures (\$0.395m).

**4 Programs of the Department**

The programs of the Department and their objectives are:

**Program 1 - Industry and Resources Management**

Objective: To ensure that the State's mineral, petroleum and dangerous goods industry sectors are managed for the benefit of the people of Western Australia.

**Program 2 - Industry Support**

Objective: To increase the rate of discovery and development of the State's mineral and petroleum resources through the provision of comprehensive information about the geology and the mineral and petroleum resources of Western Australia, and of specialised mineral processing research and testing facilities.

In addition, the objective of Corporate Services is to assist the Department in using its human, financial and other resources effectively and efficiently to provide a service responsive to the needs of the community, industry and government.

Corporate support is provided from the following areas:

- Executive
- Finance and Administration
- Human Resources
- Internal Audit
- Computing and Record Services
- Public Affairs
- Policy and Planning.

	1997-98 (\$'000)	1996-97 (\$'000)
<b>5 Salaries</b>		
Salaries	29 837	28 959
Change in employee entitlements	( 88)	910
	29 749	29 869
<b>6 Superannuation</b>		
Total expense for the year	1 724	3 213
<b>7 Depreciation</b>		
Buildings	388	392
Computer software	286	286
Furniture	63	65
Office equipment	346	286
Computer equipment	1 431	1 703
	2 514	2 732
<b>8 Administration expenses</b>		
Expenses incurred during the year	23 698	20 927
Lease Payments	319	413
Resources received free of charge (see note 14)	924	3 224
	24 941	24 564
<b>9 Net loss on disposal of non-current assets</b>		
Office equipment	-	23
Computing equipment	60	656
	60	679
<b>10 User charges and fees</b>		
Explosives	314	323
Mineral Titles	186	172
Geological Survey	313	326
Mining Operations	64	79
Petroleum	22	35
Mineral Processing- net appropriation	981	1 006
	1 880	1 941

	1997-98 (\$'000)	1996-97 (\$'000)
<b>11 Other revenues</b>		
Administration	131	222
<b>12 Abnormal items</b>		
Inventory write-down	-	58
Asset adjustments	( 23)	740
	<u>( 23)</u>	<u>798</u>
<b>13 Appropriations</b>		
Consolidated fund		
Recurrent	54 103	49 030
Other Statutes - Salaries & Allowances	158	171
Capital	2 130	1 800
	<u>56 391</u>	<u>51 001</u>
<b>14 Receipts paid into Consolidated Fund</b>		
Departmental revenue:		
Explosives	(337)	(236)
Mineral Titles	(230)	(262)
Geological Survey	(295)	(384)
Mining Operations	(45)	(79)
Petroleum	(22)	(35)
Administration	(101)	(222)
	<u>(1030)</u>	<u>(1218)</u>
<b>15 Resources received free of charge</b>		
Administration Expenses	924	3 224
Resources received free of charge have been determined on the basis of the following estimates provided by agencies.		
Office of the Auditor General		
- audit services	75	75
Government Property Office		
- property management service	3	6
Department of Land Administration		
- land registration dealings, land information and products	840	3 100
Treasury Department		
- Banking and associated services	6	43
	<u>924</u>	<u>3 224</u>
<b>16 Liabilities assumed by the Treasurer</b>		
Superannuation	1 724	3 213
<b>17 Increase in net assets arising from restructuring</b>		
Transfer of MPL operations from Chemistry Centre	-	13 277
<b>18 Cash and amounts in suspense</b>		
Suspense Account	7	39
Cash on hand	-	20
Accrued salaries suspense account	702	395
Income Tax and GEHA	352	325
Operating account	4 058	732
	<u>5 119</u>	<u>1 511</u>

Accrued salaries suspense account is represented by a cash balance and is therefore equivalent to the net fair value.

	1997-98 (\$'000)	1996-97 (\$'000)
<b>19 Inventories</b>		
Geological Survey - Carlisle	2 318	2 318
Mining Titles	13	13
Petroleum	6	6
	2 337	2 337
<b>20 Accounts receivable</b>		
Accounts receivable for goods and services supplied	270	404
Less: provision for doubtful debts	-	-
	270	404
<p>The department does not have any significant exposure to any individual customer or counterparty.</p> <p>The department considers the carrying amount of accounts receivable approximates their net fair values.</p>		
<b>21 Prepayments</b>		
Prepayments	129	110
<p>Prepayments consist mainly of maintenance, subscriptions and membership (\$120 000) and prepaid salaries (\$9 000).</p>		
<b>22 Property, Plant, Equipment and Vehicles</b>		
Land - at valuation	16 493	14 022
Buildings- at Valuation	18 537	19 237
Accumulated depreciation	951	564
Buildings - at cost	156	246
Accumulated depreciation	5	6
Total Buildings	17 737	18 913
Furniture - at cost	833	761
Accumulated depreciation	487	417
Total Furniture	346	344
Office equipment - at cost	2 072	1 983
Accumulated depreciation	1 474	1 193
	598	790
Computer equipment - at cost	10 713	10 057
Accumulated depreciation	8 970	7 847
	1 743	2 210
Total Equipment	2 341	3 000
Computer Software - at cost	2 287	2 287
Accumulated depreciation	1 428	1 142
Total Computer Software	859	1 145
Vehicles - at cost	59	89
Total of Property, Plant, Equipment and Vehicles	37 835	37 513
<b>23 Works in progress</b>		
Mining Registrar/Magistrate Chamber - Meekatharra	672	642
State Drill Store - Carlisle	138	80
Kalgoorlie Explosives Reserve Roadwork	109	82
Mungarri Explosive Reserve	113	113
	1 032	917
<b>24 Accounts payable</b>		
Amounts payable for goods and services received	2 228	1 126
Income Tax and GEHA	352	352
Suspense Account	7	39
	2 587	1 490
<p>The department considers the carrying amounts of accounts payable approximates their net fair values.</p>		

	1997-98 (\$'000)	1996-97 (\$'000)
<b>25 Accrued salaries</b>		
Amount owing for 3 working days from 26th June 1998 to 30th June 1998 was \$307 000 (1997- 27th June 1997 to 30th June 1997, 2 working days was \$197 000)	307	395
Accrued salaries are settled within a few days of the financial year end. The department considers the carrying amount of accrued salaries is equivalent to the net fair value.		
<b>26 Employee entitlements</b>		
Current liabilities		
Fringe Benefit Tax	-	75
Liability for annual leave	2 775	2 907
Liability for long service leave	1 967	2 095
	<u>4 742</u>	<u>5 077</u>
Non-current liabilities		
Liability for long service leave	2 946	2 774
	<u>7 688</u>	<u>7 851</u>
The department considers the carrying amount of employee entitlements is equivalent to the net fair value.		
<b>27 Treasurer's Advances</b>		
Cash Advances- Sub advance	-	20
	<u>-</u>	<u>20</u>
<b>28 Equity</b>		
Equity represents the residual interest in the net assets of the Department. The Government holds the equity interest in the Department on behalf of the community. The asset revaluation reserve represents that portion of equity resulting from the revaluation of non-current assets.		
Accumulated surplus/ (deficiency)		
Balance at the beginning of the year	12 804	2 999
Prior year adjustment for accrued salaries	395	
Change in net assets	1 055	9 805
Balance at end of the year	<u>14 254</u>	<u>12 804</u>
Asset revaluation reserve		
Balance at the beginning of the year	20 232	33 260
Adjustment for takeup of MPL property from Chemistry Centre as at 1 July 1996	-	( 13 028)
Revaluations during the year	1 654	-
Balance at end of the year	<u>21 886</u>	<u>20 232</u>
Total Equity	<u>36 140</u>	<u>33 036</u>
<b>29 Resources provided free of charge</b>		
During the year the following resources were provided to other agencies free of charge for functions outside the normal operations of the Department:		
MERIWA (Building Services, Parking, Conferences)	11	6
AJ Parker Cooperative Research Centre for Hydrometallurgy	278	311
Chemistry Centre (Notional rent on buildings)	292	268
DOLA	-	59
	<u>581</u>	<u>644</u>



	1997-98 (\$'000)	1996-97 (\$'000)
<b>30 Reconciliation of net cash used in operating activities to net cost of service</b>		
For the purposes of the Statement of Cash Flows, 'cash' has been deemed to include cash on hand.		
Net cash used in operating activities (Statement of Cash Flows)	( 50 721)	( 46 934)
Adjustment to non-current assets	23	( 740)
Decrease/(increase) in Treasurer's Advance	(20)	
Decrease/(increase) in accrued salaries	( 307)	( 297)
Decrease/(increase) in employee entitlements	163	( 910)
(Decrease)/increase in accounts receivable	( 134)	115
(Decrease)/increase in inventory	-	73
Superannuation	( 1 724)	( 3 213)
Decrease/(increase) in accounts payable	( 755)	( 939)
Depreciation	( 2 514)	( 2 732)
Resources received free of charge	( 924)	( 3 224)
(Decrease)/increase in prepayments	19	( 212)
Loss on disposal of non-current assets	( 60)	( 679)
Net cost of service (operating statement)	( 56 954)	( 59 692)

**31 Reconciliation of cash**

For the purposes of the Statement of Cash Flows, 'cash' includes cash on hand and operating account. Cash at the end of the financial year as shown in the Statement of Cash Flows is reconciled to the related items in the Statement of Financial

Position as follows:

Cash on hand	-	20
Operating account	4 058	732
PAYE and GEHA	352	352
Receipts in Suspense	7	39
Accrued Salaries Suspense account	702	395
	5 119	1 511

**32 Additional financial instruments disclosures**

(i) Net Fair Value of Financial Assets and Liabilities

The carrying amounts of all the Department's financial instruments approximate their net fair values

(ii) Interest Rate Risk Exposures

The following table summarises interest rate risk to the Department as at 30 June 1998

	Floating Interest Rate \$'000	Non-Interest Bearing \$'000	Total \$'000	Weighted Average Effective Interest rate
<b>30-Jun-98</b>				
<b>Financial Assets</b>				
Cash & amounts in suspense	-	5 119	5 119	-
Accounts receivable	-	270	270	-
<b>Total Financial Assets</b>	-	5 389	5 389	-
<b>Financial Liabilities</b>				
Accounts payable	-	2 587	2 587	-
Accrued salaries	-	307	307	-
Employee entitlements	-	7 688	7 688	-
<b>Total Financial Liabilities</b>	-	10 582	10 582	-

	1997-98 (\$'000)	1996-97 (\$'000)
<b>33 Remuneration and retirement benefits of Senior Officers</b>		
Remuneration		
The number of senior officers whose total salaries and other benefits received, or due and receivable for the financial year, who fall within the following band is:		
	1997-98	1996-97
\$30 000 to \$40 000	1	-
\$90 000 to \$100 000	1	1
\$100 000 to \$110 000	5	3
\$110 000 to \$120 000	-	3
\$150 000 to \$160 000	1	1
The total remuneration of senior officers is:	779	918
Retirement benefits		
The following amounts in respect of retirement benefits for senior officers were paid or became payable for the financial year:	82	
Total notional contributions to Gold State Superannuation Scheme and West State Superannuation Scheme	91	90
Number of Senior Officers employed at 30 June who are members of the Superannuation and Family Benefits Act Scheme:	-	-

#### 34 Explanatory Statement

The Summary of Consolidated Fund Appropriation and Revenue Estimates discloses appropriation and other statutes expenditure estimates, the actual expenditure made and revenue estimates and payments into the Consolidated Fund, all on a cash basis. The following explanations are provided in accordance with Treasurer's Instruction 945:

**(a) Details of expenditure in advance of appropriation approved in accordance with Section 28 of the Financial Administration and Audit Act**

(i) Amount Provided For Recurrent Services 4 431

The variation is caused by supplementary funding being provided for refunds of revenue collected in prior years (\$1 540 000) and general operational and computing equipment expenditure (\$2 891 000).

(ii) Petroleum (Submerged Lands) Act 1982 2 574

Excess funding was provided by Treasury to meet an increase in royalty payments to the Commonwealth through the Petroleum (Submerged Lands) Act which was caused by higher petroleum royalty revenue collections.

**(b) Significant variations (greater than 10 per cent) where actual expenditures were less than an expenditure item or exceeded or were less than another statute's estimate for the financial year.**

Amount Authorised by Other Statutes

(i) Petroleum (Submerged Lands) Act 1982 2 574  
See 34 (a) (ii) above.

**(c) Significant variations (greater than 10 per cent) where actual expenditure exceeded or were less than non-program and/or program budget estimates for the financial year**

(i) Refunds of Revenue 1 727

Excess variation due to unforeseen royalty refunds (\$780 000), explosives tonnage fees refunds (\$66 000) and mining lease refunds (\$881 000)

	1997-98	1996-97
	(\$'000)	(\$'000)
(ii) Capital	(1155)	
Carry - over to the next financial year for Drill Core Library, Mining Registrar's office at Meekathara and Kalgoorlie Explosives Reserve.		
Appropriation for administered Expenses	2574	
Increase in royalty payments to the Commonwealth as a result of greater than expected production and increased prices.		
<b>(d) Significant variations (greater than 10 per cent) where actual revenues exceeded or were less than budget estimates for the financial year</b>		
(i) Departmental Revenue	205	
The increase in revenue is mainly due to increased demand for products and services.		
(ii) Business Revenue	2 146	
The increase in revenue is mainly due to unbudgeted ad-valorem fees received from the sale of interests in the East Spar gas field.		
(iii) Mining Revenue	30 945	
Higher royalty collections were largely caused by the sharp decline in the exchange rate. This was partially offset by a general decline in commodity prices for nickel, mineral sands and crude oil. A further offset was the deferral of the gold royalty into 1998/99.		
<b>(e) Significant variation (greater than 10 per cent) between actual outcomes for the financial year and outcomes for the immediately preceding financial year</b>		
(i) Aboriginal Lands Trust	151	
Transferred from Miscellaneous Services Division (Treasury) as from 1 July 1997		
(ii) Industry Support Program	2 610	
Additional \$2.5m approved for Accelerated Geoscientific Mapping project.		
(iii) Transfer to Operating Trust Account (Unexpended Recurrent Appropriation)	2 200	
Carryover of unpaid invoices (as per TI308) and uncompleted specifically funded projects		
(iv) Transfer to Operating Trust Account (Unexpended Capital Appropriation)	1 127	
Carryover for Drill Core Library, Meekathara Office and Kalgoorlie Explosives Reserve.		
(v) Appropriation for Administered Expenses	( 2 032)	
Payments to the Commonwealth for royalties less than previous year.		
(vi) Business Revenue	1 495	
The increase was mainly due to additional revenue from ad-valorem fees as a result of a sale of interests in the East Spar gas field.		
(vii) Mining Revenue	61 913	
Additional revenue as a result of forward exchange rate movement and increased production.		

**35 Lease Commitment**

At the reporting date, the following lease commitments are due for payment:

not later than one year	352	930
later than one year but not later than two years	352	84

	1997-98 (\$'000)	1996-97 (\$'000)
<b>36 Other Commitments</b>		
As at balance date, the department had the following commitments:		
Capital	159	85
Recurrent	572	376
<b>37 Contingent obligations</b>		
As at balance date there were no known contingent obligations		
<b>38 Events occurring after reporting date</b>		
No known event or events occurred after year end which materially affect the results reflected in this financial report.		
<b>39 Related bodies</b>		
The Department had no related bodies as defined in the Financial Administration and Audit Act 1985 and Treasurer's Instruction 951.		
<b>40 Affiliated bodies</b>		
The Department had no affiliated bodies as defined in Financial Administration and Audit Act 1985 and Treasurer's Instruction 951.		
<b>41 Program Schedule of Administered Items</b>		
for the year ended 30 June 1998		

PROGRAM	Note	INDUSTRY AND RESOURCES MANAGEMENT		INDUSTRY SUPPORT		GENERAL NOT ATTRIBUTED		TOTAL	
		1997-98	1996-97	1997-98	1996-97	1997-98	1996-97	1997-98	1996-97
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>ADMINISTERED EXPENSES &amp; REVENUE EXPENSES</b>	<b>(I)</b>								
Petroleum (Submerged Lands) Act 1982		14 305	15 958					14 305	15 958
Total administered expenses		14 305	15 958	0	0	0	0	14 305	15 958
<b>REVENUES</b>									
Taxes, Fees & Royalties		689 340	607 543					689 340	607 543
Revenues from Government		14 875	16 906					14 875	16 906
Total administered revenues		704 215	624 449	0	0	0	0	704 215	624 449
<b>ADMINISTERED ASSETS &amp; LIABILITIES</b>	<b>(II)</b>								
<b>ASSETS</b>									
Operating Account		1	-					1	-
Accounts Receivable		117 856	105 452					117 856	105 452
Cash		2 883	5 638					2 883	5 638
Restricted cash		7 208	2 396	368	347			7 576	2 743
Total administered current assets		127 948	113 486	368	347	0	0	128 316	113 833
Administered non-current assets		-	11	-	20			-	31
Total Administered Assets		127 948	113 497	368	367	0	0	128 316	113 864
<b>LIABILITIES</b>									
Payments received in advance		7 178	2 398	368	367			7 546	2 765
Accounts Payable		766	1 306	-	8			766	1 314
Total administered liabilities		7 944	3 704	368	375	0	0	8 312	4 079

(1) Administered expenses and revenues

Expenses	1997-98 (\$'000)	1996-97 (\$'000)
<p>An appropriation is made under the provisions of the Petroleum (Submerged Lands) Act 1982 for the Commonwealth's share of royalties received from offshore operations.</p>		
Petroleum (Submerged Lands) Act 1982	14 305	15 958
<p>Consolidated Fund appropriation payments made during the year was \$14.874m (1996/97 \$16.906m) and expenditure due but not paid was \$0.736m (1996/97 \$1.306m).</p>		
<p>Revenue</p>		
<p>Taxes, Licences and Royalties</p>		
<p>The Department is responsible for collection of certain taxes, licences and royalties. These are not classified as operating revenues and are paid directly to Consolidated Fund.</p>		
<p>Collections made during the year were \$669.445m (1996/97 \$607.532m) and revenues due but not collected were \$117.856m (1996/97 \$105.452m).</p>		
<p>Royalties</p>		
Iron Ore	207 065	157 156
Petroleum	237 563	223 007
Diamonds	40 520	29 133
Alumina	37 600	33 788
Mineral Sands	20 474	23 095
Nickel	26 587	24 478
Other	34 570	30 080
Lease and other rentals	74 715	78 055
	<u>679 094</u>	<u>598 792</u>
<p>Taxes and Fees</p>		
Petroleum Permits and Licences	5 846	3 825
Prospecting Exploration and Other Mining Licences	3 335	3 871
Explosives and Dangerous Goods Regulations	1 065	1 055
	<u>10 246</u>	<u>8 751</u>
Total Taxes, Fees and Royalties	<u>689 340</u>	<u>607 543</u>
<p>Revenues from Government</p>		
Appropriation for Petroleum Submerged Lands Act	14 875	16 906
Total Administered Revenues	<u>704 215</u>	<u>624 449</u>

**(II) Administered assets and liabilities**

Administered assets and liabilities are not controlled by the Department but are administered by it on behalf of the Government.

	1996-97 (\$'000)	1997-98 (\$'000)
--	---------------------	---------------------

**Administered Current assets**

Restricted Cash		
Special Projects Trust Fund	386	487
Deposits Mines Department Account	282	435
Survey of Leases Under Mining Act Account	1 309	1 821
Barrow Island Trust	5 599	
	<u>7 576</u>	<u>2 743</u>

Operating Account	1	
Unspent funds for Petroleum Submerged Lands Act		
Cash	2 883	5 638
Accounts Receivable	117 856	105 452

This represents royalty not collected as at 30 June 1998 on production which occurred prior to balance date.

Accounts receivable includes royalty collections of \$2.1 million which was due and payable prior to 30 June but has not yet been received and is the subject of current negotiations.

The Department is confident that the amount will be collected.

Other negotiations are taking place to determine royalty arrangements for individual mines and wells. As these discussions result in substantial levels of royalty collection by the State, they represent a contingent asset. However it is not possible to quantify the level of this asset at balance date.

**Administered Non-Current assets**

Property, plant, equipment and vehicles	-	31
	<u>128 316</u>	<u>113 864</u>

**Administered Current liabilities**

Payments Received in Advance	7 546	2 765
Accounts Payable	766	1 314
	<u>8 312</u>	<u>4 079</u>

**42 ACCOUNTS OF THE TRUST FUND**

**Survey of Leases Under the Mining Act Account**

Survey fees collected under the Mining Act are paid into this account. The actual cost of surveys is charged to the Consolidated Fund, and fees previously collected are then transferred to Consolidated Revenue. If the applicant decides not to proceed with the survey, the fee collected is refunded. The balance of the Account is held at Treasury.

	1997-98	1996-97
	\$	\$
Opening Balance 1 July	1 821 065CR	1 846 712CR
<u>Add Receipts</u>		
Survey Fees	1 502	-
	1 822 567CR	1 846 712CR
<u>Less Payments</u>		
Transferred to Consolidated Fund	502 015	-
Refunds	12 004	25 647
Closing Balance 30 June	1 308 548CR	1 821 065CR

**Barrow Island Royalty Trust Account**

The account was created under the Barrow Island Royalty Trust Account Act 1985 which provides for royalty payments received under the Barrow Island lease to be credited to the account and subsequently apportioned between the Commonwealth and the State. The balance of the Account is held at Treasury.

	1997-98	1996-97
	\$	\$
Opening Balance 1 July	-	3 332 329CR
<u>Add Receipts</u>		
Royalties Received	16 299 753	16 716 803
Total Receipts	16 299 753CR	16 716 803CR
	16 299 753CR	20 049 132CR
<u>Less Payments</u>		
Transferred to Consolidated Fund	2 675 106	5 012 283
Remitted to Commonwealth	8 025 320	15 036 849
Total Payments	10 700 426	20 049 132
Closing Balance 30 June	5 599 327CR	-

**Deposits: Mines Department Account**

Funds held are received for the issue of temporary reserves and exploration permits pending finalisation of certain legal requirements. The balance of the Account is held at Treasury.

	1997-98	1996-97
	\$	\$
Opening Balance 1 July	434 500CR	464 500CR
<u>Add Receipts</u>		
Bonds, Securities	5 000	-
Interest	23 645	30 034
	463 145CR	494 534CR
<u>Less Payments</u>		
Refund of Bonds, Securities	181 000	30 000
Transfers to Consolidated Fund		
- Interest	-	30 034
Total Payments	181 000	60 034
Closing Balance 30 June	282 145CR	434 500CR

### Transfers to Suspense Account

The account is maintained to hold funds to meet any relevant end of year commitment in respect of plant and equipment or land. The balance of the account is held at Treasury.

	1997-98	1996-97
	\$	\$
Opening Balance 1 July	-	54 055CR
<u>Add Receipts</u>		
Transfers ex CF - Plant and Equipment	-	
	<hr/>	<hr/>
		54 055CR
<u>Less Payments</u>		
Purchase of Plant and Equipment or land	-	54 055
	<hr/>	<hr/>
	-	-
Closing Balance 30 June	<hr/>	<hr/>

### Departmental Receipts in Suspense

This account is held at Treasury is used to hold moneys temporarily pending identification of the purpose for which the funds were received. The balance of the account as at 30 June 1998 was \$6 648

### Special Projects Trust Fund Account

The account was created to hold funds for the purpose of participating in significant projects with other countries, the Commonwealth and the private sector to the mutual benefit of the other participants and the State of Western Australia.

This account includes an agreement between the Commonwealth and the Department (Indian Ocean Territories Agreement) to carry out inspection services at Christmas Island. Receipts received totalled \$134 639 (1996/97 \$182 342) and payments made totalled \$267 766 (1996/97 \$49 215) giving a closing balance of \$NIL (1996/97 \$133 127Cr).

	1997-98	1996-97
	\$	\$
Opening Balance 1 July	487 386CR	166 575CR
<u>Add Receipts</u>		
Contribution from:		
Industry and Government	357 753	551 954
Total Receipts	<hr/>	<hr/>
	845 139CR	718 529CR
<u>Less Payments</u>		
Salaries	264 973	84 274
Travel	36 930	7 921
Equipment, Misc Transfers	157 581	138 948
Total Payments	<hr/>	<hr/>
	459 484	231 143
Closing Balance 30 June	<hr/>	<hr/>
	385 655CR	487 386CR



**Supplementary Financial Information**

	1997-98	1996-97
	\$	\$
Losses of public moneys and public or other property through theft or default	-	2
Amount Recovered	-	
Losses for write off	-	2

Public and other property, revenue and debts due to the State, written off in accordance with section 45 of the Financial Administration and Audit Act by:

	1997-98	1996-97
	\$	\$
The Accountable Officer	-	848
The Minister	-	14 402
	-	15 250

Analysis of losses written off

Stock shortages	-	-
Bad debts	-	15 250
	-	15 250

	1997-98	1996-97
	\$	\$
Consolidated Fund revenues due	270 260	403 740
Less considered to be irrecoverable	-	-
Amount considered to be recoverable	270 260	403 740
Gifts of Public Property	-	-

# Appendix 1:

## Legislation and Changes to Legislation

The Department of Minerals and Energy is responsible to the Minister for Mines for administering 15 Acts of Parliament: The main Acts are:

- Mining Act 1978
- Petroleum Act 1967
- Mines Safety and Inspection Act 1994
- Explosives and Dangerous Goods Act 1961

The remaining Acts are:

- Barrow Island Royalty Trust Account Act 1985
- Barrow Island Royalty Variation Agreement Act 1985
- Coal Industry Tribunal of Western Australia Act 1992
- Coal Miners' Welfare Act 1947
- Miners' Phthisis Act 1922
- Mining on Private Property Act 1898
- Mining (Validation and Amendment) Act 1986
- Petroleum Pipelines Act 1969
- Petroleum (Registration Fees) Act 1967
- Petroleum (Submerged Lands) Act 1982
- Petroleum (Submerged Lands) (Registration Fees) Act 1982

The following Commonwealth legislation is administered by the Department through the Commonwealth/Western Australian offshore Petroleum/Minerals Joint Authorities:

- Petroleum (Submerged Lands) Act 1967, Petroleum (Submerged Lands) (Registration Fees) Act 1967
- Petroleum (Submerged Lands) (Royalty) Act 1967
- Petroleum (Submerged Lands) Fees Act 1994
- Offshore Minerals Act 1994
- Offshore Minerals (Registration Fees) Act 1981
- Offshore Minerals (Mining Licence Fees) Act 1981
- Offshore Minerals (Exploration Licence Fees) Act 1981
- Offshore Minerals (Retention Licence Fees) Act 1994
- Offshore Minerals (Works Licence Fees) Act 1981
- Offshore Minerals (Royalty) Act 1981

In addition the Department undertakes a number of functions under the various State Agreement Acts.

## Changes to Legislation

ACTS:

### Mining Act 1978

- **Acts Amendment (Marine Reserves) Act 1997 (No. 5 of 1997)** Assented to 10 June 1997 and proclaimed to operate from 29 August 1997. Includes provisions regulating activities in marine reserves.
- **Acts Amendment (Land Administration) Act 1997 (No. 31 of 1997)** Assented to 3 October 1997 and proclaimed to operate from 30 March 1998. Consequential amendments resulting from the new Land Administration Act 1997.
- **Statutes (Repeals and Minor Amendments) Act 1997 (No. 57 of 1997)** Assented to 15 December 1997 and came into operation on that date. Minor amendments to sections 46, 65, 78 & 110.
- **Statutes (Repeals and Minor Amendments) Act (No. 2) 1998 (No. 10 of 1998)** Assented to 30 April 1998 and came into operation on that date. Minor amendment to section 24A.
- **Mining Amendment Act 1998 (No. 35 of 1998)** Assented to 6 July 1998 and came into operation on that date. Longer term for miscellaneous licences.

### Petroleum Act 1967

- **Acts Amendment (Marine Reserves) Act 1997 (No. 5 of 1997)** Assented to 10 June 1997 and proclaimed to operate from 29 August 1997. Includes provisions regulating activities in marine reserves.
- **Acts Amendment (Land Administration) Act 1997 (No. 31 of 1997)** Assented to 3 October 1997 and proclaimed to operate from 30 March 1998. Consequential amendments resulting from the new Land Administration Act 1997.

### Petroleum (Submerged Lands) Act 1982

- **Acts Amendment (Marine Reserves) Act 1997 (No. 5 of 1997)** Assented to 10 June 1997 and proclaimed to operate from 29 August 1997. Includes provisions regulating activities in marine reserves.
- **Statutes (Repeals and Minor Amendments) Act 1997 (No. 57 of 1997)** Assented to 15 December 1997 and came into operation on that date. Minor amendment to section 28.

### Petroleum Pipelines Act 1969

- **Acts Amendment (Land Administration) Act 1997 (No. 31 of 1997)** Assented to 3 October 1997 and proclaimed to operate from 30 March 1998. Consequential amendments resulting from the new Land Administration Act 1997.

#### Mines Safety and Inspection Act 1994

- **Statutes (Repeals and Minor Amendments) Act 1997 (No. 57 of 1997)** Assented to 15 December 1997 and came into operation on that date. Minor amendments to the Headings in Part 5 & 6 and section 77.
- **Statutes (Repeals and Minor Amendments) Act (No. 2) 1998 (No. 10 of 1998)** Assented to 30 April 1998 and came into operation on that date. Minor amendment to section 81.
- **Dangerous Goods (Transport) Bill 1998** To give effect to the national transport of dangerous goods legislation.
- **Offshore Minerals Bill 1998** An Act to govern the exploration for and exploitation of minerals from the seabed within the first three nautical miles of the Territorial Sea.
- **Acts Amendment (Mining and Petroleum) Bill 1998** Various amendments to the Mining and Petroleum Acts.

#### Explosives and Dangerous Goods Act 1961

- **Statutes (Repeals and Minor Amendments) Act 1997 (No. 57 of 1997)** Assented to 15 December 1997 and came into operation on that date. Minor amendment to section 8.
- **Statutes (Repeals and Minor Amendments) Act (No. 2) 1998 (No. 10 of 1998)** Assented to 30 April 1998 and came into operation on that date. Minor amendment to section 43.

#### REGULATIONS:

##### Mining Regulations 1981

- **Mining Amendment Regulations (No. 4) 1997** Gazetted on 3 October 1997 to operate from that date. Gold royalty regulations.
- **Mining Amendment Regulations 1998** Gazetted on 12 June 1998 to operate from 1 July 1998. Rental increase.
- **Mining Amendment Regulations (No. 2) 1998** Gazetted on 17 March 1998 to operate from that date. Amendments to the royalties table in regulation 86.
- **Mining Amendment Regulations (No. 3) 1998** Gazetted on 24 April 1998 to operate from that date. Amendments to regulation 86AA gold royalty relief.

##### Mines Safety and Inspection Regulations 1995

- **Mines Safety and Inspections Amendment Regulations (No. 2) 1997** Gazetted on 4 July 1997 to operate from that date. Amendments to regulation 3.47.

##### Explosives Regulations 1963

- **Explosives Amendment Regulations 1997** Gazetted on 12 December 1997 to operate from that date. Amendment to regulation 59 and Second Schedule tonnage fees.

#### OTHER:

Legislation currently before Parliament or drafted ready for introduction.

- **Petroleum Safety Bill 1998** Occupational safety and health provisions for the Petroleum Industry for both onshore and offshore areas.

# Appendix 2:

## Publications

The Department has many publications and maps that can be purchased or obtained free of charge by members of the public. The Department's library on the fifth floor of Mineral House, 100 Plain Street, East Perth, has copies of most publications and can be accessed by the public. The Mining Information Centre on the first floor of Mineral House sells and distributes publications and maps, and has a range of other services offered free of charge. Some publications can also be obtained from the Department's 11 country centres.

Publications and information about the Department and industry are available electronically on the Department's Internet homepage which is located at <http://www.dme.wa.gov.au>.

The Department's publications cover a wide range of topics including:

- Environmental issues affecting mining and petroleum exploration;
- Mine work and safety practices;
- Petroleum exploration, safety and environmental considerations;
- Mineral exploration and land access;
- Geological, geophysical and geochemical maps and publications;
- a range of educational material, including a series of fact sheets;
- Explosives and dangerous goods;
- Departmental Annual Reports;
- Statistical digests that contain comprehensive statistical information on the Western Australian mining and petroleum industries;
- Mineral tenement maps and various thematic maps relating to mining and other land-use applications in Western Australia; and
- Occupational Health and Safety Acts and Regulations.