

## Head 48 — GOVERNMENT LABORATORY

**Controlling officer:** the Government Chemist will account for expenditure under this Head.

<b>Estimate 2002–03</b> .....	<b>\$263.5m</b>
<b>Establishment ceiling 2002–03</b> (notional annual mid-point salary value) representing an estimated 362 non-directorate posts at 31 March 2002 rising by 30 posts to 392 posts at 31 March 2003 .....	<b>\$169.3m</b>
In addition there will be an estimated seven directorate posts at 31 March 2002 and at 31 March 2003.	
<b>Capital Account commitment balance</b> .....	<b>\$6.4m</b>

### Controlling Officer's Report

#### Programmes

<b>Programme (1) Statutory Testing</b>	This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for the Environment and Food) and Policy Area 15: Health (Secretary for Health and Welfare).
<b>Programme (2) Advisory and Investigative Services</b>	This programme contributes to Policy Area 9: Internal Security (Secretary for Security), Policy Area 15: Health (Secretary for Health and Welfare), Policy Area 23: Environmental Protection and Conservation (Secretary for the Environment and Food) and Policy Area 32: Environmental Hygiene (Secretary for the Environment and Food).
<b>Programme (3) Forensic Science Service</b>	This programme contributes to Policy Area 9: Internal Security (Secretary for Security).

#### Detail

##### Programme (1): Statutory Testing

	2000–01 (Actual)	2001–02 (Approved)	2001–02 (Revised)	<b>2002–03 (Estimate)</b>
Financial provision (\$m)	68.8	71.5 (+3.9%)	82.0 (+14.7%)	<b>76.9 (–6.2%)</b>

#### Aim

- 2 The aim is to carry out statutory functions as referee analyst under a number of ordinances and regulations.

#### Brief Description

3 The Government Chemist discharges statutory functions as referee analyst under various ordinances and regulations. The work involves the analysis of food products for regulatory compliance, the examination of western and Chinese medicines for registration and quality control, the testing of dutiable commodities for tariff classification, the assessment of toys, children's products and consumer articles for health and safety hazards, the determination of tar and nicotine yields in cigarettes, the assay of gold and platinum articles for fineness and the verification of products and equipment for compliance with the Weights and Measures Ordinance. The Government Laboratory provides 24-hour on-call service to assist the Fire Services Department and Labour Department at scenes of accidents involving hazardous chemicals.

4 The Laboratory achieved all its performance targets in 2001. It continued to provide urgent analytical services for the detection of beta-agonists in food and extend its scope of services to facilitate the monitoring of other veterinary drug residues in food. It implemented ad hoc projects on the safety evaluation of various types of Chinese festive food, and the Risk Assessment Project of dioxins in food smoothly. It met the greater demand for the analysis of pharmaceuticals arising from the enforcement action taken by the Customs and Excise Department against suspected pharmaceutical products. It conducted a large number of examinations on various toys and children's products following an increasing public awareness of safety of consumer products and the enforcement action taken by the Customs and Excise Department. Flammability performance evaluation on bedding items such as pillows and polyurethane mattresses in connection with the enforcement of the Consumer Goods Safety Ordinance has become a routine commitment of the Laboratory.

- 5 The key performance measures in respect of statutory testing are:

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### *Targets*

	Target	2000 (Actual)	2001 (Actual)	2002 (Plan)
Testing of:				
samples relating to food poisoning within 1 working day (%).....	100	100	100	<b>100</b>
food samples for regulatory compliance purposes within target reporting time averaging 19 working days (%)§.....	95	97	98	<b>95</b>
pharmaceuticals (quality control) within target reporting time averaging 14 working days (%)§ .....	92	95	97	<b>92</b>
pharmaceuticals (registration) within target reporting time averaging 30 working days (%)§ .....	90	94	92	<b>90</b>
Chinese medicines within target reporting time averaging 30 working days (%)§....	95	100	98	<b>95</b>
dangerous goods within target reporting time averaging 14 working days (%)§....	90	90	96	<b>90</b>
dutiable and other commodities within target reporting time averaging 10 working days (%)§ .....	90	87	91	<b>90</b>
toys and children's products within target reporting time averaging 15 working days (%)§.....	95	99	99	<b>95</b>
consumer goods within target reporting time averaging 35 working days (%)§....	95	99	95	<b>95</b>

§ Different samples require different analytical procedures, thus different target reporting time applies. The quoted number of working days required represents an average of target reporting time for the different samples within the category.

### *Indicators*

The key indicators for statutory testing are the numbers of tests performed on the various samples submitted.

	2000 (Actual)	2001 (Actual)	2002 (Estimate)
tests performed			
food samples for regulatory compliance purposes.....	72 535	76 845	<b>82 000</b>
pharmaceuticals (quality control).....	26 420	25 752	<b>26 000</b>
pharmaceuticals (registration).....	15 611	18 823	<b>16 000</b>
Chinese medicines .....	23 373	25 022	<b>48 200</b>
dangerous goods.....	6 624	6 222	<b>6 000</b>
dutiable and other commodities .....	29 790	30 406	<b>28 000</b>
cigarette samples .....	13 176	13 524	<b>13 000</b>
toys and children's products .....	8 637	11 063	<b>8 000</b>
consumer goods .....	16 542	17 467	<b>18 000</b>

### *Matters Requiring Special Attention in 2002–03*

6 During 2002–03, the Government Laboratory will:

- undertake bacterial endotoxins tests for pharmaceuticals so as to assess their compliance with relevant pharmacopoeia standards;
- strengthen analytical support to the analysis of animal tissues, feeds and food for the presence of seven prohibited chemicals and ten agricultural and veterinary chemicals for the first phase enforcement of the Public Health (Animals and Birds)(Chemical Residues) Regulations and the Harmful Substances in Food (Amendment) Regulations;
- provide analytical support to the testing of genetically modified food; and
- strengthen the analytical capabilities in safety evaluation of Chinese medicines.

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### Programme (2): Advisory and Investigative Services

	2000-01 (Actual)	2001-02 (Approved)	2001-02 (Revised)	2002-03 (Estimate)
Financial provision (\$m)	60.1	64.4 (+7.2%)	64.8 (+0.6%)	<b>66.6</b> <b>(+2.8%)</b>

#### *Aim*

7 The aim is to provide a wide range of primarily chemical testing and advisory services to other government departments and public institutions.

#### *Brief Description*

8 The Government Laboratory provides comprehensive analytical and advisory services to the Government in the management and monitoring of the environment and in the enforcement of various pollution control measures. Chemical testing of air, water and waste samples for a variety of pollution indicators constitutes the main activity under this programme. Specific incidents of emission or leakage of gaseous substances into the environment also involve the Laboratory in on-site investigations. Analytical support is also provided to the Hong Kong Observatory's Environmental Radiation Monitoring Programme as well as the Daya Bay Contingency Plan. Other activities include the examination of seepage and food samples for the Food and Environmental Hygiene Department, evaluation of workplace exposure of occupational hazards for the Labour Department, testing of government supplies for conformity to tender specifications, analysing animal tissues and feeds for veterinary drug residues for the Agriculture, Fisheries and Conservation Department, and identifying products made from endangered species.

9 The Laboratory achieved all work targets set for 2001. It continued to render analytical support and professional advice to the Government in improving the quality of the environment of Hong Kong. It also engaged in scientific research to extend its analytical capabilities to include the determination of ultra-trace levels of a number of persistent organic pollutants in various environmental matrices. It carried out analysis of vehicular diesel fuel for the content of ultra-low sulphur and the testing of specifications of petroleum fuel for motor vehicles which provided additional information to safeguard the air quality of Hong Kong. In addition to its routine commitments, the Laboratory was actively involved in various environmental impact studies and ad-hoc projects including the amendment of the Technical Memorandum for the control of discharge of wastewater under the Water Pollution Control Ordinance.

10 The key performance measures in respect of advisory and investigative services are:

#### *Targets*

	Target	2000 (Actual)	2001 (Actual)	2002 (Plan)
Testing of:				
air monitoring samples within target reporting time averaging 20 working days (%)§ .....	95	100	100	<b>95</b>
other field investigation samples within target reporting time averaging 12 working days (%)§ .....	95	100	100	<b>95</b>
air samples for litigation purposes within target reporting time averaging 20 working days (%)§# .....	95	100	100	<b>95</b>
water monitoring samples within target reporting time averaging 20 working days (%)§ .....	95	98	96	<b>95</b>
waste monitoring samples within target reporting time averaging 27 working days (%)§ .....	95	97	98	<b>95</b>
waste samples for litigation purposes within target reporting time averaging 12 working days (%)§ .....	95	98	99	<b>95</b>
radioactivity monitoring samples within target reporting time averaging 12 working days (%)§ .....	95	99	97	<b>95</b>
pesticides formulation samples within target reporting time averaging 38 working days (%)§† .....	—	—	—	<b>85</b>
seepage and swimming pool water samples within target reporting time averaging 10 working days (%)§# .....	95	95	95	<b>95</b>
other samples within target reporting time averaging 25 working days (%)§ .....	90	92	93	<b>90</b>

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§ Different samples require different analytical procedures, thus different target reporting time applies. The quoted number of working days required represents an average of target reporting time for the different samples within the category.

# “Air samples for litigation purposes” and “seepage and swimming pool water samples” were originally included in past years under the broad category of “air monitoring samples” and “other samples” respectively.

† New programme to be introduced in year 2002 under Policy Area 32: Environmental Hygiene (Secretary for the Environment and Food).

### Indicators

The key indicators for advisory and investigative services are the numbers of tests performed on the various samples submitted.

	2000 (Actual)	2001 (Actual)	2002 (Estimate)
tests performed			
air monitoring samples.....	156 026	134 963	105 000
air samples for litigation purposes§ .....	568	676	600
field investigation samples.....	4 563	5 406	4 000
water samples.....	123 677	126 110	128 000
waste monitoring samples.....	23 596	25 946	25 000
waste samples for litigation purposes .....	1 606	1 093	2 000
pesticides formulation samples† .....	—	—	2 100
seepage and swimming pool water samples§.....	17 579	21 885	19 500
miscellaneous			
radioactivity monitoring samples.....	4 721	4 733	4 700
other samples .....	14 844	16 195	15 500

§ “Air samples for litigation purposes” and “seepage and swimming pool water samples” were originally included in past years under the broad category of “air monitoring samples” and “other samples” respectively.

† New programme to be introduced in year 2002 under Policy Area 32: Environmental Hygiene (Secretary for the Environment and Food).

### Matters Requiring Special Attention in 2002–03

11 During 2002–03, the Government Laboratory will:

- continue to develop sensitive and advanced analytical techniques to cater for the measurement of ultra-trace levels of environmental pollutants;
- provide analytical services according to international protocols in support of the implementation of new fuel specifications as stipulated in Air Pollution Control (Motor Vehicle Fuel) Regulations;
- provide analytical and advisory services to the analysis of pesticides formulation; and
- provide analytical and advisory services to government departments in support of the implementation of the Chemical Weapons Convention in Hong Kong.

### Programme (3): Forensic Science Service

	2000–01 (Actual)	2001–02 (Approved)	2001–02 (Revised)	2002–03 (Estimate)
Financial provision (\$m)	98.0	110.4 (+12.7%)	111.2 (+0.7%)	120.0 (+7.9%)

### Aim

12 The aim is to provide a comprehensive and unbiased forensic science service to the criminal justice system.

### Brief Description

13 The Government Laboratory provides a wide range of forensic science services to all departments concerned with law and order. These include mainly the Hong Kong Police Force, the Customs and Excise Department, the Immigration Department and the Independent Commission Against Corruption. In addition, urinalysis monitoring is conducted for the Department of Health (Methadone Maintenance Scheme), the Social Welfare Department, the Correctional Services Department and other organisations requiring this service.

14 The services are grouped into two main work areas: physical and biochemical evidence; and drugs and toxicology. A 24-hour service is also provided for the scientific examination of crime scenes. It covers general crime scenes as well as scenes requiring specialist knowledge, such as fire investigation, traffic accident reconstruction, blood pattern analysis and illicit drug manufacturing.

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15 Although targets were not met in some work areas owing to increasing demands in 2001, the Government Laboratory's performance in many of these areas improved over 2000. Rapid developments in the application of DNA analytical techniques are expected as a result of the inauguration of the database of DNA profiles of persons convicted of serious crimes. This is likely to affect the performance in biochemical grouping. Sustained demands for the express analysis of suspect identity and travel documents continued to affect performance in the non-express examination of handwriting, and counterfeiting/forgery cases. The Government Laboratory is addressing these problems, and the overall performance is expected to improve further in 2002.

16 Owing to changes in drug abuse trends, on average two additional tests have to be conducted for each urine sample, giving rise to a 44% increase in the total number of tests being made in 2001, although the increase in the number of samples tested was only 12%. The situation is being closely monitored and administrative measures have been introduced to manage the problem.

17 The key performance measures in respect of the forensic science services are:

### *Targets*

Targets are defined as the number of working days required to complete 80% of cases in each category to accommodate the wide variations experienced in forensic casework.

	Target Wkg Days Per Case	2000 (Actual)	2001 (Actual)	2002 (Plan)
biochemical grouping (DNA profiling).....	88	99	119	<b>88</b>
DNA database (DNA profiling) .....	22	N.A.§	22	<b>22</b>
parentage testing (DNA profiling)†.....	22	N.A.§	22	<b>22</b>
trace evidence .....	66	95	115	<b>85</b>
accident reconstruction .....	66	80	75	<b>55</b>
handwriting examination .....	66	105	109	<b>80</b>
counterfeiting/forgery.....	33	53	39	<b>38</b>
express counterfeiting/forgery service.....	1	1	1	<b>1</b>
routine illicit drug seizures .....	11	15	13	<b>11</b>
major drug seizures and manufacturing.....	44	50	77	<b>50</b>
analytical toxicology .....	33	37	47	<b>42</b>
drug urinalysis (methadone clinics).....	11	16	11	<b>15</b>
drug urinalysis (judicial-screening).....	11	12	11	<b>13</b>
drug urinalysis (judicial-confirmation).....	22	18	17	<b>22</b>
drink-driving.....	11	9	8	<b>11</b>

§ Not applicable. This is a new target as from 2001.

† "22 days" represents the time lapsed between the reception by the Government Laboratory of samples for genetic testing and the issuing of genetic data after completion of DNA analysis of these samples within the Government Laboratory.

### *Indicators*

Key indicators for the forensic science services are the number of cases investigated, urinalysis samples tested, statutory certificates or technical reports/witness statements issued and crime scenes attended.

	2000 (Actual)	2001 (Actual)	2002 (Estimate)
<b>Physical and Biochemical Evidence Group</b>			
samples tested			
DNA database.....	N.A.§	792	<b>5 000</b>
cases investigated			
biochemical sciences .....	731	1 020	<b>1 500</b>
parentage testing .....	N.A.§	75	<b>3 000</b>
chemical sciences .....	1 356	2 208	<b>2 000</b>
physical sciences .....	501	412	<b>400</b>
questioned documents .....	2 479	2 824	<b>3 000</b>
Total .....	5 067	6 539	<b>9 900</b>
<b>Drugs and Toxicology Group</b>			
cases investigated			
controlled drugs .....	9 461	10 477	<b>11 500</b>
analytical toxicology .....	2 663	2 998	<b>3 000</b>
drink-driving.....	180	157	<b>160</b>
Total .....	12 304	13 632	<b>14 660</b>
samples tested			
drug urinalysis (methadone clinics).....	20 626	21 265	<b>22 700</b>
drug urinalysis (judicial-screening).....	11 870	11 256	<b>11 200</b>

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	2000 (Actual)	2001 (Actual)	2002 (Estimate)
drug urinalysis (judicial-confirmation) .....	13 314	18 998	<b>20 200</b>
Total .....	45 810	51 519	<b>54 100</b>
Forensic Science Division			
statutory certificates issued .....	9 863	10 788	<b>11 900</b>
technical reports/statements .....	8 154	10 847	<b>12 000</b>
crime scenes attended .....	736	783	<b>800</b>

§ Not applicable. This is a new indicator as from 2001.

### *Matters Requiring Special Attention in 2002–03*

**18** During 2002–03, the Government Laboratory will:

- set up a new Biochemical Sciences Section to enhance support for the detection and investigation of serious crimes by matching with the database of DNA profiles of persons convicted of serious crimes set up in 2000;
- maintain the efficiency in the examination of suspected forged identity cards and travel documents in express cases, and improve the turnover of non-express cases;
- consolidate and review the handling of parentage verification cases relating to Certificate of Entitlement applications and Right of Abode applications from overseas countries; and
- endeavour to improve efficiency by refining methodology and administration.

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### ANALYSIS OF FINANCIAL PROVISION

Programme	2000-01 (Actual) (\$m)	2001-02 (Approved) (\$m)	2001-02 (Revised) (\$m)	2002-03 (Estimate) (\$m)
(1) Statutory Testing .....	68.8	71.5	82.0	<b>76.9</b>
(2) Advisory and Investigative Services .....	60.1	64.4	64.8	<b>66.6</b>
(3) Forensic Science Service .....	98.0	110.4	111.2	<b>120.0</b>
	226.9	246.3 (+8.6%)	258.0 (+4.8%)	<b>263.5</b> (+2.1%)

#### Analysis of Financial and Staffing Provision

##### Programme (1)

Provision for 2002-03 is \$5.1 million (6.2%) lower than the revised estimate for 2001-02. This is mainly due to reduced requirement for procurement of equipment, deletion of one post under the Enhanced Productivity Programme and two under the Voluntary Retirement Scheme, partly offset by the creation of 15 posts for strengthening the control on food safety through monitoring the feeding of drugs and chemicals to livestock as feed additives, and for expanding the analytical capabilities in monitoring the presence of pesticides, heavy metals and western drugs in Chinese medicines.

##### Programme (2)

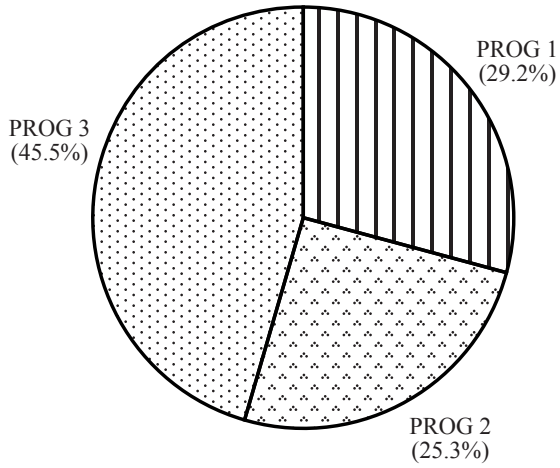
Provision for 2002-03 is \$1.8 million (2.8%) higher than the revised estimate for 2001-02. This is mainly due to the creation of two posts for improving the control of pesticides formulation, partly offset by deletion of one post under the Enhanced Productivity Programme.

##### Programme (3)

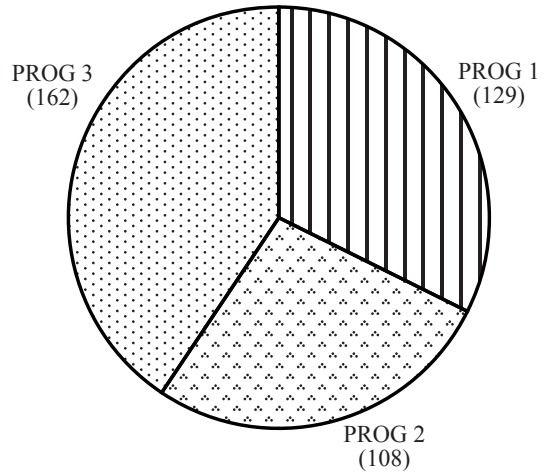
Provision for 2002-03 is \$8.8 million (7.9%) higher than the revised estimate for 2001-02. This is mainly due to the creation of 18 posts for the setting up of a new Biochemical Sciences Section and a DNA Database Section to support the implementation of the Dangerous Drugs, Independent Commission Against Corruption and Police Force (Amendment) Ordinance 2000, and for strengthening the Questioned Documents Section in analysing suspected forged travel documents, partly offset by deletion of one post under the Enhanced Productivity Programme and reduced requirement for the procurement of equipment.

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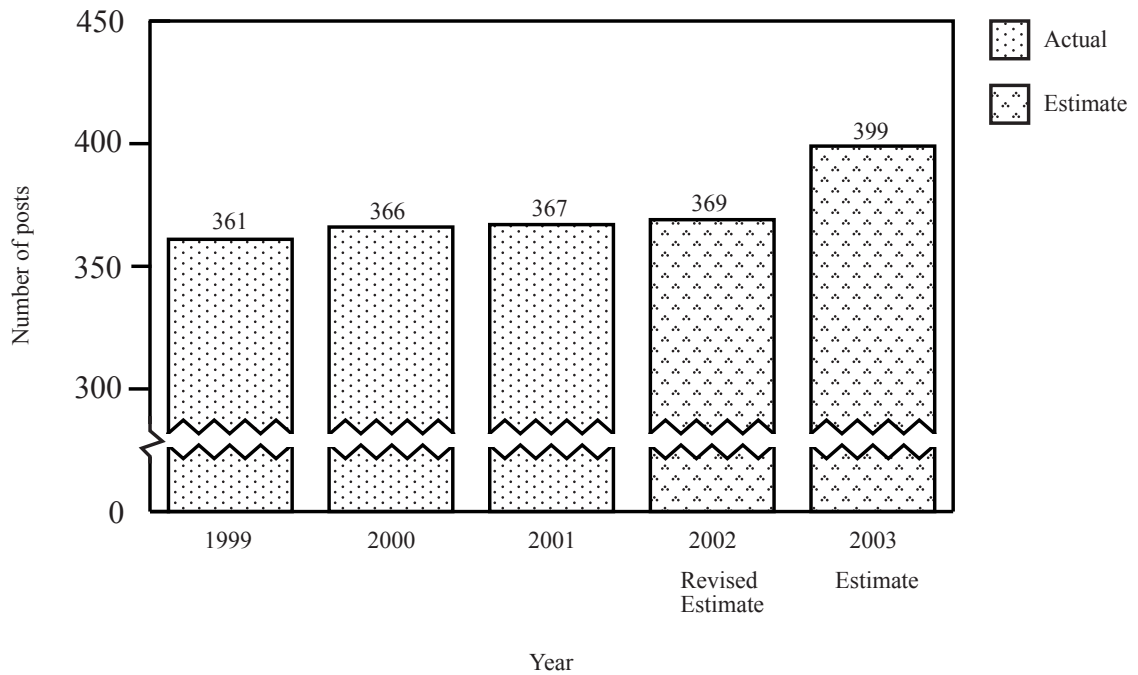
*Allocation of provision  
to programmes  
(2002-03)*



*Staff by programme  
(as at 31 March 2003)*



*Changes in the size of the establishment  
(as at 31 March)*





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Sub-head (Code)		Actual expenditure 2000-01	Approved estimate 2001-02	Revised estimate 2001-02	<b>Estimate 2002-03</b>
		\$'000	\$'000	\$'000	<b>\$'000</b>
<b>Recurrent Account</b>					
I — Personal Emoluments					
001	Salaries .....	167,127	173,309	175,040	<b>187,802</b>
002	Allowances .....	1,741	1,571	1,560	<b>1,611</b>
007	Job-related allowances .....	162	168	168	<b>171</b>
	Total, Personal Emoluments .....	<u>169,030</u>	<u>175,048</u>	<u>176,768</u>	<b><u>189,584</u></b>
III — Departmental Expenses					
149	General departmental expenses .....	38,163	46,688	46,688	<b>51,922</b>
	Total, Departmental Expenses .....	<u>38,163</u>	<u>46,688</u>	<u>46,688</u>	<b><u>51,922</u></b>
	Total, Recurrent Account .....	<u>207,193</u>	<u>221,736</u>	<u>223,456</u>	<b><u>241,506</u></b>
<b>Capital Account</b>					
I — Plant, Equipment and Works					
603	Plant, vehicles and equipment .....	2,118	9,182	19,153	<b>6,442</b>
661	Minor plant, vehicles and equipment (block vote) .....	17,612	15,406	15,406	<b>15,600</b>
	Total, Plant, Equipment and Works .....	<u>19,730</u>	<u>24,588</u>	<u>34,559</u>	<b><u>22,042</u></b>
	Total, Capital Account .....	<u>19,730</u>	<u>24,588</u>	<u>34,559</u>	<b><u>22,042</u></b>
	Total Expenditure .....	<u><u>226,923</u></u>	<u><u>246,324</u></u>	<u><u>258,015</u></u>	<b><u><u>263,548</u></u></b>

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### Details of Expenditure by Subhead

The estimate of the amount required in 2002–03 for the salaries and expenses of the Government Laboratory is \$263,548,000. This represents an increase of \$5,533,000 over the revised estimate for 2001–02 and of \$36,625,000 over actual expenditure in 2000–01.

#### *Recurrent Account*

##### Personal Emoluments

**2** Provision of \$189,584,000 for personal emoluments represents an increase of \$12,816,000 over the revised estimate for 2001–02 and takes into account salary increments for staff and new posts to be created during 2002–03.

**3** The establishment at 31 March 2002 will be 369 permanent posts. It is expected that a net 30 posts will be created in 2002–03.

**4** Subject to certain conditions, the controlling officer may under delegated powers create or delete non-directorate posts during 2002–03, but the notional annual mid-point salary value of all such posts must not exceed \$169,337,000, which will be reduced to \$168,848,000 by the end of 2002–03, upon the deletion of two posts under the Voluntary Retirement Scheme.

**5** Provision of \$1,611,000 under *Subhead 002 Allowances* is for standard allowances.

**6** Provision of \$171,000 under *Subhead 007 Job-related allowances* is for standard job-related allowances.

##### Departmental Expenses

**7** Provision of \$51,922,000 under *Subhead 149 General departmental expenses* represents an increase of \$5,234,000 (11.2%) over the revised estimate for 2001–02. This is mainly due to the anticipated increase in expenditure on procurement of additional stock of chemicals and specialist equipment to cater for new services planned to start in 2002–03.

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### Capital Account

#### Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2001	Revised estimated expenditure for 2001–02	Balance
			<u>\$'000</u>	<u>\$'000</u>	<u>\$'000</u>	<u>\$'000</u>
603		<i>Plant, vehicles and equipment</i>				
	321	Provision of DNA testing and analytical facilities for the Parentage Testing Section .....	2,293	1,292	643	358
	323	Setting up a DNA database laboratory...	9,209	825	2,300	6,084
		Total.....	<u>11,502</u>	<u>2,117</u>	<u>2,943</u>	<u>6,442</u>