

Head 48 — GOVERNMENT LABORATORY

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

Estimate 2006–07	\$245.2m
Establishment ceiling 2006–07 (notional annual mid-point salary value) representing an estimated 354 non-directorate posts as at 31 March 2006 reducing by six posts to 348 posts as at 31 March 2007	\$137.7m
In addition, there will be an estimated seven directorate posts as at 31 March 2006 and as at 31 March 2007.	
Commitment balance	\$16.2m

Controlling Officer's Report

Programmes

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

Detail

Programme (1): Statutory Testing

	2004–05 (Actual)	2005–06 (Original)	2005–06 (Revised)	2006–07 (Estimate)
Financial provision (\$m)	76.0	71.0	67.1 (–5.5%)	81.4 (+21.3%)
				(or +14.6% on 2005–06 Original)

Aim

- 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 of its performance targets in 2005. It continued to provide full support in the investigation of increased cases on adverse reaction or intoxication incidents related to Chinese medicines, such as the testing for the aristolochic acid and ephedrine alkaloids. In another area of health concern, the Laboratory provided enhanced analytical support in addressing the widespread concerns on food safety. The workload on food complaint cases had shown a sharp increase during the year. Urgent analytical services were provided on a number of ad-hoc issues and the subsequent monitoring programmes including the analysis of malachite green, etc. The Food and Environmental Hygiene Department also indicated that the additional samples submitted under its ad hoc stepped-up food surveillance programme would become a regular programme for the coming years. During the year, the Laboratory assisted the Customs and Excise Department's investigation on bottled products of suspected fake bird's

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nest under the Trade Descriptions Ordinance by conducting a large number of tests on such products. Examination of festive toys such as Mid-autumn festive toys for safety compliance had become a regular service of the Laboratory.

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

Targets

	Target	2004 (Actual)	2005 (Actual)	2006 (Plan)
<i>Testing of:</i>				
samples relating to food poisoning within one working day (%)#	100	100	100	100
food samples for regulatory compliance purposes within target reporting time averaging 19 working days (%)#.....	95	97	95	95
food complaint samples within target reporting time averaging 25 working days (%)#@	80	—	—	80
pharmaceuticals (quality control) within target reporting time averaging 14 working days (%)#	92	98	99	95
pharmaceuticals (registration) within target reporting time averaging 30 working days (%)#	90	90	92	90
Chinese medicines within target reporting time averaging 30 working days (%)#....	95	98	98	95
dangerous goods within target reporting time averaging 14 working days (%)#....	95Ω	96	98	95
dutiable and other commodities within target reporting time averaging ten working days (%)#	90	95	97	95
toys and children's products within target reporting time averaging 15 working days (%)#.....	95	98	95	95
consumer goods within target reporting time averaging 35 working days (%)#....	95	98	95	95

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.

@ New target as from 2006. This new category of food complaint samples was grouped under the category of food samples for regulatory compliance purposes in previous years.

Ω The target has been revised from 90% to 95% with effect from 2005.

Indicators

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

	2004 (Actual)	2005 (Actual)	2006 (Estimate)
<i>Tests performed</i>			
food samples for regulatory compliance purposes	115 473	136 053	100 000
food complaint samples§	—	—	10 000
pharmaceuticals (quality control)	23 471	24 322	23 000
pharmaceuticals (registration)	18 361	19 853	16 000
Chinese medicines	65 748	53 022	51 000
dangerous goods	7 129	5 512	6 000
dutiable and other commodities.....	27 361	24 936	28 000
cigarette samples.....	11 976	13 380	12 000
toys and children's products.....	8 491	11 268	8 500
consumer goods	15 460	13 393	16 000

§ New indicator as from 2006. This new category of food complaint samples was grouped under the category of food samples for regulatory compliance purposes in previous years.

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Matters Requiring Special Attention in 2006–07

6 During 2006–07, the Laboratory will continue to:

- provide analytical support to other government departments for further enhancement of food safety efforts in Hong Kong;
- participate in the development of the Hong Kong Chinese Materia Medica Standards;
- provide professional support to the drafting of the Toys and Children's Products Safety (Amendment) Bill; and
- develop testing methods to cater for the implementation of the Dangerous Goods (Amendment) Ordinance 2002.

Programme (2): Advisory and Investigative Services

	2004–05 (Actual)	2005–06 (Original)	2005–06 (Revised)	2006–07 (Estimate)
Financial provision (\$m)	56.3	56.1	56.1 (—)	59.0 (+5.2%)
				(or +5.2% on 2005–06 Original)

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 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 involve the Laboratory in on-site investigations. Analytical support is 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 swimming pool water 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 and identifying products made from endangered species.

9 The Laboratory achieved all work targets set for 2005. The Laboratory continued to render analytical support and professional advice to the Government in improving the quality of the environment of Hong Kong and engage in scientific research to further extend its analytical capabilities in environmental analysis. In addition to its routine commitments, the Laboratory was actively involved in various environmental impact studies and ad-hoc projects including the analysis of environmental samples for organic pollutants under the Toxic Substances Monitoring Programme.

10 To provide the Government and other parties with a secure technical foundation for wider agreements related to international trade, commerce and regulatory affairs, the Laboratory became a full member of the Asia Pacific Metrology Programme (APMP) in 2004 and has been designated as a metrology institute responsible for metrology in chemistry for Hong Kong, China since May 2005. The designation is recognised internationally. In 2005, the Laboratory participated in a number of international comparisons organised under the concerned framework and achieved good results comparable to those reported by other leading national/designated metrology institutes.

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

Targets

	Target	2004 (Actual)	2005 (Actual)	2006 (Plan)
<i>Testing of:</i>				
air monitoring samples within target reporting time averaging 20 working days (%)#.....	95	100	99	96
other field investigation samples within target reporting time averaging 12 working days (%)#	95	99	99	95

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	Target	2004 (Actual)	2005 (Actual)	2006 (Plan)
air samples for litigation purposes within target reporting time averaging 18 working days (%)#	97	100@	100	97
water monitoring samples within target reporting time averaging 20 working days (%)#	96Ω	98	99	96
waste monitoring samples within target reporting time averaging 27 working days (%)#	95	99	99	96
waste samples for litigation purposes within target reporting time averaging 12 working days (%)#	95	100	100	97
radioactivity monitoring samples within target reporting time averaging 12 working days (%)#	95	99	100	95
pesticides formulation samples within target reporting time averaging 38 working days (%)#	90§	90	100	90
seepage and swimming pool water samples within target reporting time averaging ten working days (%)#	95	96	97	95
other samples within target reporting time averaging 25 working days (%)#	90	97	97	90

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.

@ The target reporting time has been revised from 20 to 18 working days on average with effect from 2005. The actual figure for 2004 was based on an average of 20 working days.

Ω The target has been revised from 95% to 96% with effect from 2006.

§ The target has been revised from 85% to 90% with effect from 2005.

Indicators

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

	2004 (Actual)	2005 (Actual)	2006 (Estimate)
<i>Tests performed</i>			
air monitoring samples	91 419	76 767	61 000
air samples for litigation purposes	592	756	600
field investigation samples	1 858	1 137	1 200
water samples	125 703	128 117	125 000
waste monitoring samples	20 327	20 415	23 000
waste samples for litigation purposes	580	540	550
pesticides formulation samples	418	218	500
seepage and swimming pool water samples	37 144	46 657	40 000
miscellaneous			
radioactivity monitoring samples	4 358	4 312	4 700
other samples	8 171	17 167	8 000

Matters Requiring Special Attention in 2006–07

12 During 2006–07, the Laboratory will:

- continue to develop sensitive and advanced analytical techniques to cater for the measurement of ultra-trace levels of environmental pollutants;
- undertake preparative work for providing analytical services in the determination of volatile organic compound contents in specified products;
- continue to provide analytical services according to international protocols in support of the fuel specifications stipulated in Air Pollution Control (Motor Vehicle Fuel) Regulations;

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- provide support to government departments in pursuing action items proposed under the Hong Kong Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants; and
- provide analytical and advisory services to government departments in support of the implementation of the Chemical Weapons (Convention) Ordinance.

Programme (3): Forensic Science Service

	2004–05 (Actual)	2005–06 (Original)	2005–06 (Revised)	2006–07 (Estimate)
Financial provision (\$m)	107.9	107.6	105.9 (–1.6%)	104.8 (–1.0%)
				(or –2.6% on 2005–06 Original)

Aim

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

Brief Description

14 The Laboratory provides comprehensive forensic science services to law enforcement departments, which include mainly the Hong Kong Police Force, the Customs & Excise Department, the Immigration Department and the Independent Commission Against Corruption. Additionally, 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.

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

16 The Laboratory's performance in most areas in 2005 improved over 2004. The application of the database of DNA profiles of persons convicted of serious crimes for investigating unsolved criminal cases has continued to produce rapid developments in the application of DNA analytical techniques and affected the performance in biochemical grouping. However, the situation has been addressed by improving techniques and increasing use of resources on DNA profiling. It is expected that the designated performance targets will be met by 2006. On areas where targets were not met owing to sustained demands, the Laboratory is striving to enhance efficiency to improve the situation.

- 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 Working Days Per Case	2004 (Actual)	2005 (Actual)	2006 (Plan)
biochemical grouping (DNA profiling) -				
routine casesΩ.....	88	143	129	88
complicated casesΩ.....	154	203	188	154
DNA database (DNA profiling).....	22	22	22	22
parentage testing (DNA profiling)#.....	22	26	23	22
trace evidence.....	66	71	66	66
accident reconstruction.....	66	103	68	70
routine illicit drug seizures.....	11	10	10	10
major drug seizures and manufacturing.....	44	48	46	44
analytical toxicology.....	33	47	36	33
drug urinalysis -				
methadone clinics.....	11	9	8	9
judicial-screening§.....	11	12	13	N.A.
judicial-confirmation.....	22	23	25	20
drink-driving.....	11	8	11	9
handwriting examination.....	66	79	78	80
counterfeiting/forgery.....	33	34	33	34
express counterfeiting/forgery service.....	1	1	1	1

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- Ω The categorisation of DNA profiling cases into “routine” and “complicated” ones was first effected in 2004 and reported in 2006 to better reflect the workload situation.
- # “22 days” represents the time lapsed between the reception by the Laboratory of samples for genetic testing and the issuing of genetic data after completion of DNA analysis of these samples within the Laboratory.
- § With the application of new methodology, the presence of abused drugs in the urine samples can be confirmed directly instead of using the original screening method. With effect from 2006, all drug urinalysis findings will be confirmed results and the target on drug urinalysis (judicial screening) is to be discontinued.

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.

	2004 (Actual)	2005 (Actual)	2006 (Estimate)
<i>Criminalistics and Quality Management Group</i>			
samples tested			
DNA database.....	5 407	5 036	5 000
cases investigated			
biochemical sciences -			
routine@.....	3 957	5 131	7 600
complicated@.....	889	804	850
parentage testing.....	3 381	2 726	2 700
chemical sciences.....	953	803	850
physical sciences¶.....	970	831	750
Total.....	10 150	10 295	12 750
<i>Drugs, Toxicology and Documents Group</i>			
cases investigated			
controlled drugs.....	7 773	5 754	6 200
analytical toxicology.....	2 812	2 379	2 750
drink-driving.....	140	141	150
questioned documents.....	2 712	2 284	2 400
Total.....	13 437	10 558	11 500
test conducted			
drug urinalysis -			
methadone clinics.....	18 944	18 716	19 700
judicial-screeningΨ.....	13 729	7 900	N.A.
judicial-confirmation.....	68 081	63 994	75 000
Total.....	100 754	90 610	94 700
<i>Forensic Science Division</i>			
statutory certificates issued.....	7 998	5 932	6 550
technical reports/statements.....	19 084	17 262	17 700
crime scenes attended.....	628	437	440

@ The categorisation of biochemical sciences cases into “routine” and “complicated” ones was first effected in 2004 and reported in 2006 to better reflect the workload situation.

¶ The decrease in the number of cases investigated by the Physical Sciences Section was caused by further decrease in the submission of counterfeit HK\$10 coins.

Ψ With the application of new methodology, the presence of abused drugs in the urine samples can be confirmed directly instead of using the original screening method.

Matters Requiring Special Attention in 2006–07

18 During 2006–07, the Laboratory will:

- make further efforts to enhance the efficiency in DNA profiling services in the detection and investigation of crime, management of the DNA database and genetic parentage testing; and
- endeavour to improve the overall efficiency by refining methodology and administration.

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ANALYSIS OF FINANCIAL PROVISION

Programme	2004–05 (Actual) (\$m)	2005–06 (Original) (\$m)	2005–06 (Revised) (\$m)	2006–07 (Estimate) (\$m)
(1) Statutory Testing	76.0	71.0	67.1	81.4
(2) Advisory and Investigative Services	56.3	56.1	56.1	59.0
(3) Forensic Science Service	107.9	107.6	105.9	104.8
	240.2	234.7	229.1 (–2.4%)	245.2 (+7.0%)
				(or +4.5% on 2005–06 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2006–07 is \$14.3 million (21.3%) higher than the revised estimate for 2005–06. This is mainly due to increased requirement for procurement of capital equipment and salary increments for staff, partly offset by reduced requirement for specialist stores and deletion of two posts for efficiency savings.

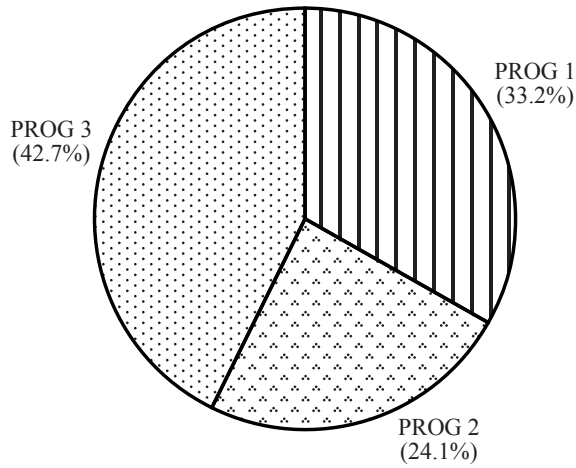
Programme (2)

Provision for 2006–07 is \$2.9 million (5.2%) higher than the revised estimate for 2005–06. This is mainly due to increased requirement for procurement of capital equipment and salary increments for staff, partly offset by reduced requirement for specialist stores.

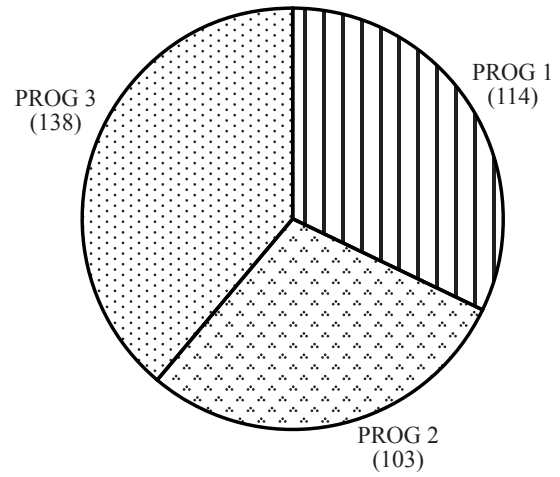
Programme (3)

Provision for 2006–07 is \$1.1 million (1.0%) lower than the revised estimate for 2005–06. This is mainly due to reduced requirement for procurement of capital equipment and specialist stores and deletion of four posts for efficiency savings, partly offset by salary increments for staff.

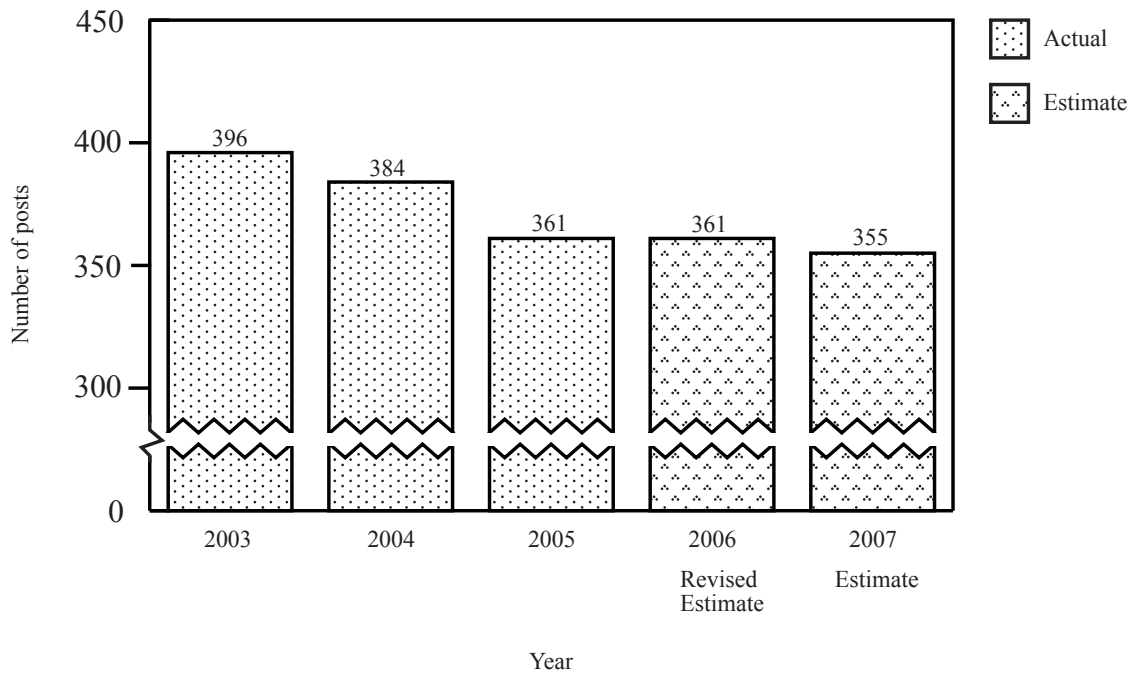
*Allocation of provision
to programmes
(2006-07)*



*Staff by programme
(as at 31 March 2007)*



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



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Sub-head (Code)		Actual expenditure 2004-05	Approved estimate 2005-06	Revised estimate 2005-06	Estimate 2006-07
		\$'000	\$'000	\$'000	\$'000
Operating Account					
	Recurrent				
000	Operational expenses	228,400	218,615	218,615	218,825
	Total, Recurrent.....	228,400	218,615	218,615	218,825
	Total, Operating Account	228,400	218,615	218,615	218,825
<hr/>					
Capital Account					
	Plant, Equipment and Works				
603	Plant, vehicles and equipment	6,283	6,402	768	16,150
661	Minor plant, vehicles and equipment (block vote)	5,549	9,687	9,687	10,182
	Total, Plant, Equipment and Works	11,832	16,089	10,455	26,332
	Total, Capital Account	11,832	16,089	10,455	26,332
<hr/>					
	Total Expenditure	240,232	234,704	229,070	245,157

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Details of Expenditure by Subhead

The estimate of the amount required in 2006–07 for the salaries and expenses of the Government Laboratory is \$245,157,000. This represents an increase of \$16,087,000 over the revised estimate for 2005–06 and of \$4,925,000 over actual expenditure in 2004–05.

Operating Account

Recurrent

2 Provision of \$218,825,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Government Laboratory.

3 The establishment as at 31 March 2006 will be 361 permanent posts. It is expected that six permanent posts will be deleted in 2006–07. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2006–07, but the notional annual mid-point salary value of all such posts must not exceed \$137,660,000.

4 An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

	2004–05 (Actual) (\$'000)	2005–06 (Original) (\$'000)	2005–06 (Revised) (\$'000)	2006–07 (Estimate) (\$'000)
Personal Emoluments				
- Salaries	166,610	158,073	159,073	161,909
- Allowances	810	895	895	953
Personnel Related Expenses				
- Mandatory Provident Fund contribution	499	510	510	434
- Civil Service Provident Fund contribution	—	—	—	418
Departmental Expenses				
- General departmental expenses	60,481	59,137	58,137	55,111
	<u>228,400</u>	<u>218,615</u>	<u>218,615</u>	<u>218,825</u>

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Commitments

Sub-head (Code)	Item (Code)	Ambit	Approved commitment	Accumulated expenditure to 31.3.2005	Revised estimated expenditure for 2005–06	Balance
			\$'000	\$'000	\$'000	\$'000
Capital Account						
603		<i>Plant, vehicles and equipment</i>				
	323	Setting up a DNA database laboratory ..	9,209	7,671	768	770
	448	Acquisition of a liquid chromatograph - mass spectrometer	4,000	—	—	4,000
	804	Acquisition of a matrix-assisted laser desorption ionisation time-of-flight mass spectrometer	3,200	—	—	3,200
	805	Acquisition of a scanning electron microscope	3,500	—	—	3,500
	806	Acquisition of a high resolution gas chromatograph - high resolution mass spectrometer	4,680	—	—	4,680
		Total	<u>24,589</u>	<u>7,671</u>	<u>768</u>	<u>16,150</u>