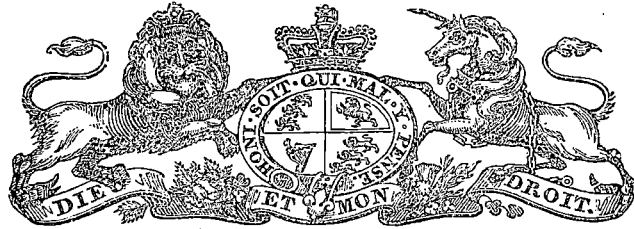


(No. 34.)



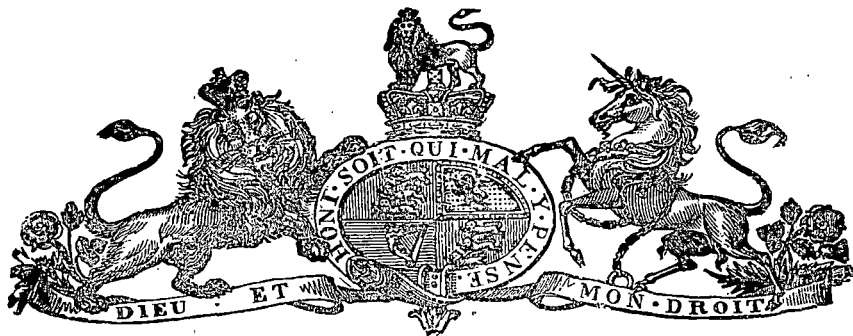
1886.

PARLIAMENT OF TASMANIA.

GOVERNMENT ANALYST:

REPORT FOR 1885.

Presented to both Houses of Parliament by His Excellency's Command.



REPORT of the Government Analyst for the Year 1885.

Government Laboratory, Hobart, 9th August, 1886.

SIR,

I have the honor to enclose Statement of all Examinations made in this Laboratory during the year 1885.

The samples of tea received show an increase of nearly seventy-four per cent., and other analyses of more than twenty per cent., on the numbers for the previous year. Notes on the various results obtained are appended.

The old house in which the work was carried on having settled to a dangerous extent, the work of the Laboratory was in March last transferred to further temporary quarters in the Barracks, pending the erection of a suitable permanent building, the money vote for which was passed during the Session of 1885.

It is proposed, in addition, to provide for the instruction of Students in Chemistry, by both Lectures and Laboratory practice; and as required, in the elements of other branches of Science.

The plan recommended is based on the following extract from an address by Sir C. W. Siemens, previously quoted by me in a note on Technical Education:—"Let Technical Schools confine themselves to teaching those Natural Sciences which bear upon practice, but let practice itself be taught in the workshop."

I have the honor to be,
Sir,

Your obedient Servant,

W. F. WARD,
*Associate Royal School of Mines, London,
Government Analyst.*

The Honorable the Chief Secretary.

STATEMENT showing Number of Analyses and Examinations made in the Government Laboratory during the Year 1885.

<i>Substance examined.</i>	<i>For the Government.</i>	<i>For Municipal Districts.</i>	<i>For Private Individuals.</i>	<i>TOTAL.</i>
Tea	1180	...	1	1181
Milk .....	...	5	4	9
Brandy .....	...	12	1	13
Rum .....	...	20	1	21
Gin .....	...	3	...	3
Whisky .....	...	7	...	7
Wine	3	5	...	8
Spirits of Wine	1	...	...	1
Chinese Spirits	5	...	...	5
Ale and Beer .....	...	3	7	10
Ditto, Dandelion	4	1	6	11
Malt and Wort .....	...	...	7	7
“Temperance” Drinks .....	...	3	1	4
Vinegar .....	...	...	1	1
Sugar	2	...	2	4
Coffee .....	...	...	1	1
Salt .....	...	...	1	1
Rice .....	...	...	1	1
Spice .....	...	...	1	1
Curry Powder .....	...	...	1	1
Hop Extract	1	...	...	1
Ore for Gold, Tin, &c.....	9	...	8	17
Oatmeal	1	...	...	1
Water .....	...	4	5	9
Bank Notes and Chemicals	3	...	...	3
Mineral for Copper, &c.....	5	...	...	5
Building Stone	18	...	...	18
Limestone and Sand	1	...	7	8
Clay	2	...	1	3
Soil .....	...	...	5	5
Bone Dust, &c. ....	...	...	10	10
Seaweed Ash .....	...	...	3	3
Diamonds for Drill	3	...	...	3
Gas Liquor .....	...	...	2	2
Kerosene	39	...	...	39
Explosives	10	...	...	10
Stomachs, &c. for poison	6	...	...	6
Clothing for stains, &c.	10	...	...	10
TOTAL.....	1303	63	77	1443

[NOTE.—The figures in parentheses show the number of examinations made in each case.]

TEA. (1181.)

These samples, with very few exceptions, were forwarded by the Collector of Customs. Forty-three (43) were found to be sufficiently adulterated to justify their compulsory re-exportation, chiefly on account of previous partial exhaustion ; but “Lie tea,” warehouse sweepings, and large additions of broken-up twigs artificially coloured in order to lessen the chance of detection by an ordinary observer, were also found. In addition, I am enabled to state on undoubted authority that the action taken in causing all teas imported to be examined has had the effect of stopping the shipment of large quantities of bad tea similar to that which formerly found a ready market in this Colony.

MILK. (9.)

About twenty per cent. of added water was detected in one sample ; in another case the suspected “milk” was found to be more than half “cream.” In the former case the offender was prosecuted, and lightly fined.

WINES AND SPIRITS. (53.)

Five samples of rum were found to contain decidedly unwholesome quantities of "fusel oil," and serious adulteration with capsicum had taken place in the case of a whisky. The vendors of this spirit and of three of the rums were prosecuted, but no conviction was obtained, the liquor in each instance being proved to be "as received from the wholesale merchants."

Some spirits of wine, imported as "methylated," was found to be so slightly flavoured as to be available for conversion into whisky if required.

Three samples of wine were examined for the Hobart and Launceston Hospitals.

CHINESE LIQUORS. (5.)

These were entered at the Customs as "medicine" and "Chinese port." All were strongly alcoholic, four being "samshoo," a spirit prepared from rice.

DANDELION ALE AND BEER. (11.)

The strength of these ranged from rather less than one up to nearly four per cent. of absolute alcohol, equivalent to about twice those proportions of "proof spirit."

COFFEE. (1)

Adulterated with chicory.

WATER. (9.)

Four of these were examined in connection with an enquiry into an outbreak of typhoid fever at Evandale. The results were included in the Annual Report for 1884, in which the subject of water supply was somewhat fully treated; this section being afterwards considerably enlarged and brought down as nearly as possible to date in a paper on the Spread of Disease by Water, read before the Royal Society here. Extended experience in Europe appears to show that Dr. Koch's method of germ cultivation, from which so much was expected, does not furnish the data necessary for forming an opinion as to the absolute safety or otherwise of a suspected supply, the only safe plan still being "to consider no water to be fit for human consumption into which sewage has entered, or can at any time enter;" and the surest test of safety, "to carefully trace the supply to its source, and ascertain that no objectionable impurity gains access to it."

BANK NOTES AND CHEMICALS.

These were examined in connection with the Beaconsfield Bank robbery case. The chemicals had undoubtedly been used for the purpose of obliterating the local stamp, the colouring matter of which was completely destroyed by their action, without further readily discernible effect on the notes.

MINERALS FOR GOLD, SILVER, TIN, COPPER, &c. (22.)

The majority of those examined for the Government were forwarded by the Inspector of Mines.

BUILDING-STONE AND SAND. (19.)

Material used in the construction of public buildings; received for examination from the Colonial Architect.

LIMESTONE. (7.)

Examined as to suitability for making hydraulic cement.

BONEDUST, ASHES, GAS LIQUOR. (15.)

Chiefly examined with a view to their utilisation in the manufacture of artificial manure.

KEROSENE. (39.)

The examination of the whole of the kerosene imported was added to the work of the Laboratory by an Act passed at the commencement of the Session.

The necessity for this legislation was well shown by the results of the first tests made. Fourteen samples were found to "flash," *i.e.*, give off inflammable vapour at temperatures ranging from two to eighteen degrees below 100° F., the minimum "flashing point" recognised as consistent with safety in temperate climates.

The lowest of these results was given by oils imported and stored in bond some time previously to the passing of the Act. The attention of the public having been directed to this matter by the condemnation of a large shipment, the opportunity was taken to recommend the publication in the press of the latest suggestions for the avoidance of accidents in using this class of illuminants.

EXPLOSIVES. (10.)

These were mostly "lithofracteur" and "dynamite," which consist chiefly of nitro-glycerine with various absorbent materials. In three instances the nitro-glycerine was exuding to a dangerous extent from the cartridges received for examination, and the destruction of the cases represented was consequently advised. The weeding out of exuding cartridges from the sound ones is permitted in Melbourne in the case of shipments from Europe, but this course could not be recommended with an explosive of Australian manufacture found in faulty condition after so short a transport.

EXAMINATION FOR POISONS. (6.)

In one case of suicide the presence of the poison supposed to have been used was confirmed. In another instance the absence of the suspected poison was proved, death having been due to natural causes.

The absence of restriction on the sale of poisons has been referred to in two previous Reports, and the advantage of compulsory registration of all such sales has been emphasised in a recent criminal trial, and in various inquests. The deterrent effect likely to be produced in some cases, with the facility for making enquiries in others, would add greatly to the general sense of security, more especially with regard to domestic animals and stock.

CLOTHING, &c. FOR NATURE OF STAINS. (10).

Examined for the Police in connection with the investigation of various criminal charges.

W. F. WARD, *Government Analyst.*