1900.

NEW ZEALAND.

EDUCATION:
THE UNIVERSITY OF OTAGO.

("THE UNIVERSITY OF OTAGO ORDINANCE, 1869.")

[In continuation of E.-7, 1899.]

Presented to both Houses of the General Assembly by Command of His Excellency.

Visitor.—His Excellency the Governor.

Council.

Appointed by His Excellency the Governor in Council—His Honour Mr. Justice Williams, M.A., LL.M. (Chancellor); E. B. Cargill (Vice-Chancellor); R. Burns, F.R.C.S.; T. M. Hocken, M.R.C.S.; G. G. Russell; J. Allen, B.A., M.H.R.; H. Clark.

Elected by graduates—D. White, M.A.; Rev. A. Cameron, B.A.; T. K. Sidey, B.A.

Elected by the professors—Professor G. S. Sale, M.A.; Professor J. Shand, M.A., LL.D.

Professors.

Classics, G. S. Sale, M.A.; Natural Philosophy, J. Shand, M.A., LL.D.; Chemistry, J. G. Black, M.A., D.Sc.; Anatomy and Physiology, J. H. Scott, M.D., M.R.C.S.; Mining and Mineralogy (vacant); Biology (also Curator of the University Museum), W. B. Benham, D.Sc.; Mental and Moral Philosophy, Rev. W. Salmond, M.A., D.D.; Mathematics (also Lecturer on Political Economy), F. B. de M. Gibbons, M.A.; English Language and Literature, T. Gilray, M.A.

Lecturers.

Jurisprudence, W. D. Milne, M.A., LL.B.; French, A. Dallas; German, G. P. Howell, M.A.; Constitutional History and Law, A. R. Barclay, B.A., LL.B.; Practice of Medicine, D. Colquhoun, M.D., M.R.C.P., M.R.C.S.; Medical Jurisprudence and Public Health, F. Ogston, M.D., C.M.; Midwifery and Diseases of Women, F. C. Batchelor, M.D., M.R.C.S., L.R.C.P.; Materia Medica, J. Macdonald, L.R.C.P., L.R.C.S.; Pathology, W. S. Roberts, M.R.C.S.; Ophthalmology, H. L. Ferguson, M.A., M.D., &c.; Surgery, L. E. Barnett, M.B., C.M., F.R.C.S.; Mental Diseases, F. T. King, M.B., C.M., B.Sc.; Clinical Medicine and Clinical Surgery, the Honorary Medical and Surgical Staff of the Dunedin Hospital; Metallurgy and Assaying, D. B. Waters, A.O.S.M.; Applied Mechanics, L. E. Cull; Mine and Land Surveying, M. Begg; General Geology, J. R. Don, M.A., D.Sc.

Registrar—A. Hamilton.

The CHANCELLOR of the University of Otago to His Excellency the GOVERNOR.

YOUR EXCELLENCY,— University of Otago, Dunedin, 1900.

In compliance with the provisions of "The University of Otago Ordinance, 1869," I have the honour to forward to your Excellency the following report of the proceedings of the University of Otago for the year ending 31st March, 1900:—

The number of students in attendance were as follows:—

	Matriculated.	Not Matriculated.	Total.
Males	154	39	193
Females	48	0	48
Total			241

The degrees obtained by the students at the examinations of the New Zealand University are as follows: Master of Arts, six; Bachelor of Arts, thirteen; Bachelor of Science, five; Bachelor of Laws, three; Bachelor of Medicine, eleven.

The Tinline Scholarship and two Senior Scholarships were awarded to students of the College.

Endowments.—The tenancy of the various runs remains the same, and the rentals are fully paid up. On the Forest Hill Run there seems to be a prospect of a payable goldfield being opened, as a number of dredging claims have been applied for on and around Pebbly Hill. Several of the claim-holders have taken up leases on the terms offered by the Council. The conditions have been made very easy, and yet, if success attends the enterprise, the Council may hope to get a much-needed addition to their revenue. The revenue derived from the quartz claims on the Musuem Reserve and the Barewood Run has been this year most disappointing, and has fallen more than £200 below the estimate which the Council made at the commencement of the year; and this estimate anticipated a decline in the yearly revenue as compared with 1898-99. Quite recently a decision of the Courts has deprived the Council of over £200 of overdue rents from this source.

Reclamation.—The Council expected in the report to be able to say that some sections of the newly reclaimed ground in Castle Street had been let, but no suitable offer has been received. As mentioned in the last report, there is no doubt that if the whole of the area were reclaimed and the hill partly levelled, the block would be much improved.

Staff.—An unusual number of changes in the staff have taken place. Early in the session W. Heinemann resigned his position as Lecturer on German, and was succeeded by Mr. G. P. Howell, M.A. At the end of the year Mr. F. B. Stephens resigned his appointment as Lecturer on Metallurgy in the School of Mines on being appointed to the Directorship of the Stawell School of Mines. He was succeeded by Mr. D. B. Waters, A.O.S.M. Mr. W. Cutten also resigned his appointment as Lecturer on Applied Mechanics, and Mr. L. E. Cull has taken his place. Three vacancies have occurred in the Council—the first by the death of the Hon. W. H. Reynolds, M.L.C., one of the original members of the Council. The following resolution was passed on the subject by the Council: "The Council desires to express its regret at the death of the Hon. William Hunter Reynolds, M.L.C., whose services, especially in the Provincial Council and in the House of Representatives, for the last thirty years have ever been at the disposal of the Council." The vacancy was filled under the provisions of the Act by the election of Mr. T. K. Sidey, B.A., by the graduates. The terms for which Professor G. S. Sale and Rev. A. Cameron, B.A., had been elected under the same Act having expired, the same gentlemen were re-elected for a further term of office.

Buildings.—In the course of executing some repairs during the winter vacation it was found that the drains from the main building required immediate attention, and the whole were put into thorough repair. The cost of doing this, however, was considerable. Hot-water services have been installed in two of the Professors' houses, and an arrangement has been made with the tenants for an increased rental, which will repay the cost of the work.

Mining School.—The report of the Director of the Mining School is annexed, and gives the particulars of the work done. In view of the very serious drain on the finances of the University caused by the cost of the School of Mines, a special appeal was made to the Government for assistance, and a special grant of £250 was received. Many very necessary repairs have been executed, and a new theodolite acquired.

The following documents are enclosed with this report: (1) The audited balance-sheet of the University for the year ending the 31st March, 1900; (2) the report of the Chairman of the Professorial Board; (3) the report of the Dean of the Medical School; (4) the report of the Director of the School of Mines; and (5) the report of the Curator of the University Museum.

JOSHUA STRANGE WILLIAMS, Chancellor.

BALANCE-SHEET of the UNIVERSITY of OTAGO for the Year ending 31st March, 1900.

Receipts.	£	s.	d.	*Expenditure.*	£	s.	d.
Balance, 31st March, 1899	697	9	1	Salaries—			
Rent of Reserves—				Professors	4,050	0	0
Burwood and Mararoa	1,300	0	0	Lecturers	831	0	0
Barewood	900	0	0	Registrar	250	0	0
Benmore	3,000	0	0	Attendants	329	12	6
Forest Hill	5	0	0	Apparatus—			
Castle Street house	45	15	0	Chemical laboratory	135	3	8
Leith Street houses	42	10	0	Physics laboratory	22	16	2
Professors' houses	240	0	0	Biological laboratory	28	10	0
Run 79c, Barewood	42	2	3	Medical School	94	14	9
Church Board of Property	1,800	0	0	Fees—Professors and lecturers	2,212	16	3
Fees	2,942	7	8	Repairs and alterations	56	15	8
Interest on fixed deposits	43	15	5	Library	53	14	10
Goldfields revenue	120	15	11	Insurance	41	16	8
Incidental receipts	39	19	5	Water, fuel, and light	194	5	11
Transferred from Stuart Prize Fund Account	8	0	0	Printing, advertising, and stationery	99	5	2
Rental of claims, Pebbly Hill	116	14	0	Incidentals	47	15	2
Purchase money of part of Forest Hill	723	11	0	Expenses, Leith Street houses	10	6	10
Burwood Timber Account	16	1	5	" Castle Street house	7	0	0
				Interest on overdraft, bank charges, &c.	16	15	3
				Interest on loan	715	10	0
				Law-costs	60	4	4
				Special expenditure	109	9	4
				Commission, Burwood Timber Account	2	10	0
				Transferred to School of Mines Account	1,084	6	5
				Transferred to Museum Account	43	15	11
				Balance	1,585	16	4
	£12,084	1	2		£12,084	1	2

SCHOOL OF MINES ACCOUNT.

	£	s.	d.		£	s.	d.
Balance	43	11	10	Expenditure—			
Receipts—				Salary of Director	600	0	0
Government subsidy	500	0	0	Salaries of lecturers	475	0	0
Special grant	250	0	0	Proportion of salaries of professors	400	0	0
Battery returns	24	0	0	Assistant	70	15	0
Incidentals	4	1	0	General expenses	20	0	0
Transferred from General Account	1,084	6	5	Insurance	10	0	0
				Chemicals, water, fuel, and light	318	19	3
				Repairs and alterations	11	5	0
	£1,905	19	3		£1,905	19	3

Museum Account.

	£ s. d.		£ s. d.
Balance	67 9 0	Expenditure—	
Receipts—		Salaries and maintenance	654 13 11
Rent of Museum Reserve	550 0 0	Bank charge, Goldfields Account ..	0 5 0
Goldfields revenue	8 14 0	Payment on account of purchase of moa's egg	15 0 0
Transferred from General Account ..	43 15 11		
	£669 18 11		£669 18 11

Richardson Scholarship Account.

	£ s. d.		£ s. d.
Balance	800 17 2	Expenditure—	
Interest on fixed deposit	5 1 4	Payment to holder	25 0 0
		Bank charge	0 10 0
		Fixed deposit, Bank of New Zealand ..	600 0 0
		" ..	174 15 9
		Balance, 31st March, 1900"	5 12 9
	£805 18 6		£805 18 6

Sir Walter Scott Scholarship Account.

	£ s. d.		£ s. d.
Balance	294 7 5	Expenditure—	
Interest on fixed deposit	8 11 0	Holder	15 0 0
		Bank charge	0 10 0
		Balance, 31st March, 1900	287 8 5
	£302 18 5		£302 18 5

Taieri Scholarship Account.

	£ s. d.		£ s. d.
Balance	267 12 2	Expenditure—Nil	..
Interest on fixed deposit	8 0 3	Balance	275 12 5
	£275 12 5		£275 12 5

Women's Scholarship Account.

	£ s. d.		£ s. d.
Balance	544 15 8	Expenditure—	
Interest on fixed deposits	16 12 11	Holder	5 0 0
		Interest on overdraft	0 5 5
		Bank charge	0 10 0
		Balance	555 13 2
	£561 8 7		£561 8 7

Macandrew Scholarship Account.

	£ s. d.		£ s. d.
Balance	741 7 4	Expenditure—Bank charge	0 10 0
Interest on fixed deposit	21 0 0	Balance	761 17 4
	£762 7 4		£762 7 4

Macgregor Prize Fund Account.

	£ s. d.		£ s. d.
Balance	116 4 1	Expenditure—Bank charge	0 10 0
Interest on fixed deposit	3 0 0	Balance	118 14 1
	£119 4 1		£119 4 1

Stuart Prize Fund Account.

	£ s. d.		£ s. d.
Balance	104 19 2	Expenditure—Transferred to General Account for prizes	8 0 0
Interest	3 4 2	Balance	100 3 4
	£108 3 4		£108 3 4

Interest Account.—No. 3 Loan: Building Purposes, £15,000, at 4½ per cent., and £1,000 for Reclamation Purposes.

	£ s. d.		£ s. d.
From General Account	715 10 0	Interest paid on £16,000	715 10 0

A. Hamilton, Registrar.

Examined and found correct,
J. K. Warburton,
Controller and Auditor-General.

Report of the Curator of the Museum for 1899.

The changes in the internal arrangement of the Museum have been few and inconspicuous, the chief alteration being the removal of the wax and other models of embryological stages of various animals, and of internal structures of animals and plants, from the Museum to the class-room, where they are more conveniently placed for examination by students, while they were entirely out of place in the Exhibition. This has allowed me to expand the collection of moa remains, and to exhibit the legs, feet, and pelves in a more prominent way because less crowded. The valuable series of moa skeletons have been relabelled; the names of some of the species have been altered in recent years. The new names had been used by the late Dr. Parker in some parts of the series, while the entire skeletons retained the old names. The series is now, at any rate, named congruously.

I have had boards painted to indicate the locality within the Museum of the different classes of exhibits, to act as sign-posts or guides to visitors who frequently come to look at some special group of exhibits.

As to the collections, very few additions have been made to the series of vertebrata, but I may mention the acquisition of a second almost complete moa's egg from the same locality as the one obtained last year. The new egg was kindly presented by the finder, Mr. Weaver, of the Earnscleugh dredge.

I am having mounted for exhibition a fine specimen of the Australian lung-fish, recently obtained by a former student of the Otago School of Mines, Mr. Sergeant, who took a great deal of trouble, and spent a great amount of energy in personally capturing the fish.

A specimen of the hammer-head shark was presented by Mr. E. Heycock, of Whangarei, the skeleton of which is being prepared by Professor Parker's glycerine-gelatine method. Skeletons of other cartilaginous fishes, similarly prepared, are also in process of being mounted for exhibition.

A considerable number of new specimens of invertebrate animals has been added: of these about fifty are spirit specimens, while the rest are dried. These include a number of New Zealand animals and a number of foreign ones.

I am gradually replacing some old, poorly preserved, or bleached or injured specimens by new ones, and am paying special attention to the New Zealand fauna. But this can only be gradually done, as occasion offers. However, during the year, I have taken every opportunity of collecting and carefully preserving animals for this purpose.

Amongst the recently-acquired specimens of our native fauna, I should like to mention the following interesting animals: A handsome and rare crab, presented by Dr. Hocken, which has been preserved by the glycerine method; a seahorse and a pipe-fish, collected at Port Chalmers and preserved in formaline, retain their natural colours well; a fine new species of barnacle (*scalpellum*), collected by Mr. Cox, light-keeper at Farewell Spit.

Amongst the specimens collected by myself at Moeraki, I came across an interesting instance of "commensalism" between two annelids. Examples of this are now exhibited.

During the year I have introduced into this collection a number of fossils, acquired by the late Curator in exchange from Mr. Ward, of Rochester, New York, but which had not been unpacked; and amongst ethnological additions may be mentioned a Fijian kava-bowl, received from Captain Hutton in exchange. The usual repairs to skeletons and other specimens, and rebottlings and relabellings have been carried out.

Wm. Blaxland Benham, D.Sc.,
Hon. Curator.

Report on the Medical School.

Sir,— University of Otago, 31st March, 1900.

I have no changes to report in the Medical School during the past year, and nothing has been done towards the much-required strengthening of the teaching staff. The usual classes have been held as in former years, and some additions have been made to the teaching appliances. I regret, however, to have to state that the new *post-mortem* room at the hospital, for want of which the teaching of pathology has been crippled for so many years, is still unbuilt, but I trust that the negotiations now going on between the University Council and the Hospital Trustees may result in something being done this winter.

There are now eighty students attending the school, and the majority of these are going through the whole of their course here, with a view to taking the degrees in medicine of the New Zealand University. Fifteen have passed their first professional examination, seventeen their second, while eleven passed their final examination in January, and are now Bachelors of Medicine and Bachelors of Surgery of the New Zealand University.

Of this year's graduates, Miss Kinder and Miss Frost are now house surgeons in the Hospital in Adelaide, Mr. Bett is house surgeon to the Auckland Hospital, Mr. Hall is junior house surgeon to the Christchurch Hospital, while Mr. McAra holds the same position in Dunedin; Mr. Cran is assistant medical officer in the Auckland Government Asylum, and Miss Platts, Miss Woodward, Messrs. Gibson, Schumacher, and Will, have gone into private practice.

I am, &c.,

The Chancellor, University of Otago. John H. Scott.

Report on the School of Mines.

Sir,— The University, Dunedin, 25th November, 1899.

I have the honour to submit my annual report regarding the attendance, work, and results of the annual examinations of the School of Mines during the past session (1899), together with remarks on practical teaching facilities, requirements, and other points concerning the school.

The attendance number of students during the past session was forty-eight, comprising forty-three regular students for the full course of the school, one student from the Thames School of Mines, holding a Government scholarship and studying for the B.Sc. degree, and four students who attended in special subjects only, viz.: two in general geology; one in assaying; and one in assaying, metallurgy, and general geology.

Of the forty-three regular students, thirty-four were previous ones returned for the finishing or further prosecution of their studies, whilst the remaining nine comprised fresh men. One of these latter attended for only the last half of the session in subjects which he could follow and understand, but in which he did not sit for examination, intending to take the subjects again next session. All these new students are desirous, so far as I could ascertain, of gaining the Associateship in Mining and the certificate of metallurgical chemist and assayer, being prepared to attend the school for four years for the purpose if required. Owing to illness, one of the older students (not reckoned in the before given number) was obliged, on medical advice, after a few weeks study, to cease attendance at the classes; and towards the end of the session three other students became ill and lost a number of lectures. With the exception of the cases just mentioned, the attendance of the various classes by the students has been very satisfactory, and there have been much fewer failures in the examinations—twenty-six against forty-nine—than last year. In this connection I may mention the gratifying fact that the eleven students who failed in mining last year all passed a second examination held during the past mid-winter vacation.

The eight new registered students passed through the first year's course of the mining division except four, who failed in mathematics, one who gave up this subject after a short attendance, and two who failed in mining geology and theoretical chemistry. Of the other thirty-four students, only a small number have strictly followed the curriculum prescribed in the calendar, and I am therefore not in the position to state exactly how many have passed respectively through the second and third year's courses, as they are prescribed. However, so much may be accepted as correct, that seven have finished their studies during the past session and will not return, whilst of the remaining twenty-seven students eleven can be placed as having passed the second, and another eleven the third year's courses, leaving five, who comprise students of from three to five years' standing, two going in for more than one certificate, and the other three requiring still to pass in one or two subjects they hitherto failed in. Of the seven students who are leaving the school six have successfully passed the examinations in all the prescribed subjects of the divisions they entered for.

All the new students who entered for the first year's course, and one older one, who had not taken the class before, attended the evening class for "first aid," established by the St. John's Ambulance Association.

The numerical attendance at all the classes and the results of the recent annual examinations are shown in the following table:—

Subjects.	Attendance.	Entered for Examination.	Results of Examinations.			
			1st Class.	2nd Class.	3rd Class.	Failures.
General (University Classes)—						
Mathematics...	10	10	1	1	4	4
Theoretical mechanics... ...	13	13	...	4	7	2
Theoretical physics	21	21	1	6	12	2
Practical physics	16	16	1	7	7	1
Theoretical chemistry... ...	13	11	1	4	4	2
Practical chemistry	11	11	3	1	7	...
Theoretical biology	1	1	...	...	1	...
Practical biology	1	1	...	...	1	...
Special (School of Mines)—						
Mining, second course	26	25	...	16	7	2
Mining geology	9	8	1	3	3	2
General geology	12	12	4	5	3	...
Palæontology	1	1	...	1	...	...
Mineralogy	12	11	...	4	5	2
Petrography	12	11	...	6	5	...
Quantitative chemical analysis ...	13	...	5	3	5	...
General metallurgy	16	16	4	6	4	2
Special metallurgy	18	18	5	5	4	4
Practical assaying, first course ...	12	12	6	6	...	...
Practical assaying, second course	11	11	1	5	5	...
Blowpipe analysis	10	10	5	5	...	...
Applied mechanics	9	9	2	3	2	2
Surveying, first course... ...	10	10	2	2	5	1
Surveying, second course ...	13	13	5	2	6	...
Model-drawing	8	8	8	...	...	...
Practical plane geometry ..	8	8	7	1	...	...
Solid geometry	7	7	7	...	...	...
Machine-drawing	8	8	3	5	...	...
Totals	...	...	72	101	97	26

Through the standstill of many of the mines in the Hauraki Goldfields, North Island, a formerly extensive field for practical mining work has been much narrowed for our students, and a number have found it rather difficult to secure working places during the vacation. However, so far as I have learnt, many have been successful on the West Coast of this Island and at Reefton, and there is only a small number of them at present still unemployed, and these have chances of soon getting work. One has gone to a prearranged place at the Great Western Silver-lead Mine, Zeehan, Tasmania. The students' travelling-expenses by sea are this year much increased, I am sorry to say, owing to the Union Steam Ship Company having seen fit to withdraw the formerly granted liberal reduction in fares.

Regarding the number of students likely to attend the school next year, it will, in all probability, not reach that of previous years. As far as the register shows, there should be thirty-six students returning for completion or further prosecution of their studies; but, of these, three are doubtful, as, judging from repeated failures, they are apparently unable to pass in some of the subjects. Reckoning, therefore, thirty-three as the returning number, this would be increased by the uncertain number of new entries, which very probably will not be as large as in former years, on account of the new regulation, that for the future all new students entering for the object of gaining any of the diplomas or certificates of the school require to have passed the matriculation examination of the New Zealand University. There are, so far, only two new students certain of entry, viz., one from Canterbury, who applied for registration some time ago, and one from our Boys' High School, who is the winner of the scholarship recently established by the liberality of the Hon. Mr. Lee Smith. Going by past experience, before the rush to the school set in, the attendance number of regular students for next session may, I think, reach forty; whilst, in addition, three or four occasional students can always be counted upon.

The Lecturer in General Geology, Dr. Don, made with his students during the session an extended field excursion, about which he reports as follows: "The excursion extended over four days. We did not find it convenient to make our usual trip south of Dunedin, but instead the Oamaru excursion was extended so as to take in the interesting Kakanui series. The places of interest visited were Sandymount and Highcliff, on Otago Peninsula; the miocene beds of Hampden, with the Moeraki series and Katiki beds; and the lower Kakanui River, with the interesting altered limestone near the mouth; further, the bedded volcanic tuffs of Cape Wanbrow, and the limestone quarries at various points around Oamaru, including the diatomaceous deposits of Weston and other parts of the district. These excursions were well attended, and much enjoyed by the students."

The highly instructive value of such geological field observations, as detailed by Dr. Don, has been pointed out by me in previous reports; but it requires to be mentioned here that Dr. Don liberally lightens the expense of the excursions to the students by open hospitality at his home near Oamaru.

The provision by the Council of a second theodolite, which was urgently needed for the large class in practical surveying (as pointed out in my last year's report), was highly appreciated by the lecturer, Mr. Begg, and the students. Mr. Begg wrote to me on this head as follows: "The acquisition of another theodolite for the school proved a great boon, as it enabled the whole class of the second year's course of fourteen to carry on field practice at the same time. A considerable amount of useful work was got through during the mid-winter vacation, including road, railway, and mining engineering. The work done by the nine students attending the lectures of the first year's course comprised the reduction of traverses, calculation of areas, keeping level-books, calculating grades and quantities, and drawing of plans to scale."

As mentioned in my last year's report, the provision of new drawings of typical mining machinery, appliances, &c., for the mining classes becomes with every year more pressing. Those in use may, with some repairing, last through next session, but, I am afraid, not beyond that. On account of a new edition of "Dana's Text-book of Mineralogy" (the one we use) having come out, in which the systematic arrangement of the minerals is considerably altered, it will be necessary to rearrange our teaching collection of minerals (over one thousand specimens) according to the new system—a task I shall try to finish during the vacation.

Following the custom of previous years, I may, from information received during the year, give the following short account of the careers of a number of our Associates: J. Chisholm is manager of cyanide works and assayer at Murrin Murrin, Western Australia; W. A. McLeod has a well paid post as lecturer at the Technical School, Hobart, Tasmania; P. McLeod is director of the Coromandel School of Mines; R. C. Boydell is general manager of the Sunlight Gold-mining Company at Metz, New South Wales; E. Graham and D. Mathieson have established themselves as public assayers and cyanide experts at Charters Towers, Queensland; E. Bray is cyanide manager at Charters Towers, Queensland; H. E. Stephens is battery manager and cyanide manager at the Lachlan Gold Estates Company, New South Wales; A. Mosley is manager of cyanide works at Mount Allen, New South Wales; A. C. Street has a good post in the service of a mining syndicate in the Island of Borneo; Adam Hay is assayer at the Mount Lyell Mine, Tasmania; D. V. Allen is battery manager's assistant at the Kauri Gold Estates Mine, Opitonui. Those past students I mentioned in my last year's report are, so far as known, still in the positions they occupied at that time.

The work done for the public since the end of last year's session by Mr. F. B. Stephens, the lecturer in metallurgy, in assays, and analyses, and with the testing plant, and by myself in the determination of minerals and rocks, was as follows:—

Assays and Analyses charged for at Fixed Rates. Executed by Mr. F. B. Stephens.

1898.
Nov. 3. Assay of sample of sand, for gold, for Harty and Co., Dunedin.
Nov 6. Assay of sample of iron ochre, for iron, for Mr. Smaill, Dunedin.

1898.
Nov. 16. Two assays of two samples of tailings, for gold, for Cromwell Quartz-mining Company. Two assays of two samples of quartz, for gold, for Mr. Batchelor, Invercargill.
Nov. 19. Three assays of three samples of quartz, for gold, for Mr. D. Reid, jun., Dunedin.
Nov. 28. Assay of sample of tailings, for gold, from Preservation Inlet.
Nov. 29. Assay of sample of quartz, for gold, for Mr. E. Trythall, Dunedin.
Dec. 8. Assay of sample of black sand, for gold and platinum, for Messrs. Cook and Grey, Dunedin.
1899.
Jan. 3. Analysis of sample of coal, for Mr. B. Campbell, Invercargill.
Jan. 31. Two assays of two samples of quartz, for gold, for Mr. C. W. Brown, Invercargill.
Feb. 4. Analysis of sample of scheelite, for tungstic acid, for Mr. Spears, Dunedin.
Feb. 3. Assay of sample of quartz, for gold, for Mr. Gilmore, Dunedin; assay of sample of tailings, for gold, for Messrs. C. S. Reeves and Co.; assay of sample of tailings, for gold, for Mr. H. C. Bruce, Christchurch.
Feb. 10. Six assays of six samples of quartz, for gold, for Messrs. Lee and Proctor, Dunedin; assay of sample of quartz, for gold, for Mr. J. A. Miller, Arrowtown.
Feb. 15. Assay of sample of quartz, for gold, for Mr. J. McAlister, Invercargill.
Feb. 16. Assay of sample of quartz, for gold, for Mr. R. Allen, Invercargill.
Mar. 3. Assay of sample of quartz, for gold, for Mr. A. Nevin, Arrowtown.
Mar. 6. Assay of sample of black sand, for gold, for Messrs. Cook and Gray, Dunedin.
Mar. 8. Assay of sample of quartz, for gold, for Mr. G. A. Wheeler, Bluff.
Mar. 13. Analysis of sample of limestone, for Mr. T. Swanson, London; assay of galena, for lead and silver, for Mr. R. Ross, Dunedin.
Mar. 16. Assay of sample of sand, for gold, for Hauraki Sterling Gold Dredging Company.
April 3. Assay of sample of quartz, for gold, for Mr. A. Campbell, Reefton.
April 14. Three bulk assays of quartz, for gold, for Mr. J. S. Swan, Invercargill.
April 20. Assay of sample of sand, for gold, for Mr. A. Lindsay, Invercargill.
April 21. Assay of sample of quartz, for gold, for Mr. Antonio Zala, Ross.
April 25. Thirteen assays of quartz, &c., for gold, silver, and lead, from Preservation Inlet.
June 9. Assays of two samples of tailings, for gold, for Messrs. C. S. Reeves and Co., Dunedin.
June 22. Assay of sample of rock, for gold, for Mr. Wolhman, Dunedin.
July 5. Assay of sample of pyrite, for gold, for Mr. Thomas Graham, Otama.
July 7. Six assays of six samples of quartz, for gold, for O.P.Q. Gold-mining Company, Waipori; assay of sample of quartz, for gold, for Wilberforce Gold-mining Company, Ashburton.
July 14. Eighteen assays of eighteen samples of tailings, for gold, for the Cromwell Proprietary Gold-mining Company.
July 27. Assay of sample of quartz, for gold, for Mr. S. Winn, Otautau.
Aug. 24. Four assays of four samples of quartz, for gold, for the O.P.Q. Gold-mining Company, Waipori.
Sept. 13. Three assays of three samples of quartz, for gold, for Mr. G. R. Wilkinson, Dunedin.
Oct. 12. Assay of sample of tin ore, for tin, for Mr. C. Ronaldson, Dunedin.
Oct. 23. Assays of two samples of quartz, for gold, for Mr. D. Reid, jun., Dunedin.
Oct. 28. Assay of sample of black sand, for gold, for Miss E. Benjamin, Dunedin.
Oct. 30. Assay of sample of black sand for Mr. H. McPhail, Dunedin.

Parcels of Ore Treated by the Testing Plant.

May 23. 4½ tons of quartz from Preservation Inlet by wet crushing and amalgamation, for Mr. A. Durie.
June 23. 2 tons 5 cwt. of quartz, by wet crushing and amalgamation, for Mr. R. McCormack, Otautau.
July 5. 1 ton of quartz, by wet crushing and amalgamation, for the Wilberforce Gold-mining Company, Ashburton.

[With regard to this limited use made of the testing plant, there can be no doubt that it is mainly owing to the great boom in gold-dredging which has placed prospecting for auriferous quartz reefs quite at a discount.]

Determinations of Mineral and Rock Specimens, and Information and Reports on various subjects (furnished by myself and not charged for).

1898.
Dec. 19. Letter to Mr. Robert McMorran, Haast Pass, South Westland, regarding the prospecting
1899. of the Gorge River district.
Jan. 9. Explanatory letter about the classes, and aims of our School of Mines, to Mr. Jones, Carterton.
Feb. 16. Letter to Mr. J. A. Miller, Arrowtown, about a sample of quartz supposed to contain tellurium and gold. An examination of the sample proved both tellurium and gold to be absent.
Mar. 13. Two mineral specimens forwarded by Mr. R. Ross, Riverton, proved, on examination, the one to be galena, the other copper pyrites.
May 8. Two samples of rock from a quarry between Gore and Waikaka Siding, forwarded by editor of *Witness*, proved, by microscopic and chemical tests, both to be calcareous fine-grained sandstone, though outwardly much resembling intrusive rock.
June 1. Specimens from Georgetown, sent by editor of *Witness*, were supposed to be valuable, but proved to be dense, laminated quartzite, of no value whatever.

1890.
June 24. Specimens of a heavy reddish brown mineral from the Taieri district, sent by Mr. Cockrell, were supposed to be scheelite, but proved to be rhodonite.
June 25. Letter to Mr. W. Smith, Ashburton, about the possible occurrence of moa bones in an old buried swamp.
Oct. 10. Sample of ferruginous clay, sent by editor of *Witness*, was supposed to contain gold, but proved to contain none.
Nov. 15. A metallic mineral, forwarded by editor of *Witness*, found in a reef formation at Nevis, proved to be iron pyrites.

Donations to our Mining Museum.

Mr. J. M. Maclaren, Director, Coromandel School of Mines: A fine specimen of native arsenic, impregnated in parts with fine specks of native gold; also two specks of crystallized gold in calcite.

Mr. D. P. Allen: A small collection of rock specimens from Preservation Inlet, including granite, diorite, limestone, mica schist, &c.; also several specimens of auriferous quartz, rich in zinc-blende from the Morning Star Reef.

Mr. F. B. Stephens: A number of good specimens from the Nelson District, illustrating the modes of occurrence of asbestus (chrysolite) in massive serpentine; also two specimens of magnetite from same locality.

Mr. A. Hamilton: A fine specimen of chlorite rock, inclosing large crystals of tourmaline, from the Nelson District.

Mr. A. Sligo: Large collection of massive pieces of copper, lead, and tin ores, from mines on the West Coast of Tasmania; presented after being shown in the Auckland Industrial Exhibition.

Mr. J. Logan: Several specimens of talcose schist impregnated with sylvanite (telluride of gold), from Kalgoorlie, Western Australia.

Mr. W. Goodlet: A specimen of quartz showing included specks and patches of molybdenite, from the neighbourhood of Greymouth.

Mr. W. H. Macadam: Large specimen of auriferous pyrite, from New South Wales.

Mr. R. H. Walcott: A specimen of spherulitic pitchstone, from Gippsland, Victoria.

Mr. W. A. MacLeod: Sixteen specimens of rare rocks, including trachyte, hauyne-trachyte, syenite, &c., recently identified at Port Cygnet, Southern Tasmania.

Dr. Black: A fine specimen of cinnabar, from a vein recently discovered in the Waitahuna district.

Mr. W. Begg: A piece of fossil resin, inclosed in argillaceous shale, found at a depth of 20 ft., in a quarry at Whangarei, North Island.

Mr. G. B. Neale: Two specimens of rich copper ore, consisting of cuprite with native copper, from a new discovery at Murrin Murrin, Western Australia.

All the specimens enumerated have been labelled and arranged, partly on shelves, partly in the glass wall-cases, which latter are now gradually becoming rather crowded.

I have, &c.,

The Chancellor, University of Otago.

GEORGE H. F. ULRICH,
Director, School of Mines.

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