

1915.
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY:
KAURI-GUM INDUSTRY.

REPORT FOR YEAR ENDED 31st MARCH, 1915; TOGETHER WITH STATEMENT OF ACCOUNTS.

Presented to both Houses of the General Assembly pursuant to Section 5 of the Kauri-gum Industry Amendment Act, 1914.

SIR,—

Department of Lands and Survey, Wellington, 1st June, 1915.

As this is the first report presented to Parliament since the passing of the above Act, it may be well to briefly narrate the circumstances leading up to its passing prior to reporting on the operations undertaken. The Kauri-gum Industry Act, 1898, authorized the setting apart of areas of gum-bearing Crown lands, which were not to be available for settlement, but only for kauri-gum digging. From the passing of the Act up to 1914 a total area of 276,210 acres had been set apart as kauri-gum reserves, and an area of 48,849 acres withdrawn from the operations of the Act, in addition to the area affected by the Kaitaia Land Drainage Act, 1913. As it was thought that portions of the reserves could now be withdrawn from reservation owing to their being worked out through gum-digging operations, a Royal Commission was appointed in March, 1914, consisting of Messrs. R. P. Greville, F.R.G.S. (Lands and Survey Department), as Chairman; Samuel Stafford, of Waipu; William Stewart, of Kawakawa; Robert Hebden, of Waihopo; and J. M. McKay, of Waipu. The Commission inspected the areas set apart and submitted a comprehensive and valuable report on the subject, which report was duly laid before Parliament as paper C.—12 of 1914. The Commission recommended that the reservation be cancelled over 71,164 acres of kauri-gum reserves, that the State should break in and develop the gum lands before disposal, that the checking of sand-drift on certain areas and the afforestation of other areas should be dealt with, that a Department be set up to take charge of the gum lands and the kauri-gum industry generally, and considered that the development of the Crown gum lands under judicious management offered a practicable solution of the “unemployed” difficulty for many years to come.

To give effect to these recommendations the Kauri-gum Industry Act was amended, and gave the Minister of Lands general powers to work kauri-gum lands belonging to the Crown, and to purchase kauri-gum from diggers and sell it to the best advantage. Officers were to be appointed and money raised for the purpose of the Act. In accordance therewith operations under the Act were undertaken by the Lands and Survey Department, and Mr. R. P. Greville was appointed Kauri-gum Superintendent.

The appended report by the Superintendent contains an interesting and graphic account of work under his control, which bears evidence of a thorough grasp of the position, and shows that the action taken by the Government has been beneficial to the industry, and afforded much-needed relief.

I made a personal inspection recently of what was being done, visiting the workings in the far north of the Dominion in company with the Superintendent, and I have much pleasure in testifying to the latter's energy and thoroughness. I regret that this will be the last report that I will have the opportunity of presenting, as I will shortly be retiring from the Service, but I wish my appreciation of the great energy displayed from first to last by Mr. Greville to be placed on record.

I have, &c.,

JAMES MACKENZIE,

Under-Secretary for Lands.

The Right Hon. W. F. Massey, P.C., Minister of Lands.

Statement of Accounts (as required by Section 5 of the Kauri-gum Industry Amendment Act, 1914) for the Year ended 31st March, 1915.

1915.	Receipts.	£	s.	d.	1915.	Expenditure.	£	s.	d.
March 31.	To Debentures raised under the Kauri-gum Industry Amendment Act, 1914 ..	14,000	0	0	March 31.	By Wages paid to workmen engaged upon face diggings (including bonuses, £86 14s. 3d.) ..	1,992	7	3
						Wages of overseers and gum-buyers ..	306	13	0
						Machinery, plant, &c., procured for face diggings ..	382	13	4
						Advances to gum-diggers ..	1,952	18	10
						Travelling expenses of Superintendent, gum-buyers, and overseers ..	134	1	4
						Office expenses, administration, &c. ..	121	17	6
						Freights, &c. ..	101	19	1
						New Zealand Loans Act, 1908—Charges and expenses ..	0	3	6
						Balance—			
						Cash in Public Account ..	8,978	10	2
						Imprest advances outstanding ..	28	16	0
							9,007	6	2
							£14,000	0	0

Loan Account.

1915.				1915.			
March 31. To Balance		£	s. d.	March 31. By Debentures raised under the Kauri-gum Industry Amendment Act, 1914 ..		£	s. d.
		14,000	0 0			14,000	0 0
		£14,000	0 0			£14,000	0 0

JAMES MACKENZIE,

Under-Secretary for Lands.

J. H. O'DONNELL,

Chief Accountant,

Department of Lands and Survey.

Examined and found correct.

ROBERT J. COLLINS, Controller and Auditor-General.

[NOTE.—These figures represent the amounts charged up in the Treasury books at 31st March, but do not include all commitments entered into, as some had not been brought to charge at that date.]

REPORT OF THE KAURI-GUM SUPERINTENDENT.

SIR,—

Auckland, 10th May, 1915.

In submitting the first annual report of the operations in connection with the kauri-gum industry, I think it is fitting and proper that I should make some reference to the special circumstances which gave rise to the important developments which have taken place in connection with the kauri-gum industry during the past twelve months.

It will be remembered that shortly after the commencement of the war strong representations were made both in Parliament and to you officially by various petitioners as to the distress likely to be caused to the workers engaged in the kauri-gum industry owing to the dislocation of the kauri-gum market caused by the war, and strong appeals were made that assistance should be given by the Government. At your request a full report on the question was made to the Minister. Preparatory to making the report a hurried tour was made of the northern gum-fields, and meetings of persons interested were held at all the main centres of the industry.

SLUMP IN GUM TRADE.

As the result of the inquiries made I reported that the then condition of the gum industry was a serious one, and that it was necessary that some measures should be taken to help the workers engaged therein during the continuance of the war. At that time kauri-gum was practically unsaleable on the gumfields, although, as it was pointed out, there were a few speculators operating on some grades of gum at prices considerably less than those ruling before the war. It was ascertained at that time, as evidence of the serious slump in kauri-gum, that soon after the declaration of war nearly 90 per cent. of the gum-sorters employed in Auckland City had been thrown out of employment, while on the gumfields themselves business was in a very depressed state. Some of the storekeepers had altogether stopped buying gum, and had ceased to give credit to the diggers. The depression was being keenly felt on all the gumfields, especially by married men with families, and by the large numbers of Maoris engaged in gum-digging. The position, however, was most acute in the far North, for in all that large district lying to the north of Lake Ohia and Waipapakauri, and extending nearly to the North Cape, gum-digging is almost the only avenue of employment, and there it was that the great bulk of the gum-digging population were then carrying on their operations. In some of the southern districts there was a prospect of other employment when there was a slump in gum, but in the far northern region referred to there was no alternative employment. The position as far as the working-man was concerned was that he either had to engage in gum-digging or to migrate.

Attention was drawn to the fact in the report that there was an almost unanimous feeling prevailing among the gum-diggers, and strongly manifested at all the meetings, in favour of

the State taking over the whole control of the kauri-gum industry. It may be noted that it was then pointed out to the diggers that the time was not considered opportune for discussing such a proposition, and that all that could be reasonably expected from Parliament was an undertaking to relieve any distress existing among the gum-diggers during the continuance of the war.

The report went on to say that while there were several gum-diggers who had saved a little money during the good times, and who were in a position to hold their gum until the prospects improved, there were a great many married men, and practically the whole of the Maori population, who in the past had been living from hand to mouth, and who would soon be in distress unless assistance was given to them.

It was suggested that if it were decided to assist the industry at the time such assistance should be given only in necessitous cases, and that two methods of procedure likely to meet the circumstances of the case might be adopted. The first proposition was to put on men to dig "on a face" particular areas of kauri-gum reserves; the second was to make advances to the gum-digger on the security of his gum. It was suggested that workers should be started face digging on selected areas on the kauri-gum reserves at Waiharara and Mangawai, and that in other localities advances should be made up to, say, 35 per cent. of the value of the gum on the basis of prices ruling before the war. It was not anticipated that, provided the matter of finance could be arranged, any difficulty would be experienced in carrying the project to a successful issue.

It was further explained that, in regard to the gum industry, the position might be stated as presenting the alternatives, either the gum-digger had to be assisted to carry on during the war, or very large numbers of men would be thrown out of employment and become more or less a burden on the State.

The ordinary methods of providing for unemployment in the past had been to employ the men either on roadworks and railway-construction or bushfelling on Crown lands. All such works were, of course, regarded as reproductive, but the returns from such expenditure were often a long time becoming apparent. On the other hand, it was suggested that if men were employed in gum-digging they would produce a commodity which, as soon as the gum-market became normal, would be convertible into cash, and that all the money expended in labour and administration would be recouped by the State.

Reference was made to the fact that in the report of the Kauri-gum Lands Commission it had been pointed out that the development of the gum lands of the Crown under judicious management presented a practicable solution of the "unemployed" difficulty, and it was suggested that the time was then opportune to give effect to the proposal not only as a means of relieving distress among the gum-digging population, but also among workers in other parts of the Dominion. It was suggested that the workers should form themselves into parties of five or six men and work on the co-operative system, on the selected areas, digging the land on a face, all the gum being recovered in the operation, and all timber met with thrown up on the surface of the land, and the land left in a suitable condition for future farming operations. It was predicted that such works on carefully selected areas would prove largely self-supporting, and in some cases would result in a profit to the State. In addition there would be a great improvement to the land, which would then be left in a high state of cultivation at practically no cost.

The report went on to say that if the recommendations were given effect to it would be necessary to build depots to store the gum. It was proposed that the depots should be erected on the gumfields as near to the port of shipment as was found practicable. The alternative was to have the gum transported to Auckland and stored there. The latter method was considered the more costly, besides necessitating the immediate payment of freight from the gumfields to Auckland, and it was thought that such expense might well be postponed until such time as the gum-markets became active.

In regard to the recommendation to make advances to the diggers on the value of the gum, it was explained that some of the storekeepers on the gumfields at that time were making an advance on account of gum, but only for stores. One storekeeper had stated that he was advancing up to 35 per cent. on last year's prices, but he was not paying out in cash. He said that he would probably be able to continue making such advances for two or three months, but after that time he would require assistance. He then had nearly two hundred diggers (mostly Maoris) on his books.

It was suggested that it might be found expedient, in the event of assistance being given to the industry, to make advances to reputable storekeepers in particular cases. It would be necessary that all advances should be made on careful valuations. It was not considered advisable to make any advances at all on the "gum dust"—that is, on the lowest grade of gum, which it may be explained is used in the manufacture of linoleums, and much of which was exported to Germany and to the Continent. It was necessary, owing to the expense of storage, that this grade should be retained by the gum-digger until such time as it should become marketable.

The report concluded by suggesting that a sum of £50,000 would be required to give full effect to the recommendations contained therein.

As an outcome of the report, of which the foregoing is a synopsis, the question of giving relief to the industry came before Parliament for consideration last session, and the Kauri-gum Industry Amendment Act, 1914, was passed and became law on the 6th November, 1914. This Act authorized the working of the kauri-gum lands, the purchase and sale of gum by the State, and contained authority for the raising of the sum of £50,000 for the purpose of the Act.

In regard to the purchase of gum, in order to meet the special circumstances of the case the Act authorized the making of an advance to the vendor of 50 per cent. of the value of the gum on the basis of prices current on the 1st July, 1914.

Prior to the passing of the Act active measures had been taken with a view to commencing operations as soon as proper authority had been obtained. Certain preliminary steps had been taken in connection with the face-digging works at Mangawai and at Waiharara, and arrangements in connection with the purchase and storage of kauri-gum had been put in hand.

FACE-DIGGING WORKS.

Operations in connection with the above were commenced at Mangawai towards the end of October, and the works were in actual operation shortly after. Work of a similar nature was commenced at Waiharara about the middle of November, and at Waihopo early in January of this year. It may be here interesting to indicate the actual localities of the various works and the means of access thereto.

Mangawai is a small township on the east coast, on an inlet of the same name, situated about seventeen miles south of the entrance to the Whangarei Harbour. The port of Mangawai is navigable for boats drawing about 6 ft. of water.

Waiharara is a kauri-gum settlement on the western shores of Rangaunu Bay, about twenty miles west of the Town of Mangonui. The port of Waiharara is at Kaimaumu, which lies about three miles and a quarter to the north-east. Goods are transported from Waiharara to Kaimaumu by launch and punt.

Waihopo is situated at the northern end of the Houhora Harbour, about twenty-five miles south of the North Cape. The port of shipment for Waihopo is at Pukenui, on the southern side of Houhora Harbour, at a distance of about two miles from the entrance. From Waihopo goods are transported by launch and punt to Pukenui.

“Face digging,” as the name implies, consists of turning over the land on a face—or, in other words, of digging the ground to the depth the gum is found—all timber met with being thrown up on the surface, and the ground left in a fairly even state suitable for subsequent farming operations. In the course of the work care is taken, as far as is found practicable, as the digging proceeds, to throw the top spit of the ground well back on to the surface of the ground already turned over. All the kauri-gum swamps contain buried timber in almost inconceivable quantities. The presence of the timber makes the work slow and arduous, and necessitates the use of jacks and explosives to facilitate the operations.

The actual scene of the works at Mangawai is about three-quarters of a mile from the village, on what is known as the Mangawai or Coal Hill Kauri-gum Reserve. This reserve comprises an area of 3,669 acres, of which about 800 acres is rich gum-bearing swamp land. The face-digging works were started on the eastern boundary adjoining Mr. Hogan's property. The swamp area being dealt with contains about 200 acres, and the whole of this area had been dug over and extensively potholed for the past forty years.

At the time of the great Austrian influx to the gumfields in 1896 Mr. Hogan informs me that from seven hundred to eight hundred Austrians were engaged in gum-digging on the land where the face-digging works are now going on. For several months this huge band of men were rooting up this area of land in all directions, and during that time dug tens of thousands of pounds' worth of gum from this Crown property. There could be no better illustration than is here afforded of the great wealth originally contained in the gum lands of New Zealand. It is suggested that some of these lands contained deposits of kauri-gum worth two or three thousands of pounds per acre. It may be here relevant to point out that these alien diggers enjoyed the privilege of digging all this wealth from the Crown lands of New Zealand on payment of the merely nominal license fee of less than 1s. a week per man.

Up to the end of the year an area of 15 acres had been turned over at Mangawai, at a total wages-cost of £1,673, and the estimated value of the gum recovered on the basis of July prices amounted to £2,200, showing a surplus of £527. To this should be added the improvement to the land, which may on a conservative estimate be put at £10 an acre, which represents a further sum of £150 to the credit of the works. The land operated upon has been dug to an average depth of 3 ft. Drains have been cut at frequent intervals, and about 8½ acres of the land has been logged up and the timber stacked in rows on the sides of the drain. As an indication of the large quantity of timber handled it may be pointed out that the timber, consisting of roots, stumps, and logs, is stacked in rows ranging from 3 ft. 6 in. to 4 ft. in height, the rows extending for a total length of about 70 chains. In the course of the work several fine kauri logs were uncovered, some of which have been cut into fencing-posts, of which there are now over seven hundred stacked ready for sale.

At Waiharara the work is being carried on in a locality known as the Big Flat, situated about two miles to the west of the Waiharara landing. The Big Flat contains an area of 900 acres, and is all land of a good quality. The flat is surrounded by an amphitheatre of low sandstone hills nowhere exceeding 250 ft. in height above sea-level. This area of land when all the gum has been recovered from it offers exceptional facilities for intense cultivation for fruit and general farming purposes. Lying to the south of the Big Flat, and separated from it by a low range of sandstone hills, lies the Waiparera Lake, which covers an area of 265 acres. The lake has an average depth of about 12 ft., and the surface of the water is 65 ft. above the level of the Big Flat. A tunnel 7 chains long will be sufficient to irrigate the whole of the Big Flat and the vast areas of land adjoining. Here an area of about 11 acres has been turned over at a wages-cost of £506, and the value of the gum produced on July prices is estimated at £447. Putting down the improvement to the land at £10 an acre, which amounts to £110, the works show a credit of £41. In connection with these works there were many disadvantages to be contended against, and considerable lengths of draining to be done, the cost of which has militated against the production of gum.

At Waihopo the work is being carried on on what is known as the Bulldog Flat. This contains an area of 800 acres, and is practically all gum-bearing. The land is not of such good quality as the land at the Big Flat, but will nevertheless prove suitable for farming purposes when the digging-works are completed. Here an area of about 4 acres has been dug at a wages-cost of £411, and the estimated value of the gum on July prices amounts to £475, showing a surplus of £64; in addition to this there is the improvement to the land, estimated as before at £10 an acre, which gives a further credit of £40.

The whole of the gum recovered at the Mangawai works has been transported to Auckland, and is stored in the main depot. The gum recovered at Waiharara and Waihopo is being stored locally.

RESULTS SUMMARIZED.

Summarized, the results of the whole of the face-digging works up to the end of the year are: Total wages paid amount to £2,590; total estimated value of gum produced on July prices, £3,122; total improvement to the land on a total of 30 acres at £10 an acre, £300: showing a total credit of £830. After deducting 10 per cent. of the gross returns, which more than covers the administrative cost, there remains a net surplus of over £500, which is considered a liberal margin of safety to set against the estimates of value based on July prices.

IMPROVEMENTS OF LANDS DEALT WITH.

In considering the question of the improved condition and value of the land as a result of the face-digging operations, merely to say that the land is improved does not adequately describe the circumstances of the case. It would be more correct to say that most of the land dealt with, before the digging operations were carried out, was simply a desolate waste, literally riddled with potholes, and of small value save for the gum it contained; while after the land had been turned over, the holes filled in, and the timber and stumps removed it was converted to a condition suitable for permanent and profitable occupation for farming purposes.

KAURI-SWAMP TIMBER OF ECONOMIC VALUE.

Special reference has already been made to the vast amount of timber uncovered in the course of the digging-work. It seems from inquiries and investigations made up to the present that the amount of kauri-gum contained in this long-buried timber is of economic value, and will pay for treatment by scientific processes for the gum and other products it contains. Some important preliminary tests of the kauri-swamp timber have been made by the Dominion Analyst, with what must be regarded as very encouraging results.

A carefully selected average sample of the timber was submitted for investigation soon after work was started at Mangawai, and the following is Dr. Maclaurin's report thereon:—

Kauri-swamp Timber.

16th April, 1915.

THE sample consisted of knots and rough pieces of old kauri timber which had been dug from a swamp. It weighed approximately 27 lb., and for treatment purposes was divided into four portions. These were—(A) Dust and fragments of gum and detached pieces of bark, which comprised about one-tenth of the whole; (B) those portions of wood and bark on which gum was plainly visible, and which were cut out from the larger pieces; (C) bark which showed no gum; (D) large pieces of wood with no visible gum. These were sampled by sawing and collecting the dust.

Each of these portions was extracted with boiling anylic alcohol, which dissolves kauri-gum, and the extract saponified and further extracted with sulphuric ether both before and after acidifying. The sum of the ether extracts, and a resinous substance which appeared on acidifying, and which was insoluble in ether, was considered to represent the kauri-gum present. Although a blank experiment with kauri-gum (pure) showed that practically all the gum could be extracted by this means, probably an appreciable proportion of other substances would be also extracted from the timber.

The results were—A, 31.1 per cent.; B, 41.8 per cent.; C, 16.5 per cent.; D, 16.8 per cent. The average over the whole of the sample as received would be about 19.4 per cent.

These results show that the dust and bark (portions A and C), which are easily separated, and need very little pulverizing, contain 15 to 40 per cent. of kauri-gum. If separated and stored they could probably be treated by an extraction process.

The cutting-out of the gummy portions of the wood (B) from the rest of the timber would be a tedious process, and might not pay for the labour involved. The timber would probably have to be treated without any such separation. It would be difficult to reduce to a sufficiently fine state of division for extraction to be feasible. Distillation at low pressures might yield some commercial products of value.

These results, although probably too high, are sufficiently accurate to show that the timber forwarded contains a large amount of kauri-gum. In order to determine whether this sample is fairly representative it would be advisable to send me further samples from other parts of the field.

J. S. MACLAURIN, D.Sc.,
Dominion Analyst.

The Kauri-gum Superintendent, Warwick Chambers, Auckland.

Further samples of the timber, which it is fully anticipated will give equally satisfactory results, are being forwarded to Dr. Maclaurin.

RATE OF WAGES PAID ON FACE WORKS, ETC.

Before leaving the subject of face digging it should be mentioned that the wages paid to the men engaged on face-work are 1s. an hour, with the maximum number of fifty hours per week. In addition to the wages the men are paid a bonus of 2s. a hundredweight on the amount of gum recovered. A few boys and old men who are employed collecting, drying, and assisting in the sorting of the gum are paid 8d. an hour.

The question of increasing the bonus on the amount of gum recovered is now under consideration.

At each of the face-digging works a gun-shed had to be erected. The necessary buildings were constructed mainly of corrugated iron. The shed at Mangawai is 24 ft. by 16 ft.; at Waihopo and Waiharara the size of the shed is 30 ft. by 20 ft. Since the close of the year it has been found necessary to make considerable additions to the Mangawai and Waihopo buildings in order to provide adequate storage accommodation for the gum recovered by the digging operations.

It is pleasing to be able to record that with very few exceptions the men engaged upon the face-digging works have loyally co-operated to make the undertakings a success.

PURCHASE OF KAURI-GUM.

The authority for the purchase of kauri-gum is contained in section 2 of the Kauri-gum Industry Amendment Act of 1914, which reads as follows:—

2. (1.) Subject to the provisions of this Act, it shall be lawful for the Minister of Lands to enter into and enforce contracts—

- (a.) For the working of any Crown lands situated within a kauri-gum district;
- (b.) For the drainage and general improvement of any such lands;
- (c.) For the purchase and sale of kauri-gum;
- (d.) For the insurance of any kauri-gum the property of the Crown;
- (e.) For the lease or purchase of any buildings required for the storage of kauri-gum;
- (f.) For the appointment of buyers, agents, and workmen; and
- (g.) For such other matters as may be necessary for the purposes of this Act.

(2.) On the purchase of any kauri-gum under this Act the Minister may pay to the vendor an amount not exceeding one-half of the estimated value of the gum. Forthwith on the sale of the gum by the Minister there shall be deducted from the selling-price—

- (a.) The amount paid to the vendor on the purchase, as hereinbefore provided;
- (b.) The amount expended by the Minister in respect of storage, insurance, and freight;
- (c.) All other charges incurred by the Minister in respect of the gum; and
- (d.) Such other amount as may be prescribed in respect of the expenses of the administration of this Act;

and the balance shall be paid to the vendor in full satisfaction of all claims in respect of the sale of the said gum to the Minister.

(3.) In estimating the value of any gum for the purposes of this section the Minister may adopt the prices for gum of the same quality current in New Zealand on the first day of July, nineteen hundred and fourteen.

The Act passed Parliament on the 6th November, and the first purchases of gum were made a few days later.

Before commencing the buying of gum it was decided, after careful consideration, that the best course to pursue was to draw up a schedule of grades into which all gum purchased by the Government should be classified by the vendor before it was purchased. To give effect to this idea a schedule was drawn up, and issued by me in circular form, on the 29th October, to all the gum-producing centres. At first there was considerable opposition in some districts to the grading. The practice in vogue in the trade of late years was that the digger sold his gum, either to the local storekeeper or buyer, just as he dug it. It was then taken by the purchaser to his place of business and cleaned and graded, and subsequently sent by him to the gum-broker or gum-merchant in Auckland. In other cases the digger sorted his gum out in his own particular way and sent it in to the brokers or merchants in Auckland for sale. The consequence was that there had arisen a system under which there were almost as many grades of gum sent to Auckland as there were individual diggers. In cases where the gum was bought on the ground it was just bought on a basis of value depending on the general "get up" of the gum and its state of dryness. The gum that was sent direct to Auckland was weighed and valued there, and the vendor had to take generally whatever price the sale produced, unless, of course, he had placed a reserve on it. So in considering the question of making advances on the gum I had to adopt either a system of having the gum roughly classified in grades by the gum-digger on the ground, and inspected by our buyer before purchase, or a system of allowing the gum to be sent direct to the depot in Auckland in whatever condition the vendor deemed fit to send it. If the latter system had been adopted it would have necessitated the employment of a staff of gum-sorters always on duty at the main depot. As soon as it became recognized by the gum-diggers that the schedule was not being arbitrarily interpreted, and that the scheme was being administered in a reasonable spirit, the opposition gradually became less and the diggers freely availed themselves of the advances. Since the end of the year the schedule of grades has been modified, and is now giving general satisfaction.

During the past few years a very large trade had developed in what is called the "chips" and "dust," which was produced in very large quantities, and had found a ready sale in Auckland. The bulk of the gum comprised in these particular grades was exported to Germany, and a considerable quantity to Great Britain, for use in the manufacture of linoleum. It was decided from the inception that no purchases of "dust" should be made. Purchases of this grade of gum, which is produced in very great quantities, would have necessitated a very large amount of storage space which the very low value of this particular grade did not justify. For similar reasons it was not considered advisable, at the commencement of operations, to have any dealings with the "chips."

The methods adopted in connection with the purchase of gum are briefly as follows: The buyer visits each main gum-digging centre at convenient dates, of which due notice is given well in advance. The buyer, in the event of any gum offering in proper order and graded as required, weighs the quantity of gum of each particular grade and places it in separate heaps in the receiving-depot, filling in carefully the weights on the docket, and so on, with all the gum offered. After the buyer has taken delivery of all the gum offering he fills in the order for payment drawn on the Receiver of Land Revenue, and takes the vendor's receipt for the amount paid. These orders are payable at any post-office in the Auckland District. On the first transaction with the vendor, and before he receives any payment, he is required to sign an agreement, which is drawn so as to embrace all subsequent transactions. The main provision of the agreement is that all sales shall be made subject to the provisions of section 2 of the Kauri-gum Industry Amendment Act, 1914. The other provisions deal with matters incidental to the transaction.

On the completion of the buying operations the gum is put into sacks or boxes and consigned to the main depot in Auckland. Up to the end of the financial year gum had been purchased to the approximate value of £5,000 on the basis of prices ruling on the 1st July last, and the vendors had been paid advances on account amounting in round figures to £2,318. The whole of the gum purchased is stored in the main depot, Excelsior Buildings, Customhouse Street, Auckland, and is well covered by insurance.

Copies of the various forms introduced in connection with the purchase system are appended hereto.

THE EFFECT ON THE INDUSTRY OF INTERVENTION BY THE STATE.

The assistance which has been given to those engaged in the gum industry, made possible by the passing of the Kauri-gum Industry Amendment Act of last session, has proved highly beneficial. I have no doubt that if the State had failed to take action there would have been great distress on the gumfields, and the industry would have suffered from the effects of the war much more seriously than has been the case.

The intervention of the State in the industry during the present crisis will have far-reaching effects, and will, it is considered, be the means of placing several matters affecting the industry itself and its relation to the State in a much better position than heretofore. A gentleman prominent in the kauri-gum business in Auckland said, in response to an inquiry, that if the State had not come to the assistance of the gum-diggers promptly the gum-market would have collapsed infinitely more than it did; and the reason was obvious, inasmuch as big stocks were held by nearly every one connected with the buying trade, and with values suffering a sharp decline it was only natural, perhaps, in the ordinary way of business, that the holders of large stocks, or men who had contracts to fill, should have endeavoured to "bear" the market in order to buy at the cheapest rates, so as to "average" their large stocks, which had depreciated greatly in value owing to the outbreak of war.

It is manifest that the effect of our operations in purchasing cannot be gauged by the actual amount of gum purchased. Without Government intervention there was no alternative for the gum-digger: he would simply have had to take the amount offered for his product or hold it. Under existing conditions he is not compelled to sacrifice his gum. If he cannot get a fair price he has the alternative of selling to the Government and receiving an advance of 50 per cent. on the basis of values ruling in July last.

COMPARATIVE TABLE SHOWING EXPORT OF GUM FROM 1ST AUGUST, 1913, TO 31ST MARCH, 1915.

The following table shows the quantity and value of kauri-gum exported from the 1st August, 1914, up to the 31st March, 1915, and also for the corresponding period of the previous year. It will be seen that there is a shrinkage of 2,597 tons in the amount exported, and of £164,674 in value.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
1913.	Tons.	£	1914.	Tons.	£
August	1,017	61,019	August	863	38,264
September	905	66,157	September	641	38,896
October	517	27,585	October	227	12,997
November	272	17,147	November	567	39,953
December	846	54,673	December	366	25,716
1914.			1915.		
January	736	35,516	January	222	14,778
February	1,065	62,533	February	196	14,138
March	603	38,575	March	282	13,789
Totals	5,961	363,205	Totals	3,364	198,531

MATTERS AFFECTING THE INDUSTRY GENERALLY.

From the results already achieved under the Act of 1914, many important questions affecting the industry generally and the workers engaged therein, and of material importance to the Dominion as a whole, arise for consideration.

The Valuable Gum Lands: Kauri-gum a New Zealand Monopoly.

The ownership of gum lands has been lightly valued in past years, and this in spite of the fact that kauri-gum of an approximate value of £20,000,000 sterling has been exported from the Dominion. On a basis of comparative values some of the gum lands have been the most richly productive of any lands in New Zealand, and, strange as it may appear, have returned very little wealth to the actual owner of the land, whether the State or the private individual. Yet it is contended by men well qualified to express such an opinion that if kauri-gum was withheld from the market for a year such action would seriously embarrass every varnish and linoleum manufacturer in the world, and of this unique commodity New Zealand has an absolute monopoly.

Now that public attention has been directed to this hitherto disowned and neglected industry, it may be interesting to inquire how such a state of affairs as above indicated has been brought into existence.

Lack of Control of the Industry and Methods pursued therein.

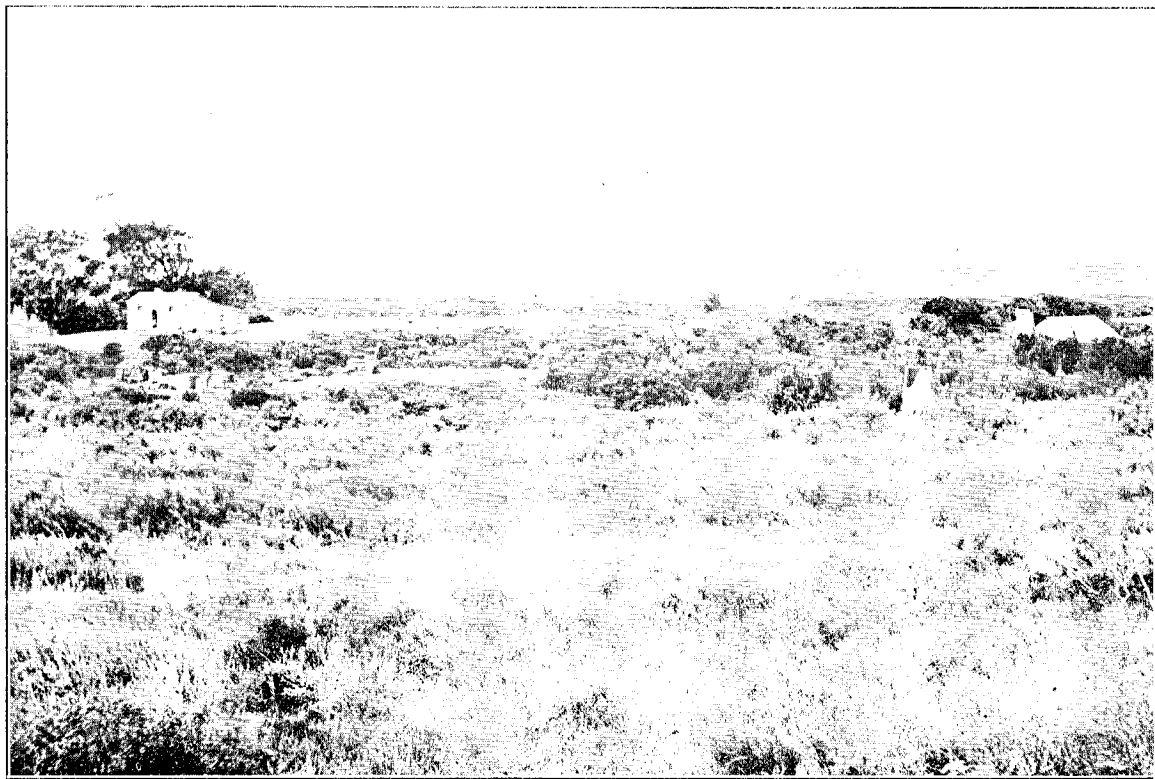
It was estimated by the Kauri-gum Commission that there were about six thousand workers engaged in the industry during the year 1913-14, and it was pointed out that in the past the digger had been given *carte blanche* to dig the gum on the lands how and where he chose. It was also pointed out that gum swamps with their top layers of peat had been burned over and over again, and thousands of pounds' worth of kauri-gum had been destroyed.

The processes of the gum-digger can only be described as primitive to a degree. It must be admitted, however, that considerable skill is shown by the ordinary digger in locating the gum by means of his spear, and by the "hooker" in recovering gum from great depths in swamp lands too wet to dig in the ordinary way.

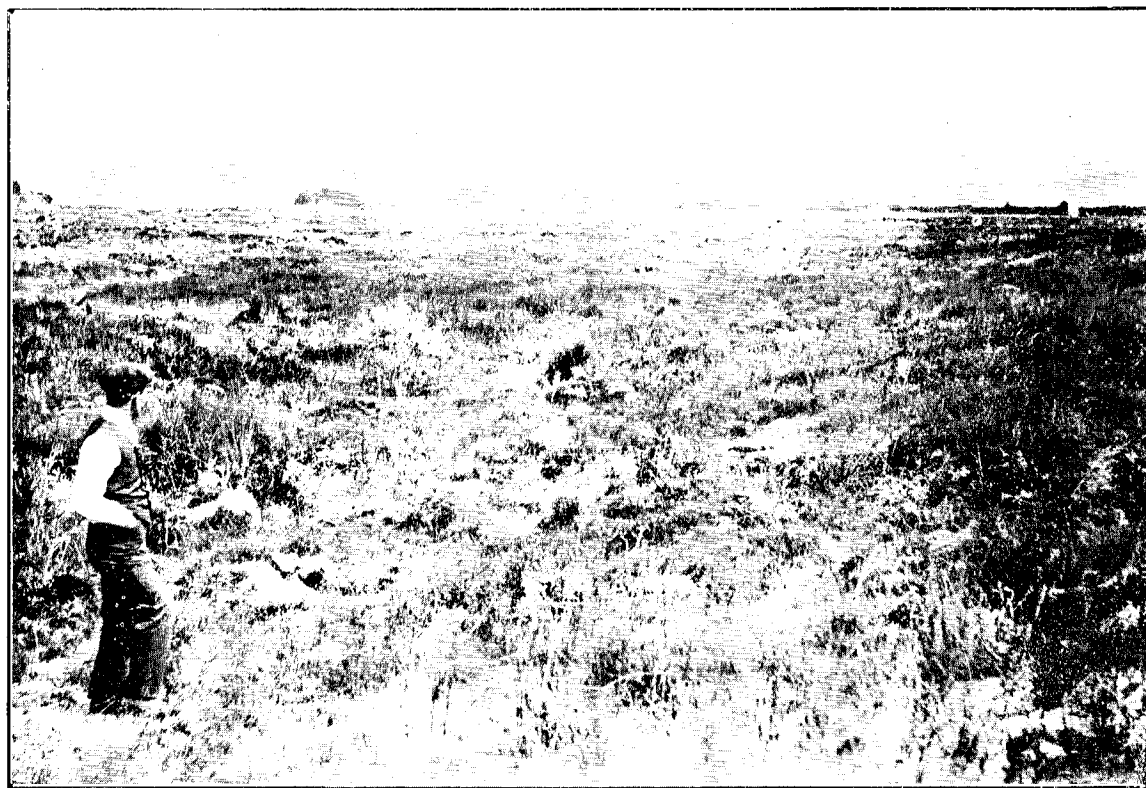
The bulk of the gum is picked out by hand from the soil in the process of digging. The very low grades of gum are sieved by hand. The better grades of black and white gum, being very valuable, are generally scraped with a knife before being sold. The object of the scraping is to remove the incrustated portions, so as to produce for the consumer a resin as free as possible from all impurities. There are three degrees of scraping, the first being what is known as the "three-quarter scrape," the next highest grade is the "seven-eighth scrape," and the best grade is called the "rescaped." It is mainly the larger pieces of the hard gum which undergo the hand-scraping process. All the small gum is exported in the rough. The labour of scraping gum by hand is slow and costly, and the waste of good gum resulting is very considerable. In the earlier days of the industry only the best of the gums were dug, and pieces of smaller size were left in the ground. It is clear that the export of good grades of gum in the rough results in considerable loss to the producer and to the Dominion, and it is essential that better methods should be adopted so as to put the product on the markets of the world in the best possible condition. The gum-digger generally has an aversion to scraping gum, and a great many simply wash the gum after it is dug and sell it in that condition, greatly to their loss. Some even do not go to the trouble of washing it, but sell it in the actual state in which it is taken from the ground. It is plain, therefore, that there is no uniformity in these indiscriminate methods.

The country storekeeper, the country buyer, the merchant, the foreign dealer, each in his turn cleans and manipulates the gum according to his own particular method. The more the matter is investigated the more evident it becomes that all the methods adopted in connection with the production and subsequent handling of the gum prior to export are primitive and certainly not economic. The gum is sent from the fields direct by the country buyer or storekeeper, and sometimes by the digger himself, either to the gum-broker or gum-merchant in Auckland. The merchant's work is to prepare the commodity for export. With the exception of the smaller sizes and lower grades, which are passed through a sieving-machine of different meshes, all gum is dealt with by hand. A large proportion of the better grades of gum is scraped, fractured, and cleaned by the merchants before exporting. This grading, owing to the fact of the gum being received in various conditions and degrees of cleanliness from the gumfields, is a most expensive item. Every merchant manipulates the commodity in his own way, and there is no attempt at standardization. Some merchants, of course, work up to a better standard than others, but on the whole, owing to the imperfect scraping and the impossibility under present conditions of cleaning small gum, the product is exported in an undesirable condition.

With a commodity like kauri-gum, found nowhere else but in the Dominion, and, as before pointed out, absolutely indispensable to the manufacturers of varnish and linoleum, it is of great importance that there should be a control exercised not only in the preparation of the product for export at this end, but also right up to the time it reaches the consumer. It should be borne in mind that the whole of the output of kauri-gum is exported from New Zealand. In the first place it is very necessary to know who actually buy, prepare, and export kauri-gum. This part of the business is commonly attributed to be solely in the hands of local merchants alleged to operate as a ring controlling the business to the general detriment of the industry. Inquiry, however, I think, establishes the fact that nearly all the local gum-merchants are merely agents for foreign firms buying and exporting gums entirely under the direction of the foreign houses. It is freely asserted that foreign gums, in appearance resembling kauri, but of much inferior quality, are mixed with good grades of kauri, and the mixture is sold to the consumer as kauri-gum.



THE RIO. — AT THE NORTHERN END OF THE MOTITANGI SWAMP BETWEEN WAHABARA AND HOUBORA.
R. P. Greville, photo.



THE MANGAWAI FLAT. THE SCENE OF THE FACE-DIGGING WORKS.
R. P. Greville, photo.



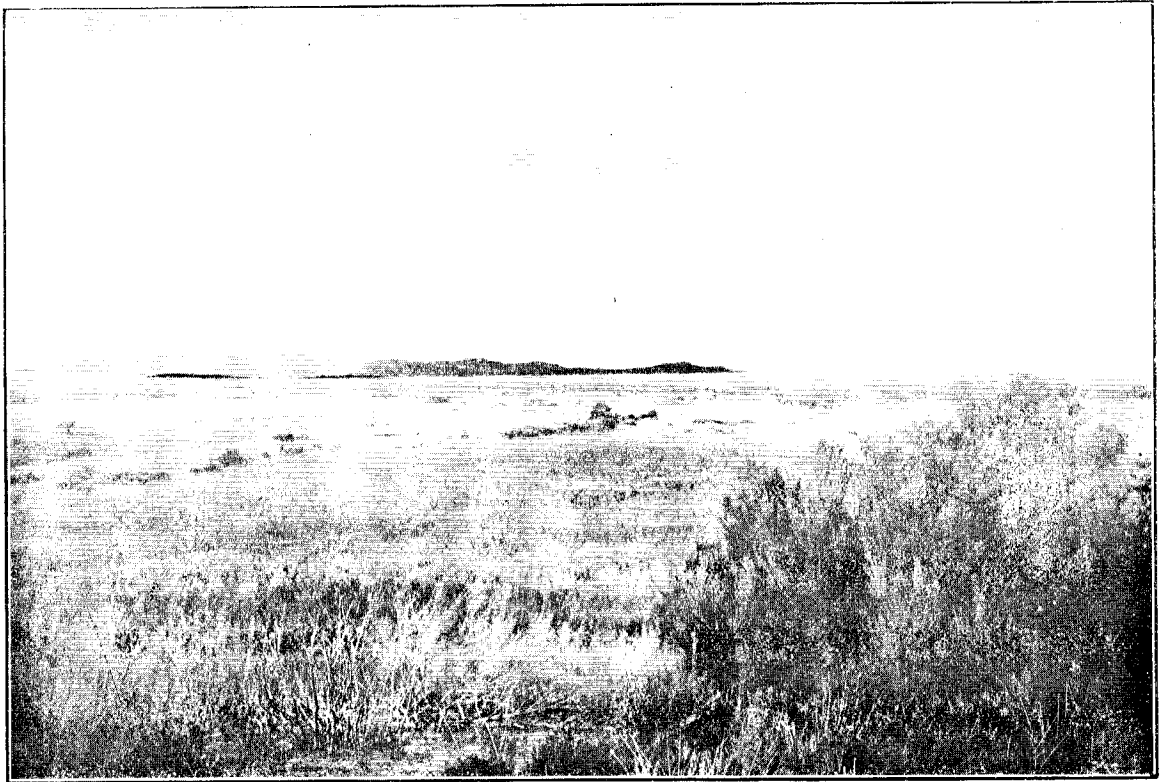
FACE DIGGING AT MANGAWAI.

R. P. Gevill, photo.



THE MANGAWAI WORKS, SHOWING KAURI-SWAMP TIMBER UNCOVERED DURING THE DIGGING OPERATIONS.

P. Gevill, photo.



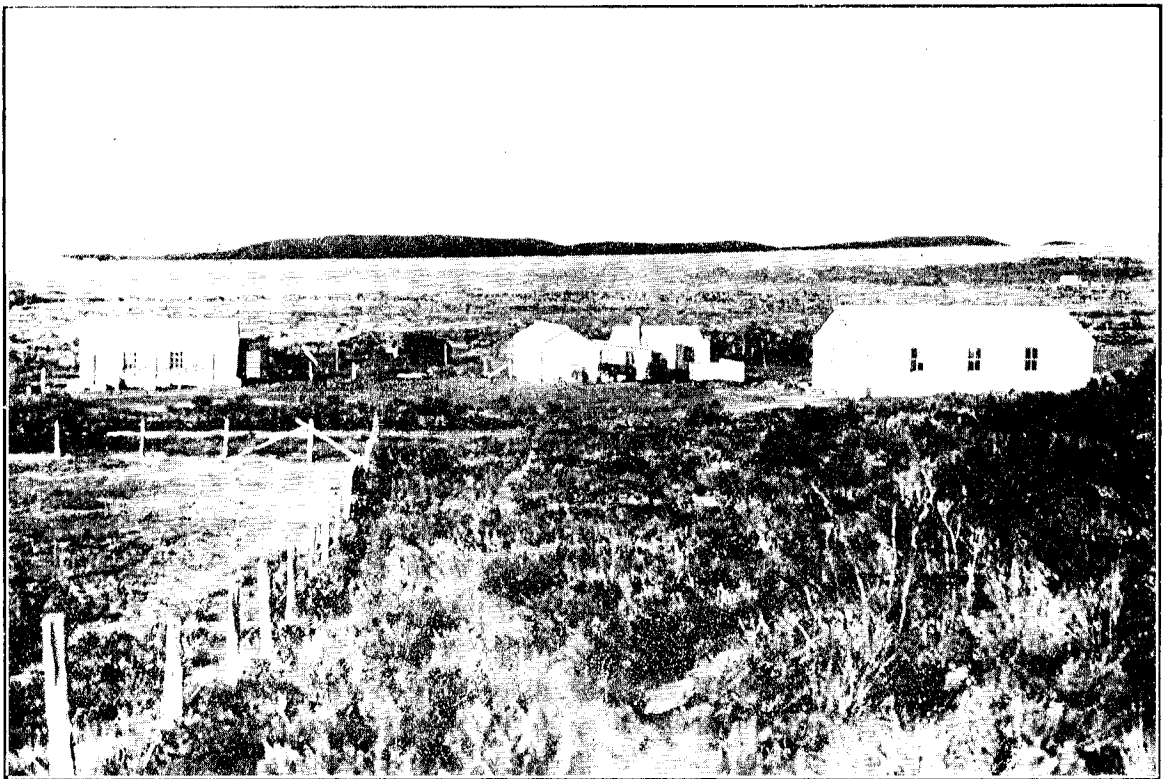
LOOKING ACROSS LAKE OHIA PENINSULA. RANGAWAHIA HILL IN THE BACKGROUND.
R. P. Gerillo, photo.



THE BIG FLAT, WAHARARA, SHOWING THE SCENE OF THE FACE-DIGGING OPERATIONS.
R. P. Gerillo, photo.

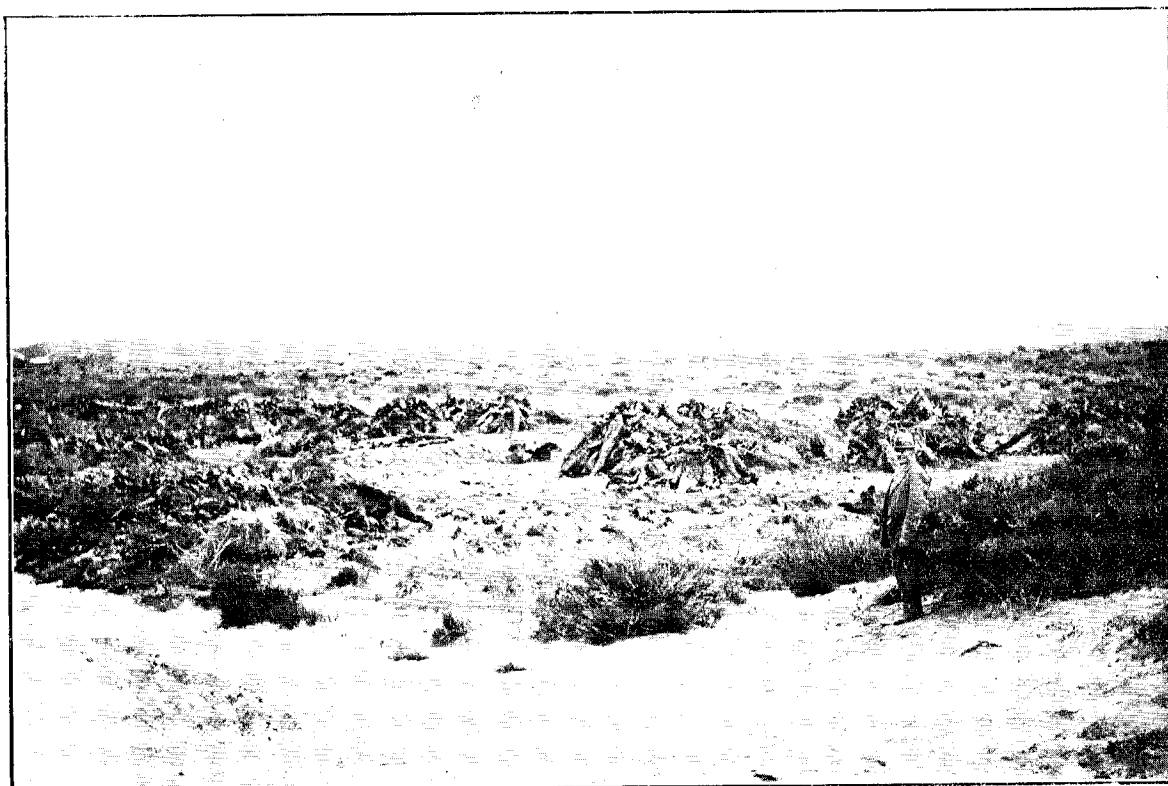


A PARTY OF MAORIS EMPLOYED AT THE FACE DIGGING WORKS ON THE BIG FLAT.
R. P. Groville, photo.



R. P. Groville, photo.

PAUSINA'S FLAT, WAHARARA.



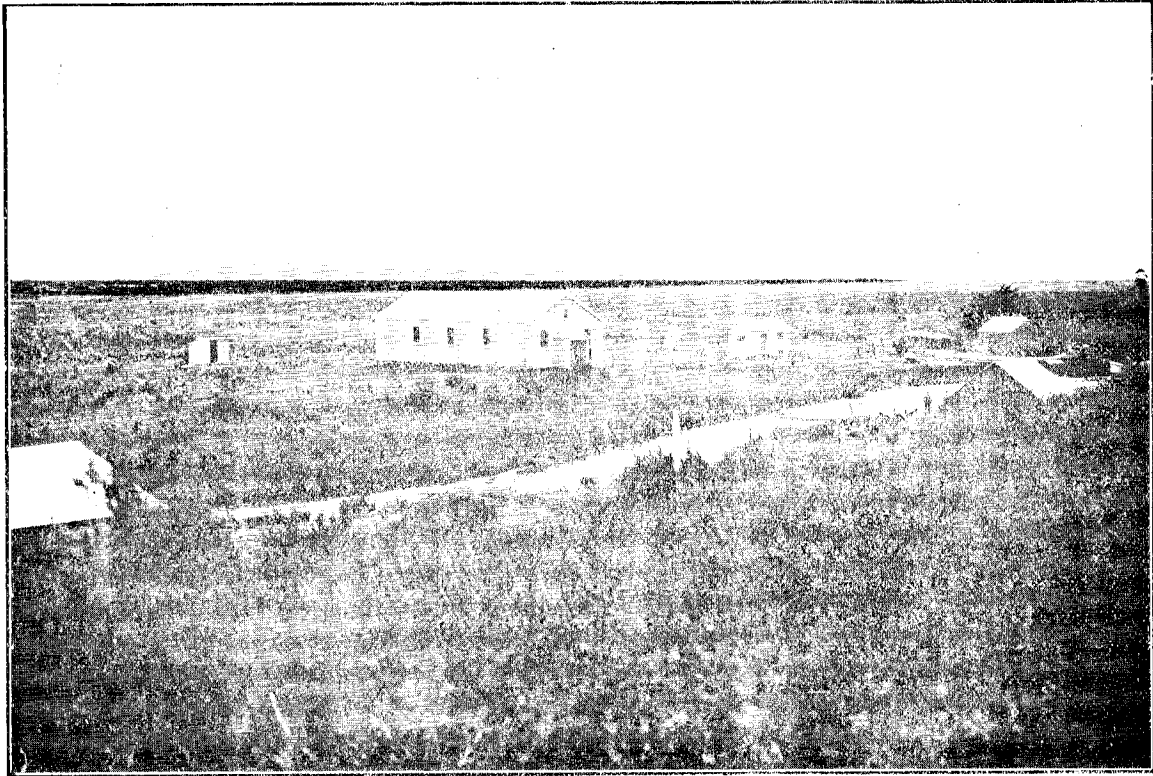
R. P. Greville, photo.]

THE BULL-DOG FLAT, WAIHOPO.

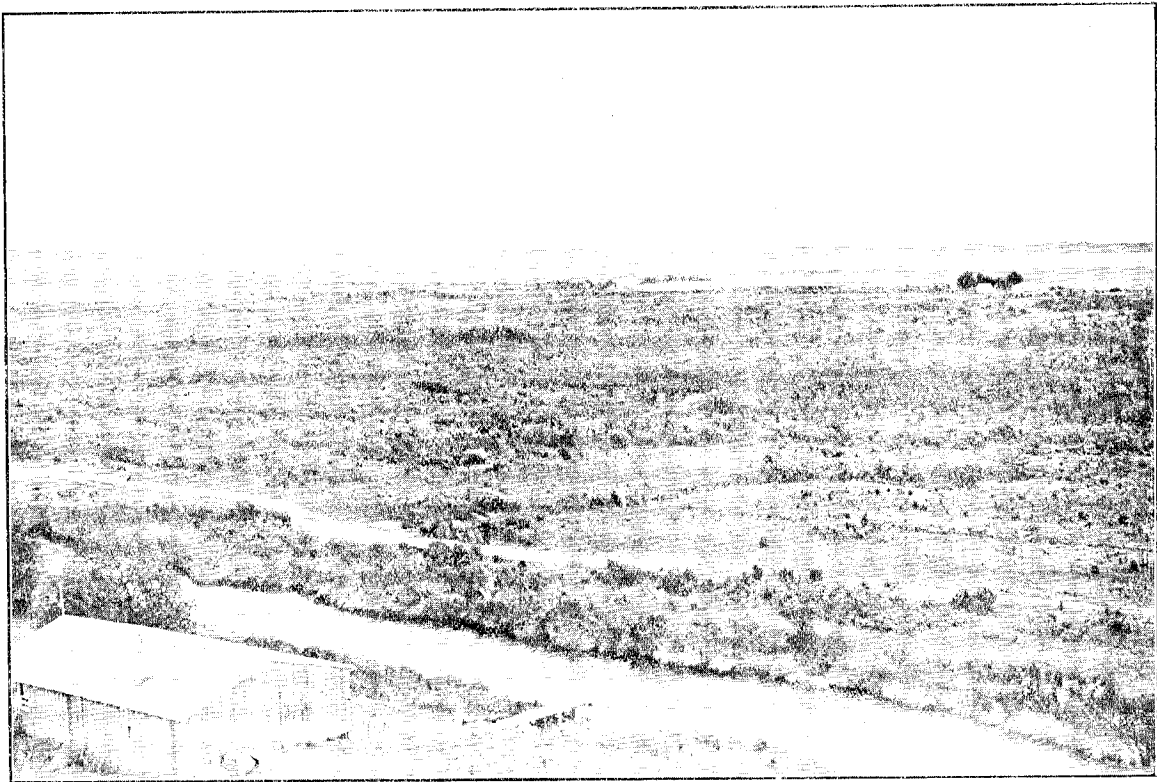


R. P. Greville, photo.]

FACE-DIGGING ON THE BULL-DOG FLAT, WAIHOPO.



VIEW FROM WILKINSON'S, LAKE OJIA, LOOKING NORTH-EAST.
R. P. Gresille, photo.



LAKE OJIA AND SOME OF THE SURROUNDING COUNTRY.
R. P. Gresille, photo.

Now, there is no supervision or control by the State either in New Zealand or abroad over the handling of this valuable product, nor any attempt made to exercise any check on the manipulations it is subjected to by the foreign dealer. No other staple product of New Zealand could have withstood the indifference to which kauri-gum has been subjected. Indeed, it may be said that the trade in kauri-gum is not a New Zealand business in the ordinary sense at all, but a business dependent almost entirely upon foreign influence and management for its progress and prosperity. When this fact is properly appreciated it is not difficult to understand why the production, export, and sale of gum have given rise to so much dissatisfaction to the producers in this country, and to the reiterated request that the State should take over the whole control of the industry.

With such conditions obtaining at the consumer's end it may be well asked, to what end are any attempts in the direction of producing and preparing the gum under better methods, and so endeavouring to increase the demand for it, if all the benefits likely to be so derived are lost to all engaged in the industry in the Dominion owing to the machinations of foreign rings? It seems to be essential in the interests of the industry that decisive action should be taken to counteract such detrimental influences. Unless such action is taken it is almost futile to consider improved methods of production, grading, and the general improvement of the product for export. No gum stands so high in the consumer's estimation as kauri. A few gums are superior, but these are produced in very small quantities. Kauri-gum for quantity and quality easily takes first place.

The Future Demand for Kauri-gum, and the Estimated Value of Gum still to be recovered.

The almost universal use of linoleum and the ever-increasing demand for high-grade varnishes tend to increase the value of a rare fossil gum like kauri, and the probability is that the kauri-gum will in the course of a few years become more valuable than it has ever been. Unfortunately, there is no second crop coming on, and this fact alone is an important factor operating to increase the price of the gum. It is therefore important that these aspects of the industry should not be lost sight of. It is suggested that had a reasonable foresight been exercised twenty years ago the country would have derived sufficient wealth from the kauri-gum to have thoroughly roaded the North of Auckland Peninsula. It is estimated that there is quite as much gum still remaining in the ground as has been taken out of it—that is to say, that there is still another £20,000,000 sterling worth of gum to be recovered even by pursuing the primitive methods adopted in past years. It is quite possible to increase this amount by a considerable sum if sufficient attention is given to the adoption of more scientific processes in the recovery of the gum and the various by-products contained in the extensive kauri-peat-swamp areas throughout the Northern Peninsula.

Kauri-swamp Peat.

Considerable attention has been directed during the past twelve months by private enterprise to the economical development of the peat-deposits in the North. At various intervals during the past twenty years experiments and investigations in connection with the extraction of oil and other products from the kauri-peat swamps have been conducted. One of the pioneer investigators was Mr. Rosse Trevor, of Auckland, who has devoted many years to the special study of this question, and who is at the present time making further investigations on the gumfields of the North.

Within the past three months Mr. A. N. Macnicol, consulting engineer, of Melbourne, has been making an examination of the various peat swamps north of Mangonui, and has made several tests of the peat and the commercial products contained in the swamps. Mr. Macnicol represents a Victorian company formed specially for the purposes which he is at present engaged in. These peat-deposits vary in depth from a few inches to 25 ft. In the case of the deeper deposits the upper 10 ft. seems to be made up of three zones—the upper consisting of fine leaves and twigs, black in appearance; the middle layer being of a brownish-red colour, of an earthy appearance, and contains much organic material; the lower zone commences with the first appearance of timber, and contains kauri-gum, branches, twigs, and leaves intermixed with a few specimens of other timbers. Much of the timber is of considerable size. These layers have been examined separately by Mr. Macnicol for their oil-producing qualities. He found that the amount of water contained in the peat from top to bottom was 80 per cent., and by breaking up the peat and exposing it to the sun and air it was possible to reduce the moisture to 25 per cent., in which condition it appeared quite dry, and the sticks contained therein were quite brittle. Up to the present time sufficiently large areas have not been worked to determine with any degree of accuracy the average amount of gum which may be recovered from these areas. It may be pointed out that in some of the deep swamps near Waiharara, in holes varying from 12 ft. to 14 ft. deep, the weight of gum recovered amounted to $\frac{3}{8}$ lb. per cubic yard. In the course of Mr. Macnicol's investigation no rich patches of gum were struck, as the intention was to avoid such if possible, in order to give a safe average basis of value for the whole of the area examined. In the deep ground just referred to there was no kauri-gum visible to the naked eye in the top layer, nor in the upper part of the middle layer. It was found difficult to define exactly where the middle and lower joined, as they imperceptibly merged into one another. The maximum amounts of oil obtained by Mr. Macnicol as a result of his tests were—Upper layer, 5 gallons per ton; middle layer, 12 gallons per ton; bottom layer, 44 gallons per ton: these returns in all cases being obtained from the dry sample of peat. At the present time it is not possible to give any correct idea of the average content of the various zones of peat. Mr. Macnicol said that it appeared likely that from the bottom layer of peat an average of 25 gallons of oil per ton of dry material treated may be obtained.

The above oil-recoveries were obtained by the process of a destructive distillation in special retorts. On the redistillation of the crude oil the following average results were obtained: Light spirit, 12 per cent.; medium spirit, 44 per cent.; heavy oils, 44 per cent. The heaviest product is solid at normal temperature, but can be worked up so as to recover a valuable lubricating-oil.

Promising results have been obtained from experiments in the use of these oils for mixing paints. With the heavier oils the colour is rather a disadvantage, but later experiments seem to indicate that this difficulty can be overcome.

The chief obstacle in dealing with the peats, as far as can be judged at present, is the very low average value of the peat per cubic yard owing to its high water-content and the low value of the upper layers. It is hoped by a full recovery of all the gum before distillation that a profitable industry may be established. In addition to the oils, further tests are being carried out with a view to determining what other products are contained in the liquors that come off with the oil. The presence of acetic acid, gallic acid, formaldehyde, and ammonia has been definitely determined, but it is not possible yet to say in what quantities. The presence of other products of commercial value is suspected, but the work has not sufficiently far advanced to give any definite result.

In connection with these investigations as to the value of the peat-deposits it may be mentioned that the matter was brought under the notice of the Dominion Analyst by the Kauri-gum Commission last year, and a sample of peat was sent for analysis. Dr. MacLaurin's report was as follows:—

Dominion Laboratory, Wellington, N.Z., 15th June, 1914.

Report on Specimen No. E/381, forwarded by the Chairman, Royal Commission on Gum Lands, Houhora.

KAURI-SWAMP PEAT.

THE sample when dried consisted of vegetable fibre, peat, and small fragments of gum, which from smell and appearance were undoubtedly kauri-gum. The portion was dried at 100° C., and extracted in a Soxhlet apparatus with absolute alcohol for several days. On evaporation of the alcoholic extract a powdery resin, representing 13 per cent. by weight of the sample taken, was obtained. The constants for this extracted resin, as compared with those of hard clear kauri-gum, were:—

	Extracted Resin.	Good Kauri.
Acid number	106.4	61.6
Iodine number	72.3	132.4

The constants are those of a kauri-gum that have been much altered by the action of air and water. The quality would be very poor.

The composition of the peat was: Resin, 13 per cent.; peat and other vegetable matter, 52 per cent.; ash, 35 per cent.; nitrogen in organic matter, 0.43 per cent.

It was suggested by the Commission that valuable products other than gum might be obtained from the peat. In the report of Mr. Graham Gow, Trade Commissioner, on the kauri-gum industry (parliamentary paper C.-16, 1909), mention is made of experiments made by Mr. Rosse Trevor in distilling peat. It was not stated whether the gum was extracted prior to distillation, so portions of both the original peat and the extracted sample were carefully distilled, first by heating slowly in an air-bath up to 400° C. and then, after transferring to an iron tube, to a red heat. The products obtained from first heating were—

	No. 1 (Original Sample).		No. 2 (Extracted Sample).	
	Per Cent.	Gallons per Ton.	Per Cent.	Gallons per Ton.
Light oil	4.0	10.0	1.2	3.0
At red heat, heavy oil	2.2	5.5	2.0	5.0
Pitch and tar	0.35	0.8	0.3	0.7

Some acetic acid was also given off, and a large amount of inflammable gas. It will be noticed that the percentages of oil obtained from No. 1, the original sample, are much larger than those from No. 2, the extracted sample. The light oil from No. 1 contains a small amount of creosote and tar acids equivalent to half a gallon per ton. The pitch from No. 1 is harder and of better quality than that from No. 2.

The main use for the oils obtained would be for lubrication. The quantity of ammonia obtainable by distillation is small, as the total percentage of nitrogen present, 0.43 per cent., is lower than that found in many coals. The carbonized residue left after distillation contains too large a percentage of ash for it to be of use as a fuel. Its value as a fertilizer would be very small, as the amounts of potash and phosphates present are negligible. Distillation of the extracted peat would therefore not be commercially profitable. The extraction of kauri-gum alone should, however, yield a fair profit.

Considerably more work on average samples of peat from other areas would be necessary to decide whether these conclusions would apply to all kauri-swamp peats.

J. S. MACLAURIN, D.Sc.,
Dominion Analyst.

The sample forwarded to Dr. Maclaurin was a fair average sample of the peat taken from a swamp near Waipapakauri, and was made up of equal parts taken from the surface to the bottom of a hole 10 ft. in depth. It will be seen that Dr. Maclaurin gives it as his opinion that distillation of the extracted peat would not be commercially profitable, but that the extraction of kauri-gum alone should yield a fair profit. From my own knowledge and experience I think it may probably be found, as a result of further investigation, that the main value of the kauri-peat deposits lies in the kauri-gum which may be recovered from the swamps and extracted from the peat and the timber contained therein by scientific processes.

Serious Damage to Gum Lands by Fires.

In the report of the Royal Commission before referred to special attention was directed to the serious damage being caused to the gum lands by the indiscriminate lighting of fires by diggers and others. This pernicious practice still continues, and during the past summer extensive fires have been raging throughout the gumfields, and have done irreparable damage to large areas of valuable gum lands. It is difficult to estimate the damage by fires during the past season, but it is well within the mark to say that the amount of the damage and the value of kauri-gum destroyed would run into thousands of pounds. These fires are often started by the diggers themselves to burn off the scrub and rubbish so that the gum may be the more easily recovered. The seriousness and extent of the damage makes it imperative that immediate action should be taken to deal effectively with this matter.

FINAL REMARKS AND RECOMMENDATIONS.

Up to the end of the year the value of the gum on hand, including purchases and the gum resulting from the face-digging operations, amounted to over £8,000, and since then this amount has been very considerably increased. Having regard to this fact, and to the general development of our operations, it is now essential that steps should be taken at an early date to get into direct communication with the consumers of the world, with a view to opening up markets for the gum. As you are aware, this matter has already received much consideration, and it is hoped before long arrangements will be made to give practical effect to the proposal. It was pointed out in an earlier part of this report that the kauri-gum trade was not a New Zealand business in the ordinary sense at all, but a business depending almost entirely upon foreign influence for its progress and management, and this notwithstanding the fact that in respect to this commodity—kauri-gum—New Zealand possesses an absolute and unique monopoly.

Another important fact which I now wish to emphasize is that in this monopoly the State is far and away the largest shareholder. The truth of this statement becomes apparent when it is pointed out that more than half of the productive gum lands of New Zealand is still owned by the Crown. I think, therefore, that the time has arrived when it becomes incumbent on the State to take such action as will result in the adoption of better methods in connection with the production, export, and sale of kauri-gum, so as to ensure to those engaged in the industry the highest reward for their labours, and to the State an adequate return for the wealth derived from its gum lands.

I have, &c.,

R. P. GREVILLE,
Kauri-gum Superintendent.

James Mackenzie, Esq., I.S.O.,
Under-Secretary for Lands, Wellington.

APPENDIX.

COPIES OF FORMS USED IN CONNECTION WITH THE PURCHASE SYSTEM.

LANDS AND SURVEY DEPARTMENT.

Kauri-gum Office, Warwick Chambers, 6th April, 1915.

FROM this date all gum purchased by the Minister of Lands is to be graded as follows:—

White Gums.

1. White range, rescraped.
2. White range, three-quarter scraped.
3. White range, nuts.

White Swamp Gums.

1. Hard swamp (over 1 in. sieve).
2. Medium (over 1 in. sieve).
3. Swamp-nuts (over $\frac{1}{4}$ in. sieve).

Black Gums.

1. Steel, three-quarter scraped.
2. Ordinary black (over 1 in. sieve).
3. Nuts (over $\frac{1}{4}$ in. sieve).

Bush Gums.

1. Pale.
2. Medium.
3. Nuts.

Chips.

1. Ordinary white (over $\frac{1}{16}$ in. sieve).
2. Diggers' chips (white) (over $\frac{1}{16}$ in. sieve).
3. Ordinary black scrapings (over $\frac{1}{16}$ in. sieve).
4. Diggers' chips (black) (over $\frac{1}{16}$ in. sieve).
5. Swamp-chips (over $\frac{1}{16}$ in. sieve).

All gums must be well washed and thoroughly dried.

R. P. GREVILLE,
Kauri-gum Superintendent.

[NOTE.—This form is in triplicate, one copy is given to the vendor, one sent to the office, and the other remains on the block of the book.]

LANDS AND SURVEY DEPARTMENT.

No.

(Place.)

(Date.)

RECEIVED of kauri-gum as below :—

					Weight.	Advance on Account.
					Cwt. qr. lb.	£ s. d.
White	..	1	W.R. rescraped	..	..	
"	..	2	W.R. three-quarter scraped	..	..	
"	..	3	W.R. nuts	..	..	
White swamp	1	H.	swamp	..	..	
"	2	M.	swamp	..	..	
"	3		nuts	..	..	
Black	..	1	S. three-quarter scraped	..	..	
"	..	2	O.B.	..	..	
"	..	3	nuts	..	..	
Bush	..	1	pale	..	..	
"	..	2	medium	..	..	
"	..	3	nuts	..	..	
Chips	..	1	O.W., $\frac{1}{16}$ sieve	..	..	
"	..	2	D.C.W., $\frac{1}{16}$ sieve	..	..	
"	..	3	O.B., $\frac{1}{12}$ sieve	..	..	
"	..	4	D.C.B., $\frac{1}{12}$ sieve	..	..	
"	..	5	S.C., $\frac{1}{12}$ sieve	..	..	
Total					..	

	£	s.	d.
Cartage in field..	..		
Freight ..	..		
Cartage in city ..	..		

..... Buyer or Agent.

(Advice-note for use of Office.)
LANDS AND SURVEY DEPARTMENT OF NEW ZEALAND.
No. .
To the Receiver of Land Revenue, Auckland.
PAY or order the sum of pounds
shillings and pence, being an advance on ac-
count of kauri-gum received.
(Countersigned.)
£ : : .

Received the above sum :

Penny
Stamp
if £
or over.

No. .
LANDS AND SURVEY DEPARTMENT OF NEW ZEALAND.
No. .
To the Receiver of Land Revenue, Auckland.
PAY or order the sum of pounds
shillings and pence, being an advance on ac-
count of kauri-gum received.
(Countersigned.)
£ : : .

AGREEMENT.

To the Minister of Lands.
In respect to the kauri-gum sold this . day of , 191 , by me to you, and in respect to all kauri-gum that may hereafter be sold by me to you, I, , of , hereby agree—
(1.) That all such sales of kauri-gum shall be subject to the provisions of section 2 of the Kauri-gum Industry Amendment Act, 1914, which shall be deemed to be incorporated herein so far as the same are not inconsistent with the provisions hereof.
(2.) That you may sell the whole or any part of such gum, at such time or times, and at such place or places, and in such manner (either by mixing it with other gum or otherwise), as you may in your absolute and uncontrolled discretion deem expedient.
(3.) On the purchase and delivery of the gum you shall pay to me such amount as you think fit not exceeding half the value of the gum, on the basis of the prices for gum of the same quality

current in New Zealand on the 1st day of July, 1914, and the balance received from the realization and sale of the said gum shall, after deducting therefrom the amounts specified in paragraph 5 hereof, be paid by you to me within four weeks after receipt of same by you.

(4.) If owing to the act of God, the King's enemies, or other accident, the said gum shall be wholly or partially lost, then you shall, after deducting the amounts specified in the next paragraph hereof, pay to me all such moneys as may be received by you by way of insurance in respect of the whole or partial loss of the said gum.

(5.) There shall be deducted by you from the moneys produced by the realization or sale or otherwise of the said gum all such amounts as are authorized to be deducted by section 2 of the Kauri-gum Industry Amendment Act, 1914, and interest at the rate of five pounds (£5) per centum per annum on all moneys paid by you to me pursuant to paragraph 3 hereof, computed from the date of such payment until the date of receipt by you of the moneys arising from the sale or realization of the said gum.

(6.) That I will accept as correct the weights of the gum as taken by you or your agents at the Government depot at Auckland on or before the date of sale if sold locally, or on or before the date of shipment if the gum is exported, and the weight so ascertained by you or your agents shall be conclusive and binding on me.

(7.) I will accept whatever balance of money you may certify to be owing to me from the sale and realization of the said gum after making all deductions set forth in paragraph 5 hereof, and such certificate, save for any manifest error appearing therein, shall be conclusive and binding on me.

Dated the day of , 191 .

As witness my signature hereto.

(Signature.)

Witness to signature :

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