

1886.
NEW ZEALAND.

EXPLORATION OF COUNTRY: NAPIER, GISBORNE, EAST CAPE, OPOTIKI

(REPORT ON).

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

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,—

I have the honour to forward herewith a full report by the Inspecting Engineer on exploration of the country between Napier, Gisborne, East Cape, and Opotiki. Two maps accompany this report.

I have, &c.,

JOHN BLACKETT,

Engineer-in-Chief.

The Hon. the Minister for Public Works.

Mr. KNORPP to the ENGINEER-IN-CHIEF.

SIR,—

Wellington, 9th April, 1886.

I have the honour to report that I have examined the country round Gisborne, from Napier to Kawakawa Roadstead, beyond the East Cape, and from Gisborne across the Te Uriwera Ranges to Opotiki.

1. *Napier to Gisborne.*—The routes followed by the present road-lines are quite unsuitable as railway-routes, as they run over a succession of narrow ridges and valleys, the ridges in some cases being 2,000ft. high. Proceeding northwards from Napier, the present road crosses a great number of rivers—viz., the Esk, Te Ngaru, Waipatiki, Waipapa, Moeangiangi, Waitaria, Whitiangi, Waikare, Waitaha, Ponui, Mohaka, Waihua, Ohinepara, and Wairoa—at or near sea-level, whilst the ridges to be crossed between these streams rise to from 600ft. to 1,300ft. A better route was sought for between Napier and the Wairoa (Clyde) in 1874 by Mr. James Rochfort, who selected what may be called an inland line, lying generally on a higher level, and which for road purposes might be considered an improvement on the present track; still, the country is so broken that the cost of constructing a railway would be very great, and might really prohibit the execution of such a work. A recourse to tunnelling on an extensive scale might be the means of obtaining better grades, but the cost would probably be considerably increased. Northwards of the Wairoa River a part of the line examined would be very expensive, particularly in the Mangapoike Valley, where it would run through a steep limestone gorge, and a range at the head of the valley at least 2,000ft. high would have to be surmounted, as it is not favourable for tunnelling. Thence to the Waipaoa, a large river in the Gisborne Plain, is some very broken and difficult country, which would require the most careful surveys to secure a practicable line. From the Waipaoa to Gisborne is level country, favourable for road or railway. The total distance between Napier and Gisborne would be about a hundred miles; and the cost of a railway through this country would probably average complete £11,000 per mile.

2. *Gisborne to Kawakawa Roadstead.*—Starting from Gisborne, the line for a railway would practically follow the present inland road to Ormond, about twelve miles, thence along the left bank of the Waipaoa, cross the Waihora, along the left bank of the Waihora and Motumata streams, crossing the watershed between the Waipapu and Tolago basins, along this watershed to the east of Puketiti trig. station, whence it would descend on the right bank of the Makarika stream into the Waipapu Flat, cross this river below its junction with the Tapuraeroa River, along the left bank of the Waipapu to its junction with the Marachara, along this river, and then along the Awatere stream to the Kawakawa Roadstead. From Gisborne northward to a few miles beyond Ormond a railway could be cheaply constructed; this may also be said of that portion lying in the Waipapu Valley: but at intermediate places the country is very broken, and

would involve heavy cost in construction. An average would probably be £8,000 per mile throughout, the total distance being about 108 miles. Grades of 1 in 50 might be obtained; and the greatest altitude to be surmounted would be about 1,800ft. above sea-level.

3. *Gisborne to Opotiki* (about 75 miles).—A railway between these places would branch from the line last described about sixteen miles from Gisborne, and its course would lie over a succession of hills and valleys of a very rugged character. It would cross two ranges, each about 2,300ft. high, and would require for this purpose at least two tunnels, one short one of a few chains, the other about twenty chains long. For about forty miles the country is exceedingly broken, and in many places quite equals the Manawatu Gorge in this respect. The cost over this portion would be fully £12,000 a mile, the remainder probably about £7,000, giving an average of £9,000 to £10,000 per mile.

GENERAL DESCRIPTION OF LAND, &c.

1. *Napier to Gisborne*.—The country between these places on the route described as generally open country, covered with fern, tutu, and ti-tree, with bush in the gullies; but no timber for constructive purposes is to be obtained. It varies exceedingly in character, from first-class land in the Te Arai and Wairoa Valleys to the poor pumice-land at the Mohaka. It is generally suited for pastoral purposes, being very much broken, except at the northern end, near Gisborne, where a considerable quantity of good flat land exists of a high character.

2. *Gisborne to Kawakawa Roadstead*.—The country along this route is generally open country, covered with fern, tutu, and ti-tree, with patches of bush at greater or less intervals; but there is hardly enough servicable timber (for the construction of bridges and culverts) available. Nearly the whole may be considered of a character to make good sheep- and cattle-runs. Except in the Gisborne, Tolago, and Waiapu Flats there is very little agricultural land; but a great deal of the rolling downs is well suited for fruit-growing. All the hills along the route are, with scarcely an exception, formed of stratified papa rock of various degrees of hardness, but too soft for road- or railway-metal; and, although a railway would not pay working expenses for many years, it appears to be the only means to open up the back-country.

3. *Gisborne to Opotiki*.—As far as the Motu, situated about half-way, the hills consist of papa, and the land is similar to that north of Gisborne. From the Motu to Opotiki the hills consist of clay-slate. The land, although very much broken, is good, and grass sown along the bridle-track thrives well. There is some totara, a great quantity of large-size rimu in the Motu bush, and small-leaved birch on the ranges. The Opotiki Valley contains some fair agricultural land.

EXTRACTS FROM REPORTS OF THE SURVEY OFFICERS, FURNISHED BY THE SURVEYOR-GENERAL.

No. 1.—*Napier to Gisborne*.

The estimate of stock taken from Hawke's Bay for the lands in course of settlement in the Wairoa and Cook Counties is two hundred and seven thousand sheep per annum. The export from Wairoa to the Auckland market is six thousand sheep per annum.

The agricultural land in the immediate vicinity of the Town of Clyde is good, and would support a large population. In the past grain has been successfully grown, but has been neglected for many years; still, there are now signs that the Natives are sowing large areas. Hops promise to yield good returns; there are two plantations in picking. The Wairoa is locally noted for its fruit. The production of maize is considerable. The stock-carrying capacity of the district when grassed, including good land with bad, and taking a mean, may be set down at two million sheep.

The district that would be opened out by a railway is essentially a pastoral country, and will not support a population at all proportionate to its area. Out of a total area of 1,176,517 acres, there is only one-nineteenth of agricultural land.

The carriage of all produce and goods to settlements north of Tongioio being by water, a railway in the interior on Mr. Rochfort's line could not compete against the water-carriage for the trade of the sheep-stations fronting the seaboard. There are few roads at present formed that would act as feeders to the railway—the country in this respect seems neglected; but this is, no doubt, due to the cheap water-carriage, and to the fact that the land is not of the first quality, and does not offer any great inducements to settlers.

Particulars are given on the maps. The value of the unoccupied Crown lands may be taken at 5s. an acre, or £37,422 10s. for 149,690 acres.

Matawhero No. 1. — Flat, light soil mostly in grass. Nos. 4 and 6, and small blocks on east side of Waipaoa—Alluvial deposits, all under cultivation. Small blocks on west side of Waipaoa—Alluvial deposits, all under cultivation.

Te Arai No. 2, *Rakaukaka*, and *Pipihakaoa*, &c.—Alluvial flats. The ground rises somewhat quickly towards Trig. Station No. 101, and thence on towards Tarewauru.

Tarewauru, *Waiwhakaata*, and *Tauohiro*, &c.—The line, passing near the Arai Stream, would pass generally through small flats intersected by ridges, the land still gradually rising. There are small bushes, the land mostly being open, with broken hills on either side of the stream.

Mangapoike.—The line crosses the main range—some 2,000ft. high—near the eastern boundary, in open fern-country, and, passing down the Mangapoike Valley in bad broken bush-

country for about eight miles, comes out at Opoiti over some fairly-sloping table-lands. The block generally is principally bush, and has hills of considerable elevation. Stone could be obtained, I think, easily. The remainder of the route would be principally over open, flat country abutting on the Wairoa River. Timber could be obtained only on the Mangapoike and Tauohiro Blocks.

Maraetaha No. 2, is almost entirely open in the vicinity of the proposed line. Towards the middle and south it is heavily timbered and very broken, with high hills.

No. 2.—Gisborne to Kawakawa Roadstead.

Turangamui No. 2.—Occupied as township. Flat sandy soil.

Matawhero No. 5.—Flat and light soil, mostly in grass. No. 1, ditto.

Mangamoteo.—Occupied as Makaraka Village. Flat and light soil, mostly in grass.

Tutacorewhanga.—Flat and light soil, in grass.

Matawhero No. 6.—Ditto.

Pouparae.—Ditto.

Makauri.—Alluvial flat, patches of bush, mostly in grass.

Mission School Estate.—Alluvial flat, all in grass.

Muhunga Military Settlement.—Township of Ormond. Alluvial flats, backed by clay hills to the east.

Ngakoroa.—Undulating land, patches of bush, clay soil, good flats on River Waipaoa.

Ahirau.—Hilly land with bush on it, clay soil.

Mangaoae.—Ditto.

Waihora.—Hilly land, good clay soil.

Makotukutuku.—Hilly land, good clay soil, patches of useful bush.

Waingaromia No. 3.—Hilly pastoral land of good quality, patches of useful bush.

Waingaromia.—Hilly pastoral land of good quality, having a good bit of bush.

Arakihi.—Hilly pastoral fern-land, patches of useful bush.

Paraheka, Puremungahua, &c.—Hilly pastoral fern-land, heavily bushed to the north.

Waingaromia No. 2.—Hilly land, mostly bush.

Tauwhareparae.—Hilly land, mixed fern and bush, good soil.

Tuakau.—Ditto.

Tuakau, Pirauau.—Ditto.

Ruangarehu.—Ditto.

Puketiti.—Hilly land, open, with some useful patches of bush; a good portion in grass, and fenced.

Rangikohua, &c.—Broken land, mostly fern. Sandstone crops out in this and on the Puketiti Block.

Waipiro.—Undulating land, mostly open.

Oroua.—Mostly bush, and broken on the east side, with stone showing freely. To the north and west, land cultivated.

Makarika.—Mostly fine rich flat, in cultivation.

Te Ahi o te Atua.—Mostly fern, with good flats, but having centre ridge.

Puhunga.—Rich alluvial flat, backed by high hills.

Waitangi.—Ditto.

Rotokautuku.—Rich alluvial flats on Mata River, with low hills at back towards the west; oil indications.

Native lands on west side of Mata.—Mostly good flats, backed by hills towards the west.

Waiapu to Kawakawa.—The line would cross almost entirely through bush, over a broken mountainous country. The land by the west side of the Awatere Stream is principally good flats, backed by high ranges.

Indications of petroleum exist from Waingaromia to Kawakawa. Stone for ballasting could be probably obtained between Paraheka and Oroua.

No. 3.—Gisborne to Opotiki.

Ngakoroa.—Undulating land, patches of bush, clay soil, good flats near Waipaoa.

Ruangarehu.—Flat towards Waipaoa River, backed by hills.

Pukepapa.—Ditto.

Waikohu.—Flat towards Waipaoa River, backed by hills, gradually becoming more broken to the west.

Waikohu-Matawai.—Mostly bush and broken ranges; flats by the Waikohu River.

Motu.—Broken bush country. The main range would be crossed near the southern boundary of this block; and nearly flat land exists to the Motu River, which offers peculiar facilities for a bridge at this point.

Maps accompany this report, which show the tenure, quantity, and quality of the land through which the routes pass.

I have, &c.,

The Engineer-in-Chief.

C. B. KNORPP, Inspecting Engineer.

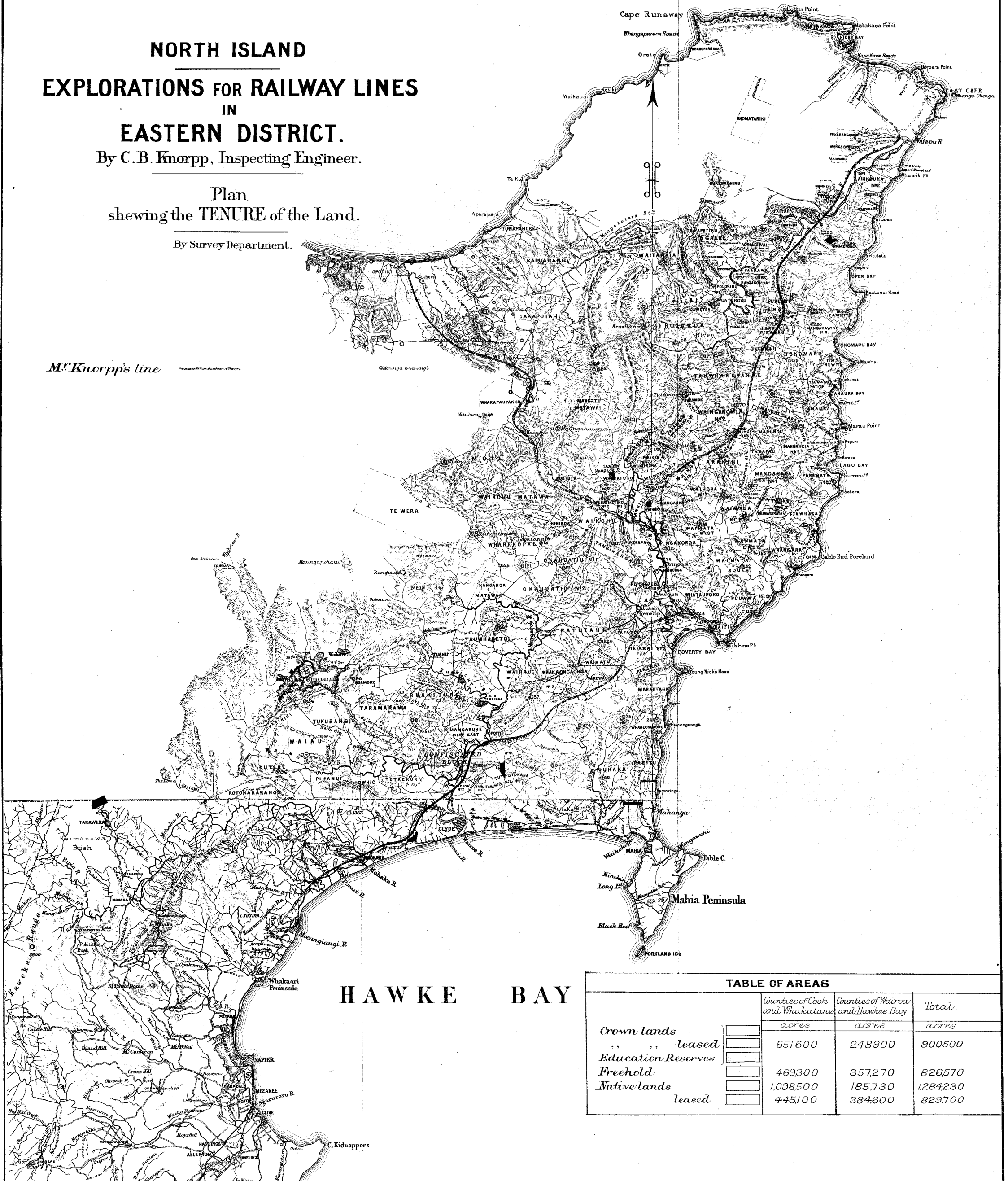
NORTH ISLAND EXPLORATIONS FOR RAILWAY LINES IN EASTERN DISTRICT.

By C.B. Knorpp, Inspecting Engineer.

Plan
shewing the TENURE of the Land.

By Survey Department.

M. Knorpp's line



HAWKE BAY

TABLE OF AREAS

		Counties of Cook and Whakatane	Counties of Wairoa and Hawkes Bay	Total.
		acres	acres	acres
Crown lands	□			
" " leased	□	651600	248900	900500
Education Reserves	□			
Freehold	□	469300	357270	826570
Native lands	□	1,098,500	185,730	1,284,230
leased	□	445100	384600	829700

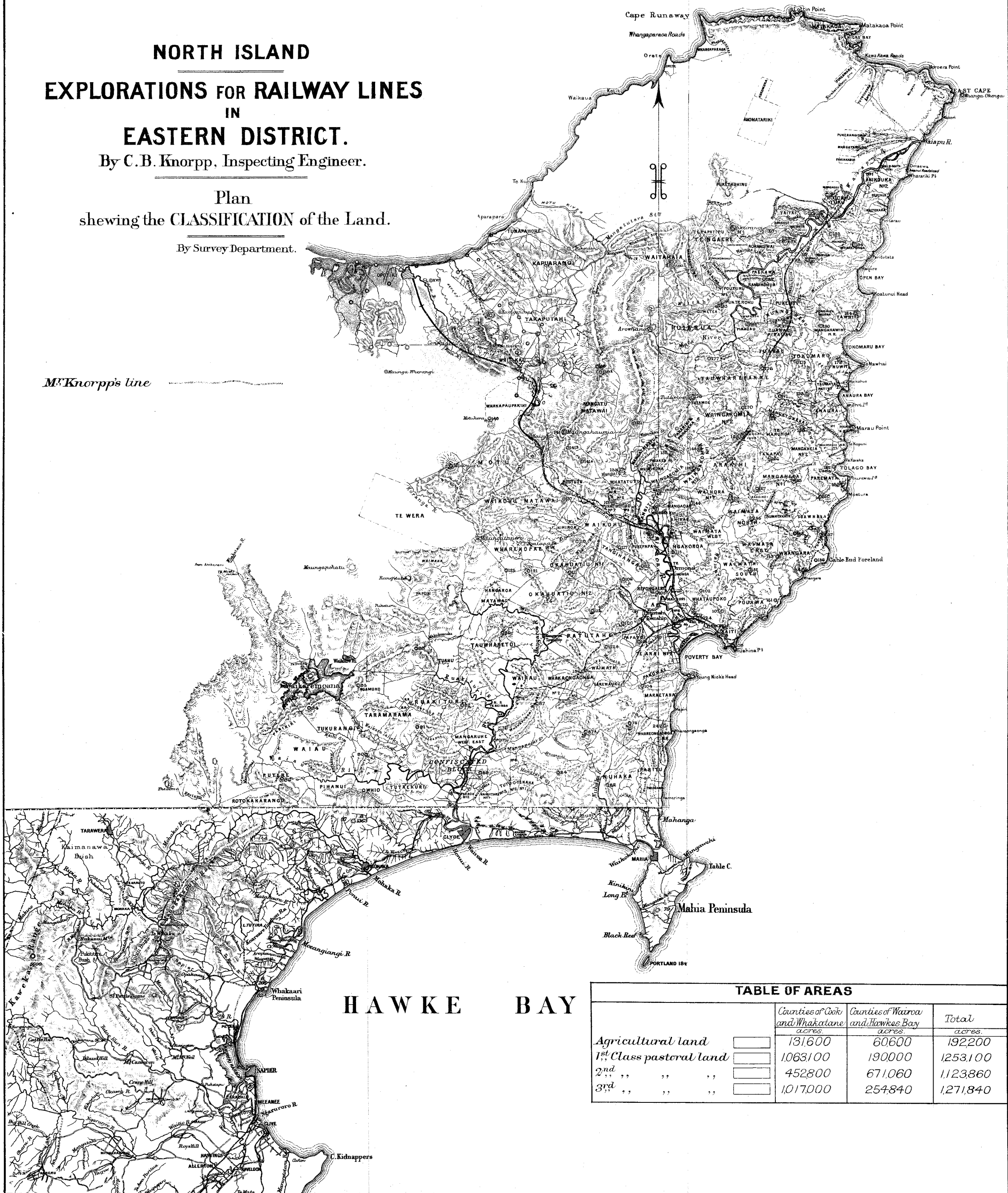
NORTH ISLAND EXPLORATIONS FOR RAILWAY LINES IN EASTERN DISTRICT.

By C. B. Knorpp, Inspecting Engineer.

Plan
shewing the CLASSIFICATION of the Land.

By Survey Department.

M^r Knorpp's line



HAWKE BAY

TABLE OF AREAS

		Counties of Cook and Whakatane <i>acres</i>	Counties of Waioa and Hawkes Bay <i>acres</i>	Total <i>acres</i>
<i>Agricultural land</i>	▭	131,600	60,600	192,200
<i>1st Class pastoral land</i>	▭	1,063,100	190,000	1,253,100
<i>2nd " " "</i>	▭	452,800	671,060	1,123,860
<i>3rd " " "</i>	▭	1,017,000	254,840	1,271,840

