Economic Geology.

Gas Springs.—Groups of strong gas emanations or "springs" exist near the Huatoki-iti and Huatoki streams in the north-western part of Egmont Survey District. That adjoining the former stream is on Mr. J. Grooby's property, and has been mentioned in former reports by Dr. J. M. Bell and Mr. E. de C. Clarke. Numerous bubbles of inflammable gas rise through the water of the stream, and by digging at the foot of the adjoining slope to the east a strong flow of gas, that more particularly described by Dr. Bell, has been obtained. At the present time a portion of the gas is being used for domestic purposes by Mr. Grooby. The Huatoki group of gas-emanations is on Mr. A. S. Petch's farm, about 30 chains north of Brown Trig. Station. Both here and at Grooby's more or less peaty material is present, but its association with the inflammable gas appears to be entirely fortuitous.

Ironsand.—Much ironsand (titaniferous magnetite) is found in the streams of the district, and various samples have been submitted to the Dominion Laboratory for analysis. The ironsand in the beds of streams having their sources on Mount Egmont is mixed with much extraneous material, but in the Mangorei, a stream that rises in the Pouakai Range, small deposits of the almost pure mineral occur.

Graphite.—A specimen of graphite found in the bed of the Mangakarewarewa, a tributary of the Mangorei, and also having its source in the Pouakai Range, was shown to the writer, but search made in the locality failed to reveal any further specimen of the mineral. Work on the Pouakai Range has not yet been completed, and investigation will be renewed next season.

Roadmaking Material.—Of material suitable for roadmaking purposes there is an ample supply in the Egmont Survey District. Quarries have been opened in several of the conical hills near Inglewood, and have yielded a large amount of stone. Since the clearing of the bush much of the material used for macadamizing and repairing the roads has been obtained from the stream-beds, which abound in boulders of hard andesite. The principal roads of the district are, as a rule, parallel to the streams, and hence the haulage required for the stone is generally short. There are two quarries on the eastern lower slopes of Mount Egmont which may be specially mentioned, both being owned by State Departments. One of these, worked by the Railway Department in order to obtain ballasting-material, is in a drift deposit situated on the north bank of the Mangonui, one mile south-west from the western terminus of York Road, and is at a height of approximately 2,160 ft. above sea-level. The large boulders are hand-picked, placed on trucks and conveyed by rail to stone-breakers at the end of York Road, whence, after being broken to a suitable size, they are carried by the branch railway-line to Waipuku, the first railway-station on the main line north of Stratford. The small material produced by the quarry is also railed to Waipuku for use as railway-ballast.

The second of these quarries has been opened, or rather is to be opened, by the Public Works Department in a face of solid columnar andesite about three and a half miles west from the end of York Road. The height above sea-level is approximately 3,390 ft. A self-acting tramway from York Road to the quarry is about half constructed, but at present work on this has been suspended.

SPECIAL REPORTS.

1. PICTON COAL.

(By P. G. Morgan, Director.)

In accordance with official instructions I left for Picton on the 12th August, 1914. On the 13th, after meeting members of the Borough Council, Mr. A. P. Seymour, and others interested in the coal occurrences, I visited Shakespeare Bay, "The Elevation," and the upper Tuamarina valley. On the morning of the 14th Waikawa Bay was visited, and in the afternoon I went to Blenheim, whence I returned to Wellington on the 15th.

Former Reports.

The Picton district has been frequently visited by Hector, Hutton, Cox, McKay, and other geologists. Its geology is therefore comparatively well known, and it does not seem necessary here to give a summary of it, for those who are interested may consult the literature listed at the end of this report.

History of Coal-mining in the Picton District.

Coal was discovered near Picton in May, 1874, and during the next few years a good deal of prospecting was done by Mr. Pugh and others. From Pugh's workings on the east shore of Shakespeare Bay 40 tons of coal are said to have been extracted. The coal, McKay states, occurred in a most irregular manner, and varied in thickness from a few inches to 2 ft. or 3 ft.

In 1880 fairly thick outcrops of coal, dipping at a high angle to the eastward, were found on the western side of the valley at the head of Shakespeare Bay. These were prospected by Mr. John Renfrew. The next year a block of coal was found on the eastern side of the valley, not far from the shore of the bay; and since this was of considerable thickness, and of good quality, hopes of a coal-field being developed were again entertained by the people of Picton. For two or three years this block was worked in a small way by Mr. Fell, and some 800 tons or more of coal were obtained. The seam, according to Hector, was from 6 ft. to 23 ft. thick, but irregular, and cut by faults and slips.