Office-work.

The office-work of the Geological Survey has been of the usual character. In addition to the preparation of official reports, numerous requests for information concerning New Zealand minerals and ores have been answered. Oral information has also been given to callers at the office. As in past years, considerable attention has been given to the library, which now contains over four thousand publications.

General Remarks.

Owing to the want of a palæontologist it has not been possible satisfactorily to determine fossils collected during the past year, or to continue work on the great collections made during the time Sir James Hector was Director of the Geological Survey. It is hoped that a trained palæontologist will soon be added to the staff. Arrangements to appoint two extra field geologists have been made, and thus the staff of the Geological Survey will be brought up to something like its pre-war strength.

In a former report I have pointed out that in order satisfactorily to perform the work that falls to its lot the Geological Survey, besides increased staff and office accommodation, needs a laboratory and sufficient space for storing and sorting its collections. A mineral museum and various other adjuncts are also desirable. Fortunately, the Survey has lately obtained better office accommodation than it has had for many years, but the other desiderata mentioned above are still lacking.

P. G. Morgan,
Director, Geological Survey.

APPENDIX.

REPORT ON PROPOSED BORING FOR COAL AT DOBSON FLAT, GREYMOUTH.

By P. G. Morgan.

Geological Survey Office, Wellington, 10th December, 1917.

On the 23rd November last, in accordance with a promise made to the Greymouth Harbour Board some time ago, I examined the neighbourhood of Dobson with a view to locating suitable sites for coal-prospecting bores.

In 1902 and 1903 the Greymouth Harbour Board drilled three holes on its endowment near Dobson. The first of these bores was at the foot of the hill east of the township, and proved 12 ft. of coal (the Brunner seam) at a depth of 572 ft. 6 in. to 584 ft. 6 in. The second bore was about 45 chains to the south-west, on the east bank of Mill Creek, and, like the first, close to the main road. At 1,140 ft. it passed through 2 ft. 6 in. of coal, supposed (no doubt rightly) to be the Brunner rider (a small seam overlying the Brunner seam). At 1,144 ft. the bore got into difficulties owing to the caving-in of its walls, and was abandoned. The third bore was somewhat over half a mile to the west-south-west of No. 2 bore, and was also near the main road. This bore was drilled to a depth of 2,165 ft., but found no coal except a 1 ft. 8 in. seam at 1,493 ft. 6 in. This seam was probably the Brunner rider.

It is fairly certain, apart from the geological evidence to be mentioned presently, that No. 2 bore encountered faulted ground, and in New Zealand Geological Survey Bulletin No. 13, 1911, page 131, I expressed the opinion that No. 3 bore also encountered a fault, which had the effect of preventing it from proving the Brunner seam. In view of the lenticular nature of our New Zealand coal-seams it would perhaps be more reasonable to suppose that the Brunner seam had thinned out at No. 3 bore, and I have since thought that this view ought to have been expressed in No. 13 Bulletin. There was, however, evidence of faulting in the cores from the bore at the depth where the Brunner seam might have been expected, and the examination lately made by me affords independent evidence of the strata there being affected by the same fault as No. 2 bore. Hence my original view of 1911 may well be the correct one.

One of the main objects of my examination was to determine, if possible, what faulting affects the strata underlying Dobson Flat. In 1909 I had traversed a small unnamed stream (Buckley Creek of map herewith) rising near Mount Buckley and flowing south-west to Dobson Flat. In its valley I suspected faulting, and a doubtful fault was marked on my manuscript map, but this was not shown on the map published in 1911. On the 23rd November last the stream was re-examined, with the result that the evidence of faulting was confirmed. It may now be said that in all probability a fault (perhaps a double fault) striking west-south-west traverses the valley of the little stream, and the line of this passes close to Nos. 2 and 3 bores. This dislocation, which I shall call the Buckley fault, is parallel to the well-known Dobson fault and a little over a quarter of a mile to the south of it. The downthrow is suspected to be on the south-south-east side. Not improbably there is another parallel fault somewhat over half a mile to the southward of the Buckley fault. This may be called the Mill fault.

There is undoubtedly coal beneath much of the Dobson Flat, and perhaps beneath all of it. Hence now or in the future boring is justified, but it does not follow that the Greymouth Harbour Board ought to undertake the cost of boring; and I wish specially to guard against taking any responsibility in the matter, or at least against my being regarded as recommending boring at the present time by the Board, or by any person or company not provided with substantial capital.