About a mile above the mouth of the Fox River the same seam as that last mentioned outcrops on the north bank. It is here 6 ft. to 8 ft. thick, and of the same good quality as at Brighton, except that the lower portion is stony. The roof is a light-coloured sandstone, which is overlain by several hundred feet of limestone. The immediate floor is grit. The seam, as near the sea-coast, lies practically level, and is here not more than 30 ft. or 40 ft. above tide-mark. Upstream the strata dip gently to the east, so that in this direction the lignite must pass below sea-level.

From fossils obtained at and near Woodpecker Bay, in strata that overlie the lignite, a Miocene age may be inferred for the Brighton coal-measures. It is thought, however, that they are somewhat older than the Charleston lignite, and probably of Lower Miocene age.

(3.) *Bullock Creek Coal.*

About half a mile up Bovis Creek, a small stream that enters Bullock Creek on the north side some two miles and a half above the track-crossing near Mr. E. O'Brien's hut, highly inclined sandstone and shale with thin seams of bituminous coal outcrop in the stream-bed. The section, in downward order, is as follows :—

8 ft. of banded sandstone.
18 in. of dark shale with thin layers of coal.
7 ft. of sandstone (with a little shale, &c.).
8 in. to 10 in. of impure coal.
Sandstone floor.

These beds strike 258°, and dip at 80°–85° to the west of north. The elevation above sea-level is about 800 ft.

Two chains and a half up stream coal outcrops on the right or western bank of the creek, but in such a way that its thickness cannot be determined without considerable excavation. Five or six feet of coal is visible in two bands, which apparently belong to one and the same seam, separated by a fault. The dip of the enclosing beds is probably about 85° to the north-west. The coal is much crushed, and contains some dirt or stony matter, as well as a few waterworn pebbles. The following analysis* shows its quality :—

	Per Cent.
Fixed carbon	75·52
Volatile hydrocarbons	15·45
Water	0·63
Ash	8·40
	100·00
Total sulphur	1·49

Two to three chains up stream loose coal is seen on the right bank. Above this are alternating bands of sandstone and conglomerate that strike 229°, and have a dip near 90°. The barometric height is 830 ft.

A quarter of a mile further upstream a slip shows on the left or eastern bank. Towards the top of this, at a barometric height of 1,370 ft., 8 ft. of much-crushed coal is visible. The seam stands almost vertical, but is slightly overturned. Stratigraphically below, but apparently above, is some shale. Beyond this is an outcrop of highly shattered gneiss. That the coal is involved in a fault is obvious.

The coal of Bullock Creek and of the localities mentioned under the next two headings may be correlated with the bituminous coal of the Greymouth and Buller coalfields. It is, therefore, probably of Eocene age.

(4.) *Fox River Coal and Anthracite.*

About seven miles up the Fox River (northern branch), at a point less than a mile above the junction of Henniker Stream, alternating beds of shale, sandstone, and conglomerate are visible on the south bank at a barometric height of 470 ft. These beds contain several small coal-seams, varying from 2 in. to 9 in. in thickness. The strike is 233° to 241°; the dip about 45° to the south-east. The following analysis shows the composition of the coal in the 9 in. seam :—

	Per Cent.
Fixed carbon	45·57
Volatile hydrocarbons	41·17
Water	3·21
Ash	10·05
	100·00
Total sulphur	0·32

A quarter of a mile upstream from the outcrops just mentioned a very similar but thicker section is again seen on the south bank, sandstone, shale, conglomerate, and small coal-seams alternating with one another. The largest seam now visible is not more than 1 ft. thick. The strata strike 198° to 202°, and dip at 75° to 80° to the north of west. Thus these beds form part of a syncline, the other limb of which appears downstream, and was described in the last paragraph. A little farther upstream

* It is possible that the sample from the Fox River was analysed as Bullock Creek coal through an error in the labelling, and *vice versa*. Hence the analysis needs confirmation.