no evidence that one is not buried beneath the surface debris which has accumulated in the outcrops of all the softer beds. A case particularly in point is the detailed section of the Kootanie formation given above. Since this section was measured in less than two days, no attempt was made to find all the buried seams, or even to strip for measurement all those whose presence beneath was revealed by pieces of float coal at the surface. In some cases the debris included large blocks of sandstone, which had slid down over the seams. The summarized statement of the seams seen in this section, with each thickness and that of the intervening rock, is as follows:—

The glacial and river drift have been grouped together, since at present it is impossible to separate them over large portions of the basin. They form thick sheets in the Saskatchewan and Brazeau valleys, and also in the third longitudinal depression, where they are trenched by streams to a depth of over 100 feet without bed-rock being exposed. A large part of the Bighorn valley is buried under drift, as is also the transverse valley extending to the Wapiabi Creek gap through the Bighorn range. The boundaries of the drift are only approximate, and rock exposures may occur at a number of points which escaped notice.

Section on Chungo Creek.

Rock	131.
Coal	2.4
Rock	2.9
Coal	4.7
Rock	161.
Coal	3.9
Rock	2.5
Coal	2.4
Rock	127.
Coal	4.5
Rock	353.
Coal	6.6
Rock	288.
Coal	.2
Rock	2,567.
Total	3,658.9
Total Coal	26.5

The section on George Creek extends down from the first seam, which outcrops a short distance below the base of the Dakota formation. It is as follows, the important seams being numbered:—

	Feet.
Coal	0.5
Rock	70.
Coal	0.3
Rock	1.5
Coal	1.
Rock	40.
Coal and Shale	5.
Rock	60.
Coal with three bands shale	3.
Rock	0.5
Coal	4.
Rock	110.
Coal	0.8
Rock	240.
Coal with three bands of shale 1 inch each	10.6
Rock	110.
Coal, dirty at outcrop	3.
Shale and coal	0.3
Coal, 1 band shale 3 inches	4.3
Rock	80.
Dirty coal	1.7
Coal	1.5
Shale	0.5
Coal, with band shale 2 inches	6.7
Rock	30.
Coal	1.
Rock	40.

Three natural exposures of coal were found on Wapiabi creek. The lowest of the three is situated just below the junction of the two main branches, and the others about a quarter of a mile above, on the northern branch. These were measured, with the following results, beginning with the highest:—

Seam No. 1.—Coal 9.3 feet, shale 1 foot, coal 2.2 feet.
Seam No. 2.—Coal 5.2 feet.
Seam No. 3.—Coal 5.4 feet.

Coal was also seen at several points on the hills north of the Saskatchewan valley, including the most westerly hill, where the strata form part of the westerly limb of the syncline and are nearly vertical. On the southern side of Opabin creek more coal was seen. Here the Kootanie also forms part of the western limb of the syncline, and the beds are overturned, and the seams so badly crushed that they did not permit of measurement.

The following are analyses which have been made of samples and specimens of coal from the basin. The only sampling was done by Mr. McEvoy, who had tunnels driven far enough into the various seams to secure as near as possible samples free from the effects of surface weathering. His analyses represent coal taken across the several seams in equal amount for their full width. Mr. McEvoy made coke from different seams, taking care to use coal fairly representative of the whole width of the seam. The numbered and lettered seams from which Mr. McEvoy's samples were taken correspond with those so designated in his sections given above. Those lettered are from Bighorn river, those numbered from George creek:—

COAL ANALYSES.

(Samples.)

No.	Thickness.	Moisture.	Vol. Comb. matter.	Fixed Carb.	Ash.	Calor. Value B.T.U.	Sulphur.
A....	5 feet	0.38	22.62	68.85	8.15	.....	....
B....	4.5 "	0.20	22.95	69.78	7.07	.....	....
C....	7 "	0.32	19.51	71.17	8.70	14,011	0.98
3....	6.7 "	0.28	29.04	64.52	6.16	.....	0.68
4....	10.2 "	0.90	27.60	60.08	11.42	.....	0.46
5....	4 "	0.34	25.28	68.13	6.25	.....	....
8....	4.7 "	0.36	26.72	62.35	10.57	.....	1.21
11...	9.5 "	0.20	24.13	69.34	6.33	14,483	....
12...	12 "	0.56	22.82	70.30	6.32	.....	0.69
14...	3.2 "	1.46	24.04	67.93	6.57	.....	0.70
6....	6.5 "	0.50	20.10	49.62	29.78	.....	0.56
9....	8 "	0.30	24.58	62.95	12.17	.....	....

With one or two exceptions coal from these seams cokes, and in most cases its quality is excellent. The following are analyses:—

ANALYSES OF COKES.

No.	Thickness.	Moisture.	Fixed Carbon.	Ash.
A.....	5 feet	0.06	92.49	7.45
C.....	7 "	0.06	91.77	8.17
D.....	13 "	0.03	90.77	9.20
F.....	7 "	0.03	91.09	8.88
5.....	4 "	0.04	94.63	5.33