

SUBJECT 7.—*Geology, Surveying, and Making Plans.*

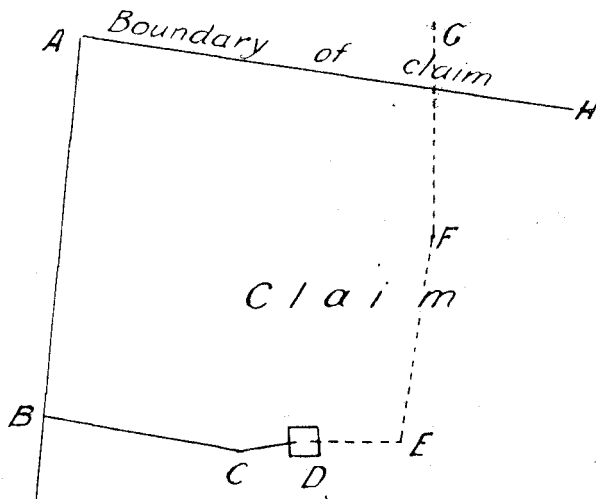
1. Give a brief description of any coalfield with which you are familiar, giving especial attention to the following points:—

- (a.) Extent of the seam.
- (b.) Inclination of the seam.
- (c.) Faults, if any.
- (d.) Nature of rocks overlying and underlying.
- (e.) Character of the coal.

2. Define the following terms:—

Anticline, overthrust fault, overlap, stratification, cleavage, jointing.

3. From the plan and particulars given below compute how many feet the working-face at G has encroached upon the adjoining claim, and what distance along the northern boundary from the corner of the claim marked A the working crosses the boundary.



Surface Traverse—

			Bearing.	Distance.
AB	...	...	182° 37'	1017 links.
BC	...	...	96° 48'	503 "
CD	...	...	77° 32'	175 "

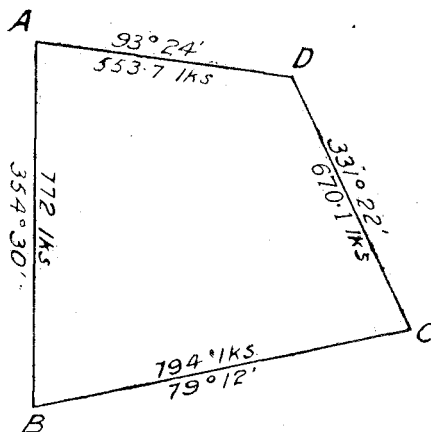
Underground Workings—

DE	...	...	89° 56'	174 feet.
EF	...	...	7° 26'	384 "
FG	...	...	356° 28'	259 "
AH	...	...	96° 0'	...

4. The underground workings of a mine are enclosed within the figure below, the co-ordinates from A being as follows:—

			S.	E.
A	...	...	0° 0'	0° 0'
B	...	...	768° 4'	74° 0'
C	...	...	619° 7'	853° 9'
D	...	...	31° 6'	532° 8'

Required the area in acres contained within the figure.



5. Compute the cubic contents of an ore-dump 27 ft. 6 in. by 16 ft. 9 in. at base, 18 ft. 4 in. by 7 ft. 5 in. at top, and 4 ft. 9 in. high; and how would you ascertain the approximate tonnage?