

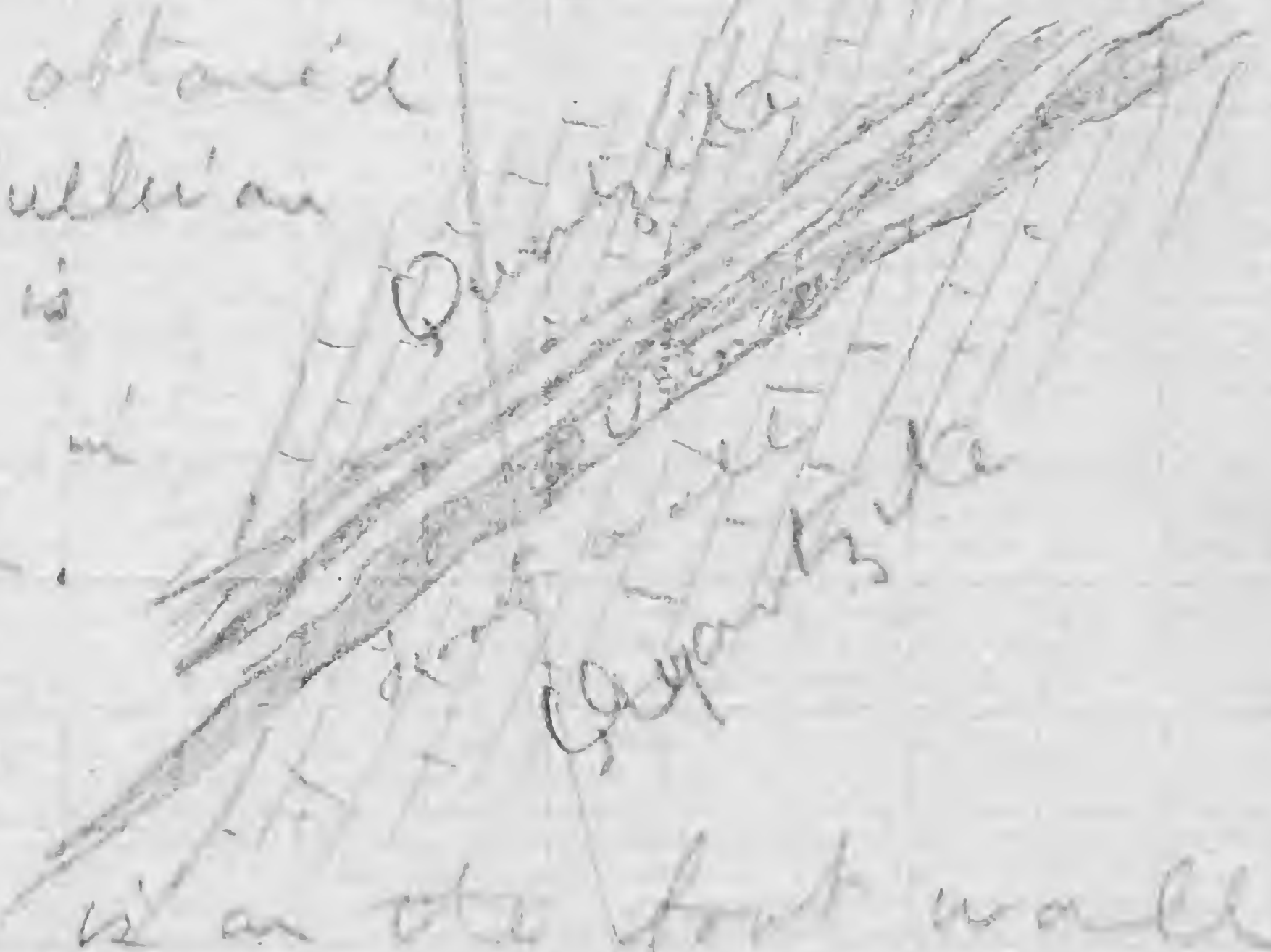
Sept. 7-95  
Coeur d'Alene Mining  
District, Idaho.

Country rocks. Quartzites  
& shales mostly subvertical  
An occasional calcareous  
bed occurs. The formation  
is tilted & probably faulted  
if not folded. The  
mines occur on veins  
that traverse the quartzite  
formation at various angles  
to the strike & dip of the  
strata. The impression  
gained in a hasty run  
over the district is  
that there may be a system  
of N. V. W. & E. S. E. fractures  
that were also the seat  
of movements that still  
further break the immediately  
adjacent rocks. With this  
volcanic activity that

C. 19-Alene. (2)

that probably resulted from the disturbance of the strata, dykes of granite, as below Burke) were formed. Later on the mineral bearing waters penetrated the fissures & fractures in the quartzite & shales depositing the lead & silver as veins in the open fissures, & also penetrating the adjoining rocks depositing thin veins & also mineralizing the rock by replacement of the valuable portions. The

idea obtained at the Sullivan mine is shown in sketch.



The main vein is on the foot wall

C. 19. A. Lene. (3)

and the smaller veins  
to impregnated rock above,  
the hanging wall being  
very irregular.

### Topography

The appearance of Coeur  
d'Alene Lake Basin  
indicates the damming of  
a very deep narrow  
valley at a somewhat  
distant period, which was  
followed by the silting up  
of the upper portion  
along the course of the  
river to the level of the  
present bottom lands. The  
outlet of the lake was  
then dammed & a deep  
river channel cut before  
the outlet was again  
filled to its present level.  
As a result the river

C-19' Lane (f)

channel is very deep  
35 feet or more most  
of the way from Mission  
to its mouth 30 miles.

The silt having filled  
the <sup>new</sup> ~~deep~~ channel only  
from above Mission to  
the steamboat landing.

The original damming  
of the valley filled by  
the lake was probably  
caused by a flow of  
basalt to the second  
by a later flow.

The mountains & valleys  
indicate old topogra-  
phy much like that  
of the Appalachians  
where the Cretaceous  
& Tertiary <sup>and</sup> ~~have~~ <sup>have</sup> plains  
have been deeply  
eroded. Whether a

C. W. Lane (5)

penne-plain existed over  
this region is not at  
all certain. Altho  
the general average  
of the mountain tops  
& ridges indicates  
it. A topographic  
map will be necessary  
before any well defined  
deductions can be made.

The valley narrows near  
Anderson & also at the  
mouth of the river where  
basalt flows from the  
north side & the quartzite  
the south.

Algonkian? Hales

The dark quartzite, shales  
& argillites of the Canadian  
Penins. (Couch, Dawson) extend  
from the east side of  
Crown Pt. along Lake eastward  
to Bunker Bay. On the  
immediate shore of the  
lake they are concealed by  
flows of lava which are  
the heads of the bay, & back  
out back to the eastward

Map of Hales. G.N.R.R.  
(Quartzite)

Limestone of a little  
east of Bunker Bay on the  
G.N.R.R. (Couch, Dawson)

Should be exam-  
ined. Hales

$$\begin{array}{r} 1630 \\ \hline 480 \end{array}$$

13.

$$\begin{array}{r} 145 \\ \hline 4350 \\ 75 \\ \hline 220 \\ \hline 225.0 \end{array}$$

July 30, 1940

Two Mile Canyon, Sawatch Mountains,  
2 miles south of Malad, Idaho.

As stated by all previous observers  
the strata are faulted in blocks of  
various sizes. Rocks were examined  
on the north side where Walcott  
measured the lower beds.

The block examined lies east of  
the first sizable gully, and is  
northward, inside the front of the  
range.

Brigham quartzite.

The base is not exposed in this block  
although float of the Archean  
rocks was observed. A fault  
thrusts the Brigham on to a limestone  
but it was not ascertained which one.

This formation varies much in  
composition. Some of the quartzitic  
layers are vitreous but this type of  
rock evidently is a minor constituent.

Conglomeratic stringers, with pebbles  
up to 1/4" were observed.

Much of the quartzite is shaly,  
with friable surfaces.

Possibly half of the exposed  
beds are sandy shale, micaceous  
and friable. Toward the top



Two Mile Canyon, 30 July 1940

(2)

The formation is a bright, greenish yellow shale, micaceous and somewhat sandy. Some green-sand was observed. Some layers also contain a little dolomite.

Shale in the lower part of the Brigham, as exposed - looks a lot like L. S. & Bellian.

### Transition Beds.

The upper 25<sup>feet</sup> or more, as exposed in this block, consists of rather strongly cross-bedded material. The rock still has the greenish brown and purple color of the Brigham, and from a little distance still looks like quartzite. However, the rock is very variable. Some layers are pure quartzite, minor elements are slightly shaly. Considerable dolomite has been introduced. Sand layers (or possibly lenses) of oolitic limestone are introduced.

A rather abrupt change takes place from this calcareous quartzite or cross-bedded quartzitic limestone to the crystalline grayish blue limestone with the abundant Parmigania fauna.

However this fauna extends down for at least a foot or more below this contact. This

Two Mile Canyon 30 July 1940 (2)

shows unquestionably that the contact, in spite of its sharpness, is gradual.

Some criteria of a bioherm are to be seen.

This bed, as stated by Walcott is only about 6 feet thick.

The basal layers contain the Dolichometopids in abundance.

Taxionia occurs in a thin layer about <sup>3 1/2</sup> 3 1/5 feet above the base of the limestone. A few inches higher is the harder layer with Olehoidea, Kootenia, Parnigania, etc.

Ute - Thin platy, hard limestone and calcareous shale. Some black shale.

Protospongia, Agnostus, Cryptocephala etc.

Walcott's measurements evidently are too thick for the Spence & Ute.