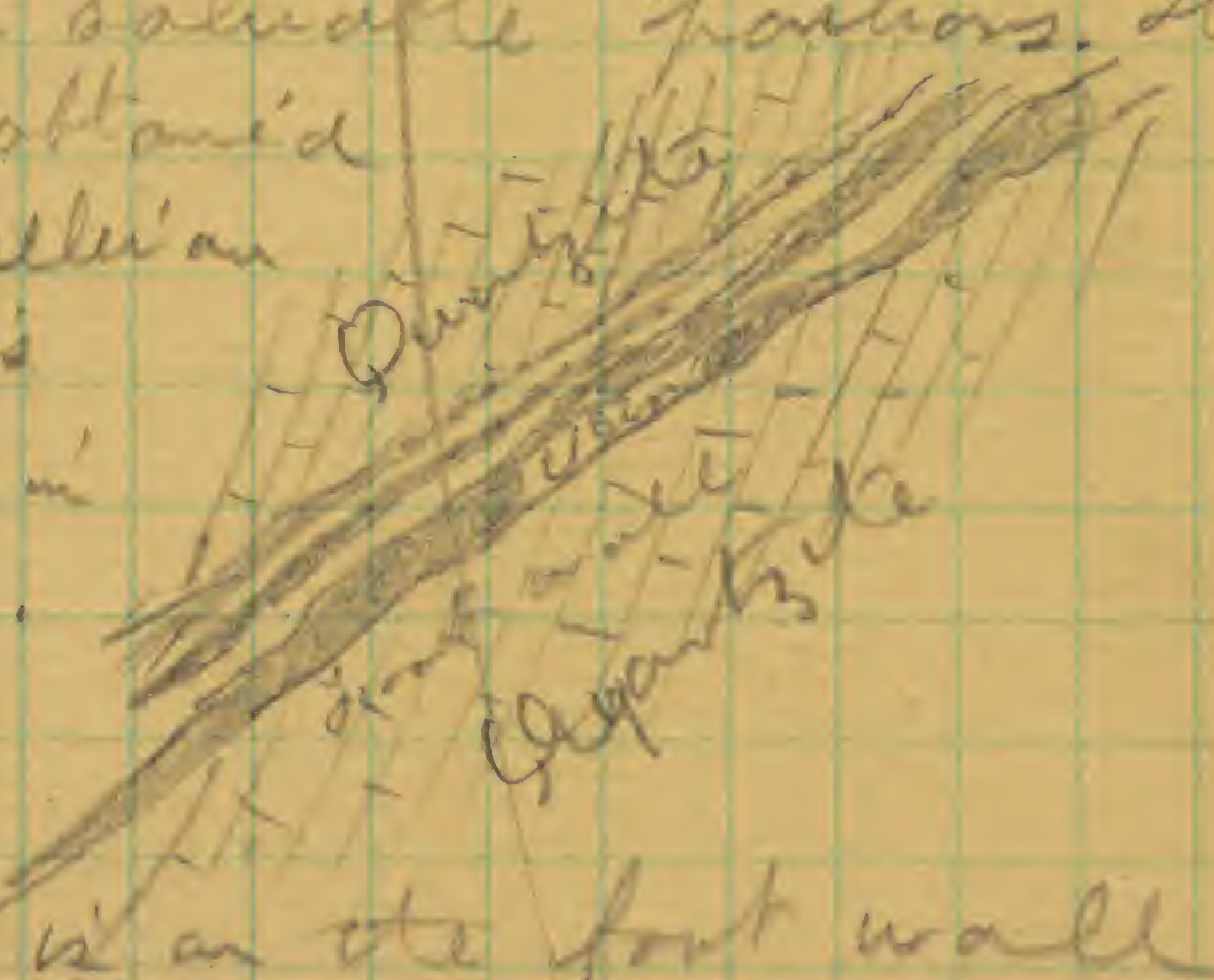
Sept. 7. 95

Coeur D'Alene Mining
District, Idaho.

Country rock. Quartzites
& shales, mostly silicious.
An occasional calcareous
bed occurs. The formation
is tilted & probably faulted
if not folded. The
mines occur in 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 W. N. W. & E. S. E. fractures
that were also the result
of a movement that still
further broke the immediately
adjoining rocks. With the
volcanic activity that

C-D-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. D'Alene. (3)

and the smaller veins & impregnated rock above; the hanging wall being very irregular.

Topography.

The appearance of Coeur D'Alene Lake & River indicate 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 lowered & a deep river channel cut before the outlet was again filled to its present level. As a result the river

C – D'Leno (4)

channel is very deep 35 feet or more most of the way from Mission to its mouth 30 miles. The silt having filled the very deep channel only from above Mission to the steamboat landing.

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

The mountains & valleys indicate old topography much like that of the Appalachians where the Cretaceous & Tertiary pene-plains have been deeply eroded. Whether a

pene-plain existed over this region is not at all certain. Although 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 form the north side & the quartzite the south.

Algonkian? Idaho

The dark quartzites, shales & argillites of the Canadian survey, (Cambrian, Dawson) extend from the east side of Coeur D'Alene lake eastward to Burke & beyond. On the immediate shore of the lake they are concealed by flows of basalt except at the heads of the bays that cut back to the eastward.

Stop at Hathaway. G.N.R.R.

(Quartzite.)

Limestone allemen a little east of Sterling on the G. N. R.R. (Al. Calhoun)

Should be examined. [illegible]

16
30
480

145
30
4350

25.

75
30
225.0

July 30, 1940

Iro Mile Canyon, Wasatch Mountains,
2 miles South of Malad, Idaho.

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

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

Brigham quartzite.

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

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

Conglomeratic stringers, with pebbles up to ¼" were observed.

Much of the quartzite is shaly, with friable surfaces. O'

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

30 July 1940

Iron Mile Canyon. (2)

The formation is a bright greenish yellow shale, micaceous and somewhat sandy. Some green-ish 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. C. & Bellian.

Transition Beds.

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

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

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

Two Mile Canyon 30 July 1940 (8)

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

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 Dolichometopsids in abundance.

Taxioura occurs in a thin layer about
3½ 3.5 feet above the base of the Langston. A few inches higher is the Naraoia layer with Olenoides, Kootenia Ptarmigania, etc.

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

Protospongia, Agnostus, Oryctocephalus etc.

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