



December 3, 1986

896358

Dr. Robert Lo
Kloen Leonoff Ltd.
10180 Shellbridge Way
Richmond, B.C.
V6X 2W7

Dear Robert,

Enclosed please find a xerox copy of part of my field map showing locations and some background information on drill holes that I used to outline the Tertiary volcanic basin near the lower (LL) damsite in Highland Valley.

Percussion holes 69-3 and 69-4 lend credence to the interpretation that Tertiary volcanic rocks north of the highway form a south-dipping 'skin' over intrusive rocks. There may be assessment report data available under the heading Trumpeter or Canwex but I did not find any after a quick check here.

In my notes on LD4 done in the early 1970's, I commented that the sediments under the Tertiary lavas might be Jurassic -- if that is true then the basin originated back in the Mesozoic era. These data also reinforce interpretation of the basin as a graben block -- no other Jurassic rocks are preserved in the general area of the dam.

The Tertiary volcanic basin is not, itself, the problem; the problem is 'why does glacial overburden thickness go from nil over weak volcanics in LD4, to more than 300' over strong intrusive rocks in LD24?' A steep volcanic cliff would have to be present during the glaciation OR there must be post glacial offset on the fault IF the sediments above LD24 are all of Pleistocene age. But what if the sediments above intrusives in LD4 are older? Erosional events would then make more sense; the ice would preferentially gouge out the sediments leaving the relatively more resistant volcanic rocks as an apparent fault scarp.

I quickly checked assessment reports that I found listed for the area (1806, 1853, 2416 - Fox, Kelly and Wren claims of Trumpeter Mines) and just to the east (1676, 1710 - Dia, Vera and Pearl claims). They are geophysical or geochemical reports -- none mentions drilling. I don't know who did the drilling but I suspect it was Cominco.

Reference material that may be useful in the area includes:

1. Surficial - J. Ryder, GSC paper 74-49.
2. Surficial - R. Fulton, Memoir 380.
3. GAC/MDD Field Guide and Reference Manual series #1, Geology and Ore Deposits of the Highland Valley, available at B.C. Yukon Chamber of Mines.
4. GSC Open File Map 980 - Ashcroft - about 1984.

I hope these data help you in your project.

Yours sincerely,



W.J. McMillan
Manager
Mineral Deposits
and Regional Mapping
Geological Survey Branch

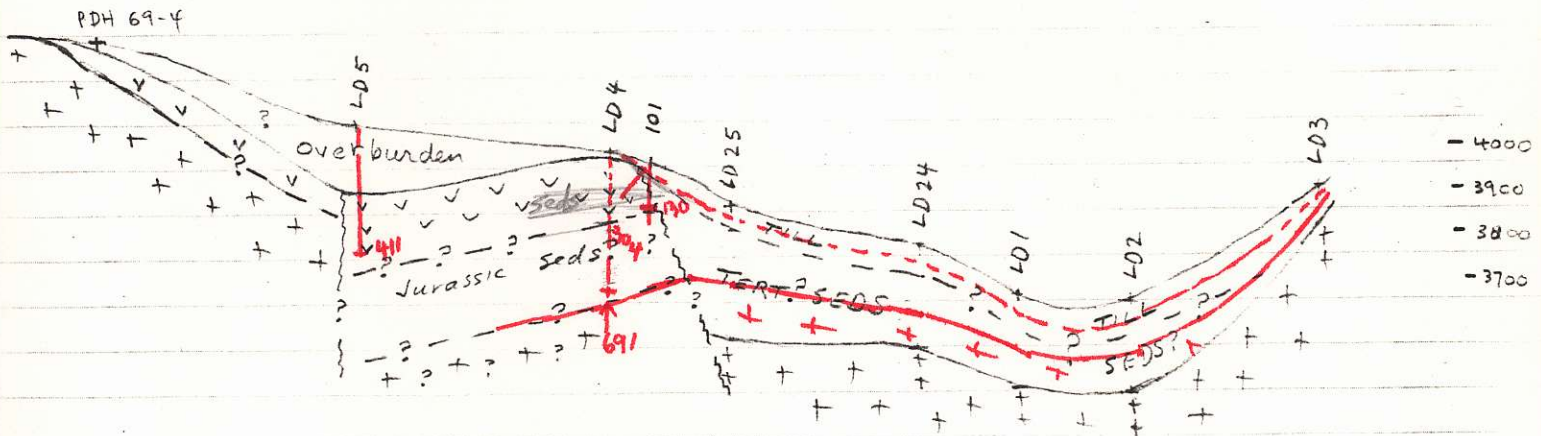
WJM/bm

Enclosure

Correspondence/Notes

View Looking Easterly. LL Damsite
section at angle to Tertiary Basin Axis

WJMcMillan
86/11/22



ONE POSSIBLE INTERPRETATION

* The geometry easily allows the argument that there is no post-till movement on the bounding faults of the Tertiary Basin

** If the sediments in LD25 and southward are Pleistocene, then the hypothesis of younger faulting is viable.

Correspondence/Notes

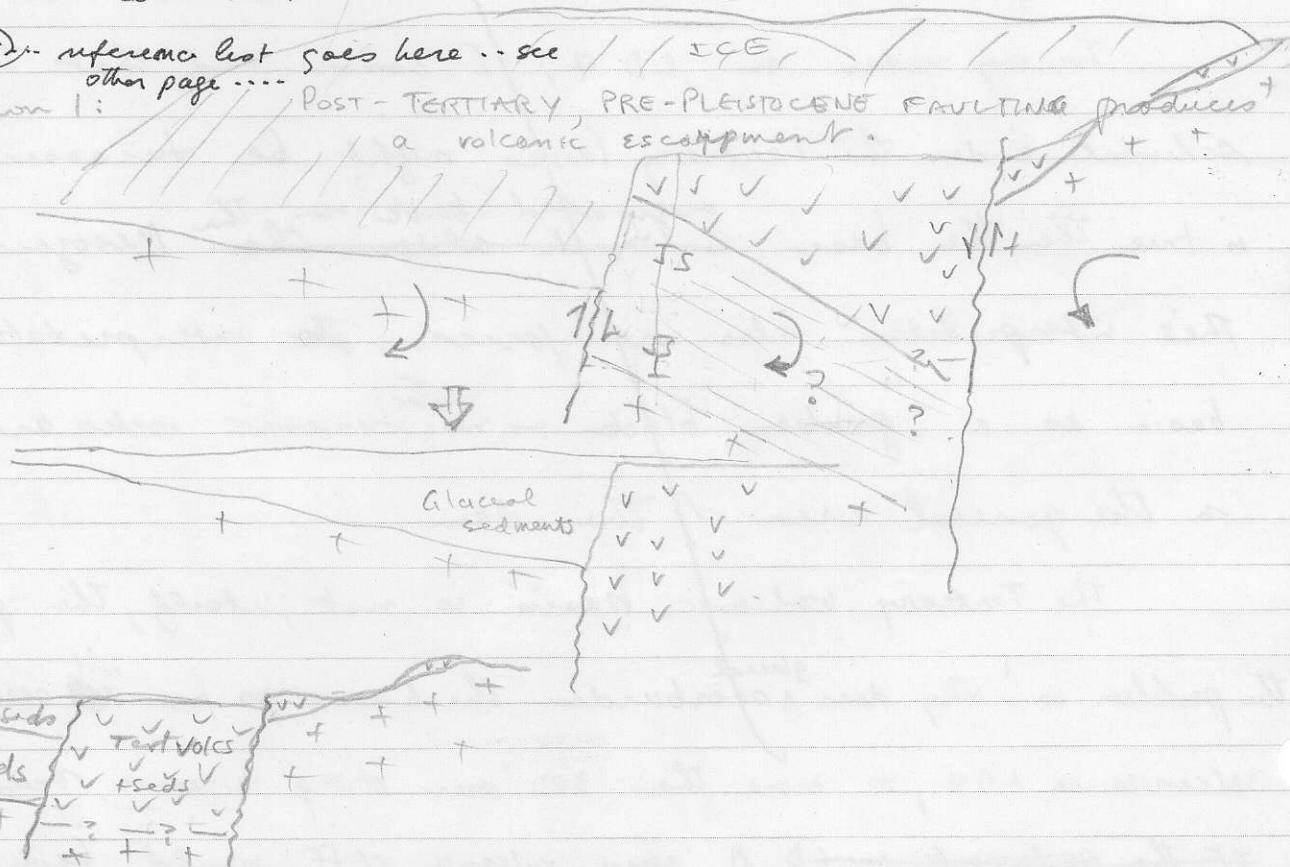
present during the glaciation OR these must be post glacial offset on the fault IF the sediments above LD24 are all of Pleistocene age

But what of the sediments above intrusives in LD4 are older? Erosional events would then make more sense; the ice would preferentially gouge out sediments leaving the relatively more resistant volcanic rocks as an apparently fault scarp.

I checked assessment reports listed for the area (1806, 1853, Fox, Kelly + Wren claims of #2416 - [Trumpeter Mines] and just to the east (1676, 1710) Dia, Vera and Pearl claims). They are geophysical or geochemical reports - none mentions drilling. I don't know who did the drilling but I suspect it was Cominco.

TYPIST - reference list goes here ... see other page

Interpretation 1: POST-TERTIARY, PRE-PLEISTOCENE FAULTING produces a volcanic escarpment.



TYPIST - ignore this phase

Correspondence/Notes

[Name? Address?]

Dear Robert

Enclosed please find a ^{xerox} copy of part of my field map showing locations and some background information on drill holes that I used to outline the Tertiary volcanic basin near the lower ^(LL) damsite in Highland Valley.

Percussion holes 69-3 and 69-4 lend credence to the interpretation that Tertiary volcanic rocks north of the highway form a south-dipping ^{'skin'} cap over (intrusive rocks).

There may be assessment report data available under the heading *Trimpeter* or *Canvex*.

In my notes on LD 9, I commented that the sediments under the Tertiary lavas might be Jurassic - if that is true then the basin ^{originated back in the} is ~~much older~~ ^{the} Mesozoic era.

This interpretation also reinforces ~~the~~ interpretation of the basin as a graben block - ^{other} Jurassic rocks are preserved in the general area of the dam.

The Tertiary volcanic basin is not, itself, the problem; the problem is 'why does ^{glacial} overburden thickness go from ~~100~~ ¹⁰⁰ over weak volcanics in LD 4, to more than 300' over strong intrusive rocks in LD 24.

~~If the sediments are LD A~~ A steep volcanic cliff would have to be

Reference material that ^{maybe} useful in the area includes:

References

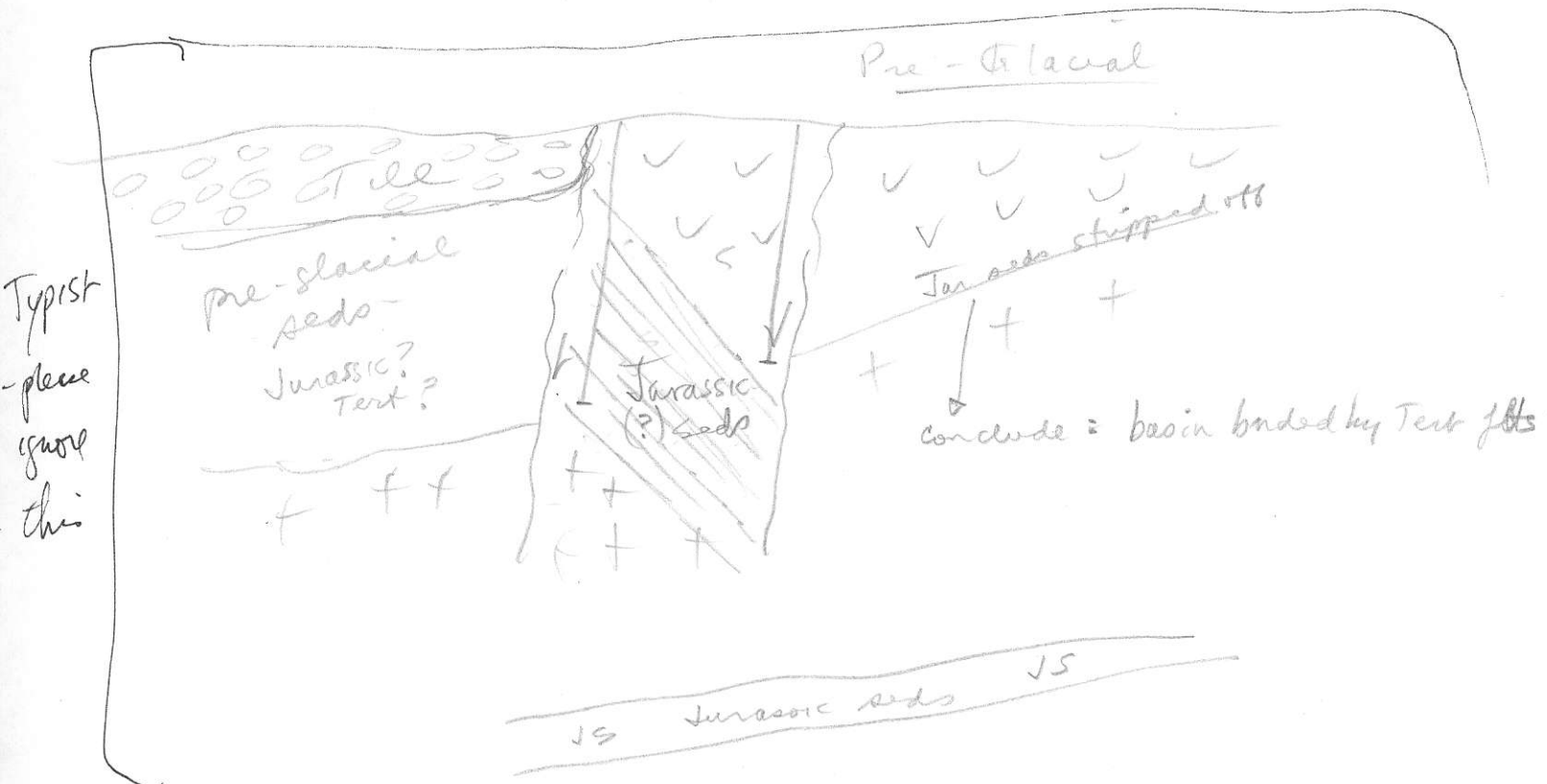
① Surficial J Ryder GSC paper 74-49

② " R Fulton Memoir 380

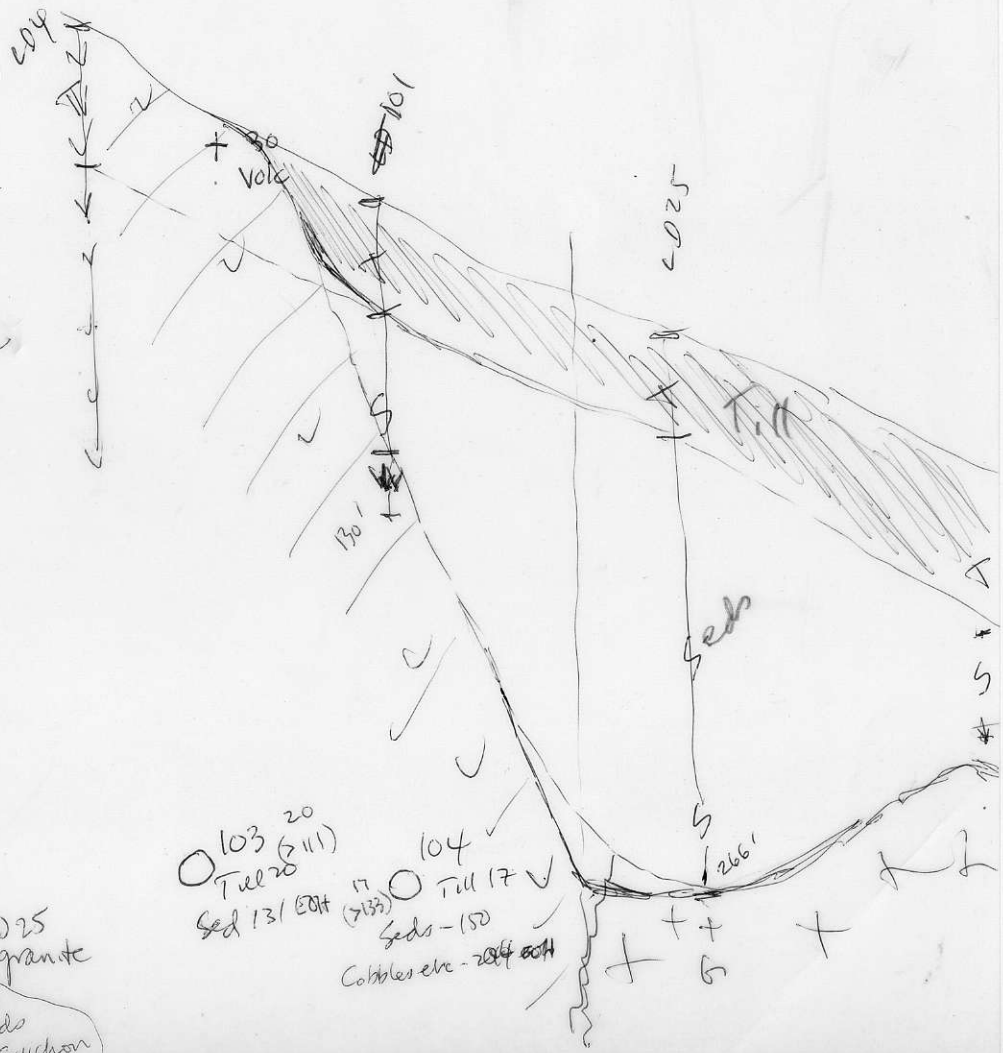
③ GAC (MDD) Field Trip ^{Guide and Reference Manual series #1} ~~Handbook report~~

Geology + Ore Deposits of the Highland Valley
~~Comp~~ available at BC Yukon Ch of Mines
(GSC?)

④ GSC Open File Map ⁹⁸⁰ - Ashcroft - about 1984



↑
TOLDS



DDH
○ rock-vele
X

X rock

vesic
flows
LD4
○ vlc
○ bedrock

102
Till 21
Sed 34
Volc 234
21 (10)

60 Till
60-97 Sed
97 Volc
101
○ 60 (32)

* possible vlc cills
Till 296
Seds 150
EOT

55 (211)
○ LD 25
granite

55 Till
Seds
266
266 Gmchon

○ 103
Till 20
Sed 131 EOT

104
Till 17
Seds - 150
Cobbles etc - 204 EOT

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