Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

MEMORANDUM

To: A. Sutherland Brown

Date: September 8, 1980

Our File: 896391

Re: Geological Evaluation of Valley Copper Mining Plan

I General Comments:

a) The orebody is apparently renamed the Lake zone orebody now.
b) The company plans to recover both copper and molybdenum. This is a surprise because Mo values are generally very low.
c) Reserves are now quoted as 1,059 billion tons of 0.418% Cu (at 0.25% copper cutoff).
d) Production is planned at 112,000 tons per day with 85,000 tons to the Valley Copper Mill and 27,000 tons to the Bethlehem Mill.
e) Production will necessitate relocation of the highway, the Dekalb road and a powerline.

II Specific Comments:

a) The plans described for consolidated muds at the bottoms of Big Divide and 24 Mile Lakes when they are drained appear reasonable and well thought out.
b) Removal and long term storage of mud from the bed of Quiltanton Lake to slowly consolidate it and later revegetation should be effective.
c) Dewatering as outlined both for the proposed conveyer slot and the pit should avoid stability problems.
d) Planned bench slopes appear to have been well researched but there may be some problems with the southeast corner of the 20 year pit south of Quiltanton Lake. In that area, Tertiary sedimentary rocks underly the glacial overburden. I suspect the Tertiary rocks will behave like overburden and will require similar pit slopes. (Figures 1,1a,1b).
e) The closed circuit design of the tailings pond is a good and, in this country, necessary concept.
f) In passing, they mention that the L-L dam will be raised and that sand will be placed on the upstream side. Are not dams built in that way subject to failure if seismic action causes slimes under the sands to become thixotropic? The plans for the L-L dam should be carefully checked.

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Conclusion:

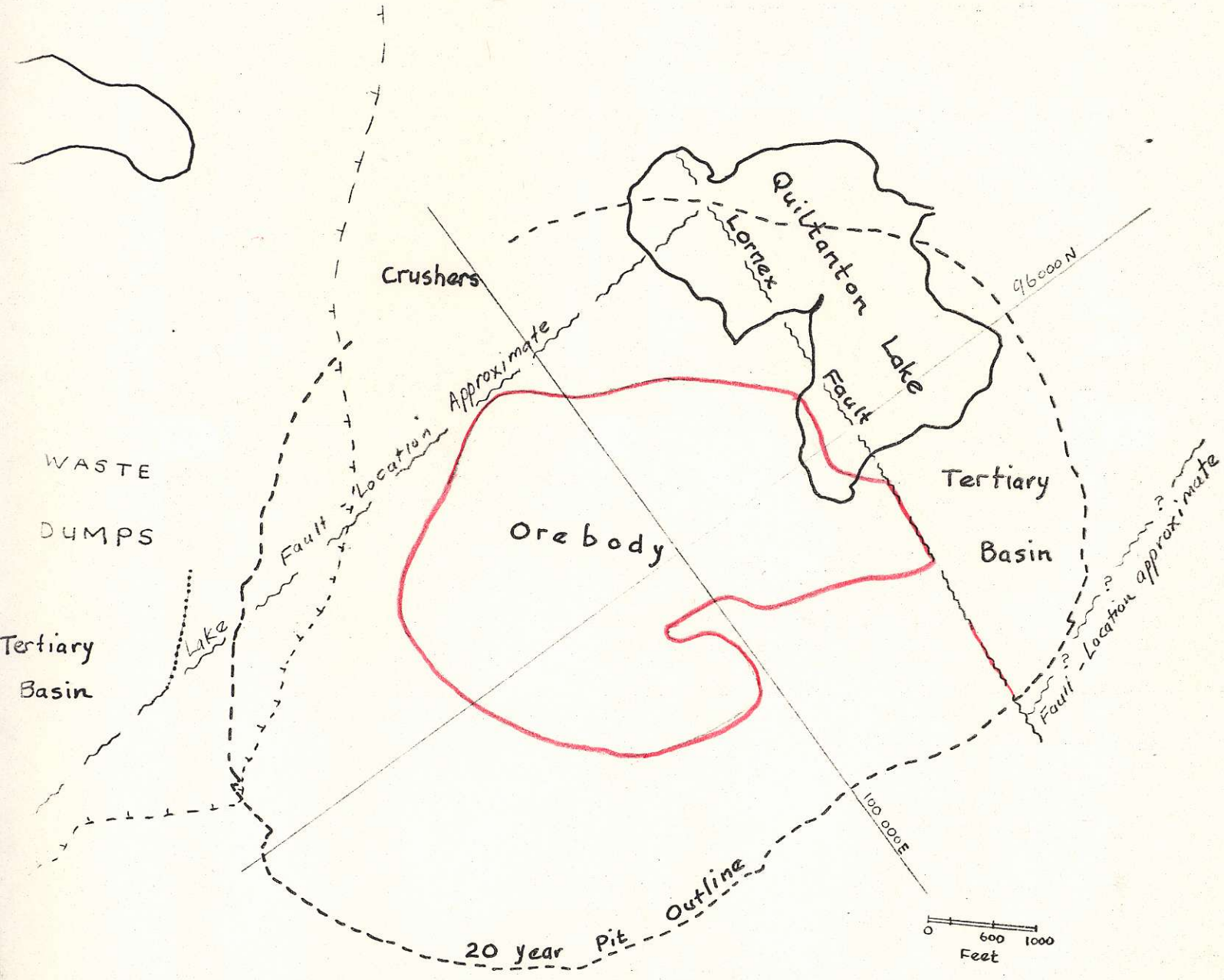
Geologically, the Valley Copper mining plan is well thought out and looks sound.

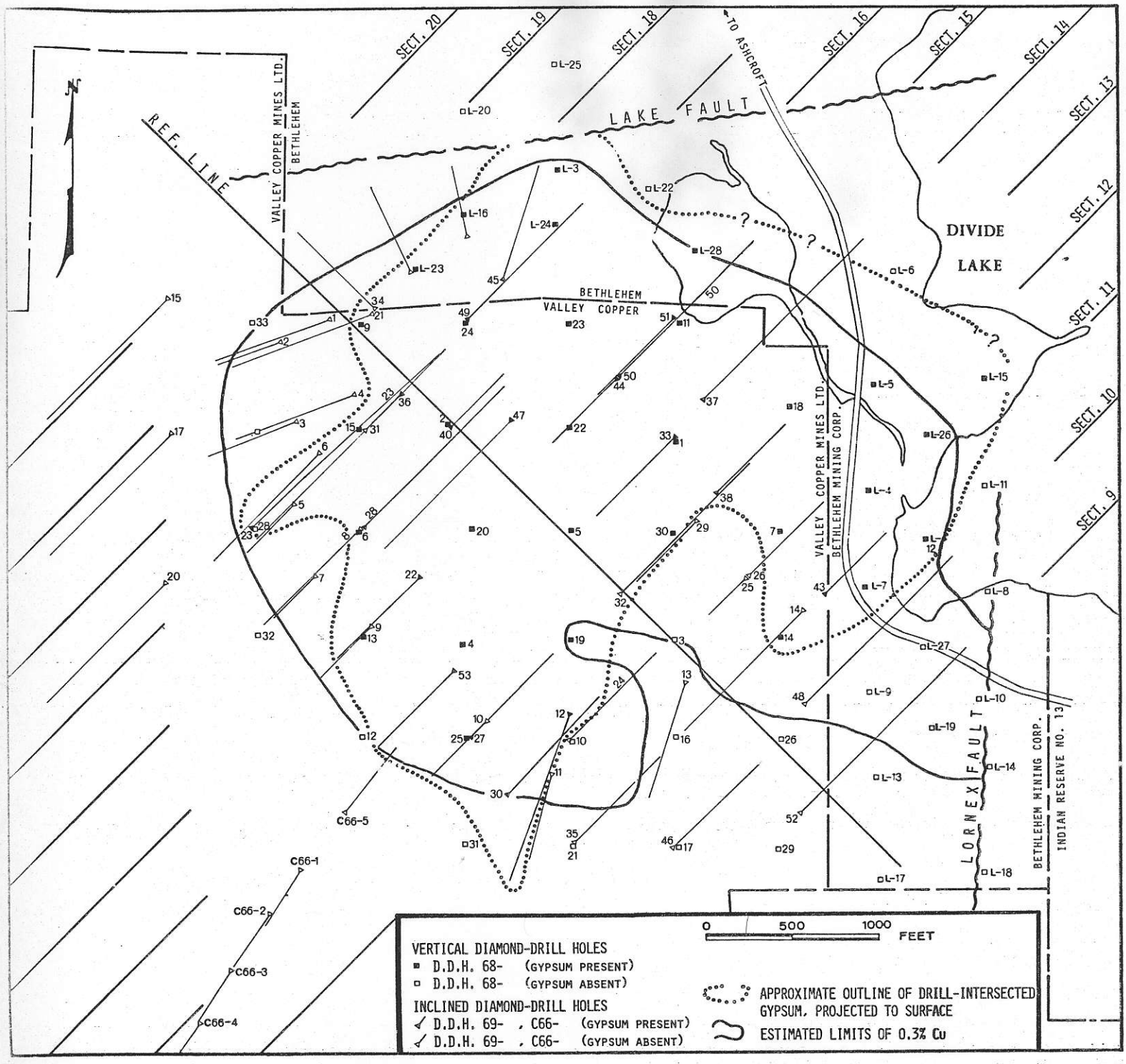
Waste dumps have been positioned so that they will cover areas that have been drilled (Figure 2) and found to have either low mineral potential or very deep overburden. For example, Tertiary sedimentary and volcanic rocks in a basin south of 24 Mile Lake (Figure 3) have no known associated mineralization either in outcroppings or in drill core.

W.J. McMillan
Geologist, Geological Divsion

WJM/dlb

Encl.


Quiltanton Lake
Lornex
Crushers
96000N
Approximate Location Fault
Fault
WASTE DUMPS
Orebody
Tertiary Basin
Tertiary Basin
Lake
Fault ? ? Location approximate
100 000E
20 year Pit Outline
0 600 1000
Feet



VALLEY COPPER DRILL HOLE PATTERN (AS OF 1971)