

004448

82L/8E

L50-118 NE.
Big Ledge.
Consolidated Mining and
Smelting Co. of Canada Ltd.
McEachern, R.G., Engineer.

82L

82L/8E

Copy 1

12

MEMORANDUM

TO H. Sargent, Esq.,
Chief Mining Engineer,
Dept. of Mines, Buildings.

FROM THE

DEPARTMENT OF MINES

VICTORIA, B.C. Oct. 2 1947

DEPT. OF MINES

WHEN REPLYING PLEASE REFER

TO FILE NO. 127

8996

Rec'd OCT 3 - 1947

Subject

File

Referred to

Attached please find report and
accompanying maps covering geological work
and magnetometer surveying of the Big Ledge
property. This information is forwarded for
your files.

K.B. Blakey

KBB/FC

For Chief Gold Commissioner.

DEPT. OF MINES

Office of Chief Mining Engineer

Rec'd. OCT 3 1947

Referred to

Ans'd.

BIG LEDGE PROPERTY

INTRODUCTION

A four man party spent two months doing geological mapping and magnetometer surveying on the Big Ledge property during the summer of 1947. The accompanying maps illustrate the work done.

GENERAL GEOLOGY

The mineralized zone, known as the "Big Ledge" is a series of impure marbles and quartzites that contain sulphides in certain portions, usually associated with a granitic type of rock. The ledge averages about 100 feet in thickness and its outcrop has been traced for over 3 miles. The strike varies from North 60 to 90 degrees East and the dip from 25 to 50 degrees South.

At the western end the exposures are on rolling summit ground and reach an elevation of about 7,000 feet. Going Eastward the outcrop crosses the Annie S. Gulch at the head of Trout (Brownie) Creek and then follows the ridge on the North side of Trout Creek down to the lowest exposures at an elevation of 4,000 feet.

The wall rocks are mostly biotite gneisses that represent metamorphosed sandy and shaly beds. Some of these have prominent garnet and feldspar augen. Scattered in the gneisses are beds of fairly pure marble and quartzite that serve as horizon markers. Tracing these shows that the ledge is conformable to the bedding.

Interspersed with the metamorphosed sediments are a number of granite and pegmatite bodies. In part these bodies are in the form of augen, small lenticles, and irregular lenses that are a by-product of the metamorphism. In part they form distinct sills and dikes that may be offshoots of some large intrusive or may be merely granitic material of metamorphic origin that has been segregated along bedding planes and fractures more completely than the material that forms the small lenticles and lenses.

MINERALIZATION

Pyrrhotite is the most abundant sulphide. Pyrite, usually in small nodular masses, is locally prominent. Sphalerite, the only ore mineral of consequence, is erratically distributed with the pyrrhotite. Galena is occasionally present in trifling amounts along with the other sulphides, but the only notable concentrations seen were as small occurrences in the calcareous beds adjacent to the main mineralized sections.

In general the sulphides are coarsely crystallized, and except for the apparently small amount of ore minerals that is intergrown with the pyrrhotite, there should be no difficulty in obtaining a separation in milling the ore.

Throughout the series of rusty weathering beds that are considered to comprise the ledge is a small amount of disseminated iron sulphides usually accompanied by scattered graphite flakes, but it is only in their upper portion that sulphide mineralization is at all abundant. This zone of heavier mineralization as observed on the surface and in the adits and trenches ranges from a few feet to over 20 feet in thickness, but old drill records indicate thicknesses up to 60 feet. This zone is conformable with the bedding, but within it the sulphides are erratically distributed in irregular massive and disseminated bodies. Also within this zone of heaviest sulphide mineralization is a large amount of granitic and pegmatitic material.

The sphalerite tends to be most abundant in the disseminated sulphide sections, but small irregular high grade patches occur with both the massive and disseminated sulphides.

MAGNETOMETER SURVEY

The pyrrhotite in the ledge is highly magnetic and the sub-surface outcrop is readily traced with the magnetometer. However no direct relationship between the amount of pyrrhotite and the intensity of the anomalies was indicated. Lines run across the adjacent strata showed that some of the gneisses contain magnetic material, but anomalies occurring there are not sufficiently strong to be confused with those occurring over the ledge.

Submitted by: R G McEachern
Registered Professional Engineer
in the Province of B.C.

Endorsed by: W. J. Smith
Registered Professional Engineer
in the Province of B.C.

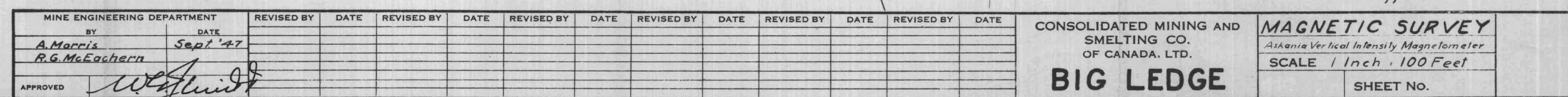
R.G. McEachern/hk
Sullivan Mine
September 20, 1947
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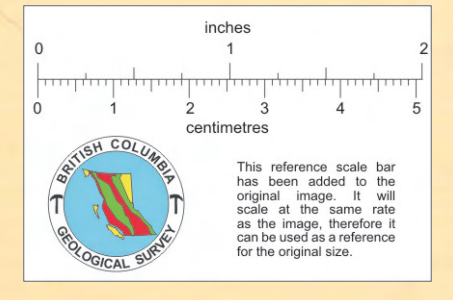
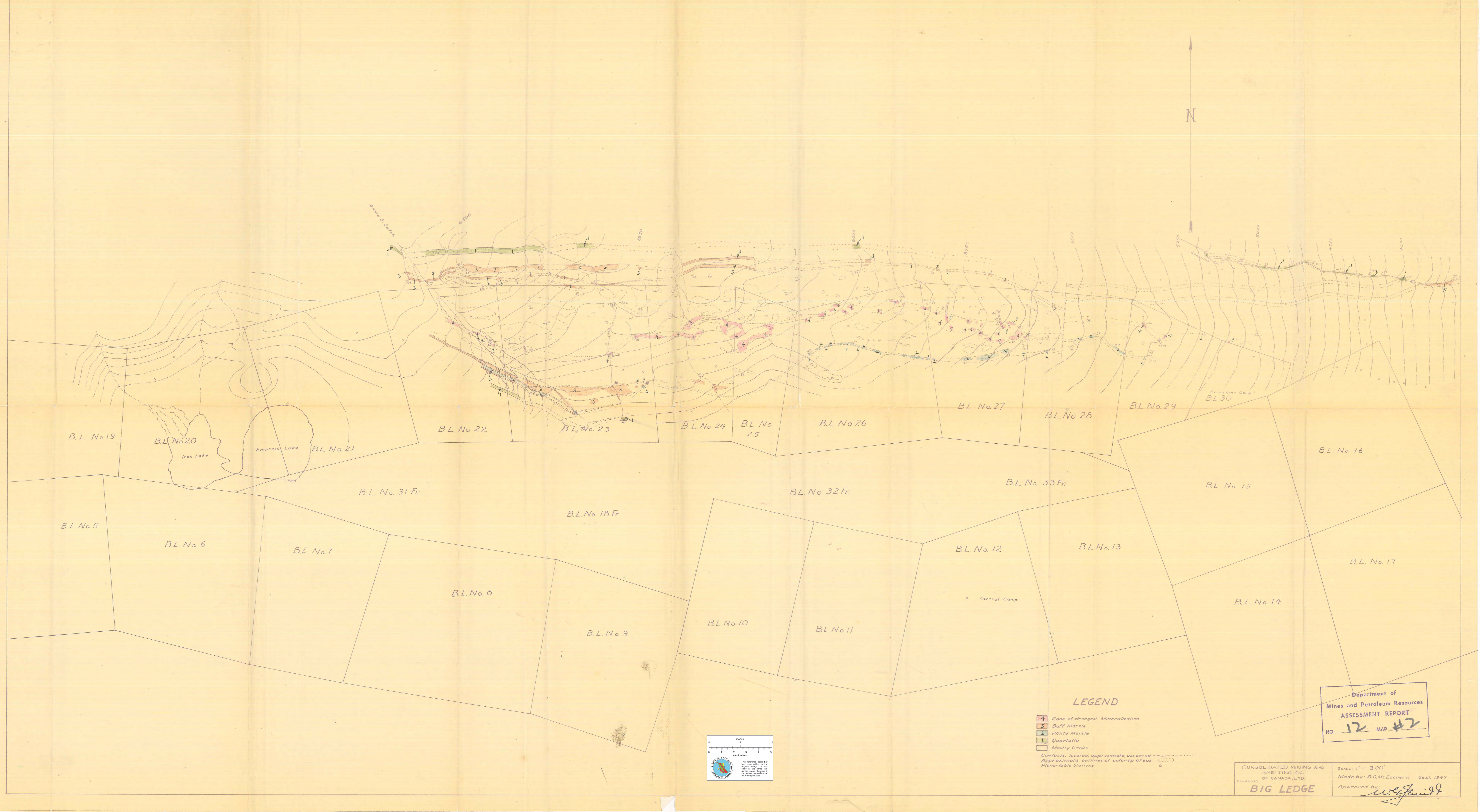
Consolidated Mining and
Smelting Co. of Canada Ltd.

Big Ledge.
#1 Magnetic Survey, map.

#243 Geological and topographical map.

28000





LEGEND

4 Zone of strongest Mineralization
3 Buff Marble
2 White Marble
1 Quartzite
Mostly Gneiss

Contacts: located, approximate, assumed
Approximate outlines of outcrop areas
Plane-Table Stations

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 12 MAP #2

CONSOLIDATED MINING AND
SMELTING CO.
OF CANADA, LTD.
BIG LEDGE

SCALE: 1" = 300'
Made by: R.G. McEachern Sept. 1947
Approved by: *[Signature]*