

6248

PRELIMINARY REPORT

on a

GEOLOGICAL SURVEY OF

ONE-SIXTY-ONE #1 and #2

OWNER : CORBIN J. ROBERTSON

OPERATOR : QUINTANA MINERALS CORPORATION

NICOLA M.D.

92 I 2/W

by

M.R. Wolfhard Feb. 1977

MINERAL RESOURCES BRANCH ASSESSMENT REPORT NO. _____
--

ONE-SIXTY - ONE PROJECT

TABLE OF CONTENTS

	<u>Page no.</u>
SUMMARY:	
INTRODUCTION:	1
GEOLOGY:	2
CONCLUSIONS AND RECOMMENDATIONS	5
REFERENCES	6
STATEMENT OF EXPENDITURES	
STATEMENT OF QUALIFICATIONS	

LIST OF ILLUSTRATIONS

	Fig. #
INDEX MAP	1 In Pocket
M-1 GEOLOGY, GEOCHEMISTRY AND CLAIMS	3 In Pocket

ONE SIXTY ONE PROJECT

SUMMARY:

A felsic volcanic center with good evidence of copper-lead - zinc - iron sulphide, iron oxide, and barium and calcium sulphate mineralization exists on the One Sixty One claims. A program should be undertaken to test the volcanogenic massive sulphide potential of this volcanic center.

INTRODUCTION:

PROPERTY: Two claims, One-Sixty-One # 1 and # 2, 22 units Nicola M D, Rec. #106, 107, 9 June 1976, owned by C.J. Robertson.

OPERATOR: Quintana Minerals Corporation

LOCATION: Seven km south of Merritt, B.C. on the southeast slope of Iron Mountain, in N T S 92 I 2/W. Relief is moderate. The ground slopes down to the southeast, from 1700 m to 1400 m. Vegetation is mixed pine - fir and spruce - balsam forest, varying from sparce to thick. Exloration and drilling season is about 6 months long, from May through October.

ACCESS: Exploration access is by auto from Merritt, about 4 hours by auto from Vancouver. Production access would be road to Vancouver, or via the C.P.R. branch line at Merritt.

WORK DONE: Geological mapping, rock geochemical sampling, in late May and in October 1976, by K.W. Livingstone and W.H. Howell.

HISTORY: Hematite, chalcopyrite occurrences on the south east side of Iron Mountain were known prior to 1897 (Dawson, 1888). In 1927, a bedded barite, galena, sphalerite showing known as the Leadville was discovered. By 1930, a 30 m deep shaft had been sunk on the Leadville. At that depth, the mineralization which varied from 0.6 m to 1.5 m in width was found to be cut off by a flat dipping fault. A search for the offset "vein" was not successful and work was apparently abandoned in 1930.

In 1948 the shaft was rehabilitated and a shipment was made of 36 tons yielding 1.86 oz/T silver and 16.4% lead. (B.C.M.M. Rep'ts, 1927 to 1948).

Although subsequent work was not well documented in the public record, the ground was held fairly continuously by local Merritt interests. They performed various geochemical, geological and geophysical surveys, trenched and drilled the hematite showings, and drilled one hole east of the Leadville. The ground was allowed to lapse, and Quintanna staked, mapped, and sampled the property in 1976.

GEOLOGY:

REGIONAL: The One Sixty One property lies in a north trending belt of Upper Triassic to Lower Jurassic Nicola group marine and continental volcanics. Although dominantly basic to intermediate volcanic in character, the Nicola group also includes marine sedimentary units and local accumulations of more felsic volcanics. The felsic rocks often occur in stratigraphic proximity to calcareous marine sediments, as at Craigmont, Promontory Hills, and Jesse Creek to the north as well as at Iron Mountain. The Iron Mountain rhyolites and dacite represent one of the larger known accumulations of felsic volcanics.

Nicola sediments in the Merritt area usually dip steeply and trend north or northeast and the Iron Mountain rocks conform to this pattern. Although folding is usually difficult to demonstrate in Nicola rocks, the recurrence of calcareous sediments on the east side of the Ann claims, 3 km east of Iron Mountain, suggests that Iron Mountain is on the West limb of a north striking syncline.

LOCAL: Quintana's detail mapping is incomplete. However, Figure 3 shows most known outcrops in the area of interest. In Figure 3, a complex assemblage of rocks related to a local felsic center has been crudely sub-divided into four major units. All trend about 020° , and dip steeply, mainly to the east. A few graded beds suggest that the pile faces east and I will assume east facing in the following discussion.

The lowest unit, underlying the western half of the property, is characteristically a poorly sorted to unsorted, coarse, lithic tuff to breccia, dark gray green in color. Bedding is massive and obscure. A few basic flows were noted at the southwest edge of the mapped area.

This greater than 700 m thick unit of pyroclastic and epiclastic? rocks is overlain with apparent conformity by a mass by a mass of rhyolite, dacite and related breccias and tuffs. The felsic unit, which either lenses out or is faulted off to the north, extends for at least 1500 m along strike. In plan it thickens gradually from about 150 m on the south to 360 m in the central part and then abruptly swells to 700 m before tapering slightly and disappearing under cover to the north. The unit is variably grey and reddish. Bedding is locally expressed as flow banding, and by flattened lapilli. In the thickest portion it is weakly but pervasively sericitized and pyritized.

A second volcanic clastic sequence, much finer grained than that on the west, overlies the felsic unit. Typically, this unit is green with some red lapilli size fragments, or maroon with green fragments. It includes a few intermediate flows. Bedding is massive and obscure.

This unit appears to be about 600 m thick on the south edge of the mapped area. It thins to the north, complementary to thickening in the underlying felsic unit, until only 150 m remain adjacent to the thickest section of rhyolite and dacite.

The uppermost, and most easterly, unit on the One Sixty One property includes thin to medium bedded marine limestone, shale, and thin bedded to massive volcanic clastics. The base of this unit appears to trend in a straight line across the claim, parallel to the base of the felsic unit. It is south exposed over more than 1200 m in plan at the southeast corner of the property. Although dips flatten and strikes vary in this area, the upper unit is though to be greater than 600 m thick.

The plan distribution of felsic rocks might be explained by structural complexities. However, the stratigraphic evidence suggests strongly that we are looking at a cross section of a felsic dome. Base, ferrous, and precious metallization is known in all rock units except the volcanic clastics overlying the dome. In the lower volcanic clastic unit, mineralization consists of specularite, minor chalcopyrite, in irregular fractures scattered apparently randomly over a zone 600 m in diameter in the southwest part of the mapped area. Grab samples might run to 0.5% Cu, but overall copper grade is estimated to be much less than 0.1%.

Within the felsic unit, barite, galena, sphalerite mineralization occurs over 0.3 to 0.6 m for 50 m along strike to the north of the Leadville shaft.

Many of the rock geochemical samples taken within the altered portion of the felsic unit are anomalous in one or more of copper, lead, zinc and silver. Various samples taken from the most northeasterly exposures of the altered area contain up to 8000 ppm Cu, 8000 ppm Zn, 1800 ppm Pb and 10.0 ppm Ag. A gypsum bearing schist is exposed in a trench 330 m at about N 70 E from the Leadville shaft. Mineralization in rocks overlying the felsic unit is rare and weak. However, samples taken from the dump of an old shaft in shale of the uppermost unit, at the south end of the mapped area, contain anomalous amounts of copper.

CONSLUSIONS AND RECOMMENDATIONS:

A tilted, partly eroded, volcanic center of probable Upper Triassic age exists in the vicinity of the One-Sixty-One claims. A felsic dome was emplaced during the development of this center. Copper, lead, zinc, and iron sulphide, iron oxide, and calcium and barium sulphate mineralization, together with silicate alteration, accompanied or followed the development of the felsic dome. This felsic dome is overlain by marine sediments, and is itself probably marine. The environment is similar to that of many volcanogenic massive sulphide deposits.

Such a deposit should be explored for on and near the One-Sixty-One claims. The recommended steps in such an exploration program are as follows:

- 1) Completion of detailed geologic mapping. Further rock geochemical sampling in the altered area should accompany this work. Consideration should be given to trenching for geologic purposes as the mapping progresses. The flat fault which terminates the Leadville showing should be kept in mind.

- 2) Consideration should be given to a ground E.M. survey, using equipment suitable for reasonable depth penetration and noise free operation under the existing topographic conditions.
- 3) A number of holes should be drilled, either with percussion or diamond drilling equipment depending on the probable depth of target.

REFERENCES:

- 1) B.C. Minister of Mines Reports, 1928 through 1948.
- 2) Geol. Survey of Canada Annual report 1887 - 88
- 3) Field notes and maps of W.H. Howell and K.W. Livingstone.

STATEMENT OF EXPENDITURES

M. Wolfhard - Geologist	
Supervision and Mapping	
May 28 - 1 day @ \$120/day.....	\$120
Report Preparation -	
February 18, 19	
2 days @ \$120/day	\$240
K.W. Livingstone - Geologist	
2 days in late May, 1976	
@ \$100/day	\$200
More than 6 days in October,	
1976 @ \$100/day	\$600
W.H. Howell - Geologist	
2 days in late May, 1976 @	
\$64/day	\$128
More than 6 days in October, 1976	
@ \$64/day	\$384
Assays - 40 rock geochem for 4 elements @ \$4/ sample	\$160
Truck Rental - 4 x 4 - 8 days @ \$30/day	\$240
Board & Room @ \$15/man day for 17 man days	\$255
Drafting, printing, & typing estimated	<u>\$100</u>
	<u>\$ 2427</u>

Note:

As our office has been closed, staff has been laid off and files have been moved, I cannot swear to the exact dates worked by Howell and Livingstone. However, the approximate dates are correct, and the number of days in October is a minimum.

M. Wolfhard

April 20, 1977

STATEMENT OF QUALIFICATIONS

William A. Howell

EXPERIENCE

<u>From</u>	<u>To</u>	<u>JOB</u>	<u>EMPLOYER</u>
1966-1970		Summer jobs as student assistant and geologist	Spartan Explorator Falconbridge Nickel
1970-1974		Geologist.	Falconbridge Nickel Noranda Explorator
1974-1976		Geologist.	Quintana Minerals Corporation

EDUCATION

B.Sc. (Geol.) University of British Columbia , 1971

STATEMENT OF QUALIFICATIONS

Mike R. Wolfhard

EXPERIENCE

<u>From</u>	<u>To</u>	<u>JOB</u>	<u>EMPLOYER</u>
1960-1965		Exploration technician	Cominco
1965-1969		Summer jobs as party chief	Cominco Spartan Exploration
1969-1976		Geologist, senior geologist, manger.	Spartan Exploration Quintana Minerals Corportation

EDUCATION

B.Sc. (Hons. Geol.) University of British Columbia, 1969

STATEMENT OF QUALIFICATIONS

K.W. Livingstone

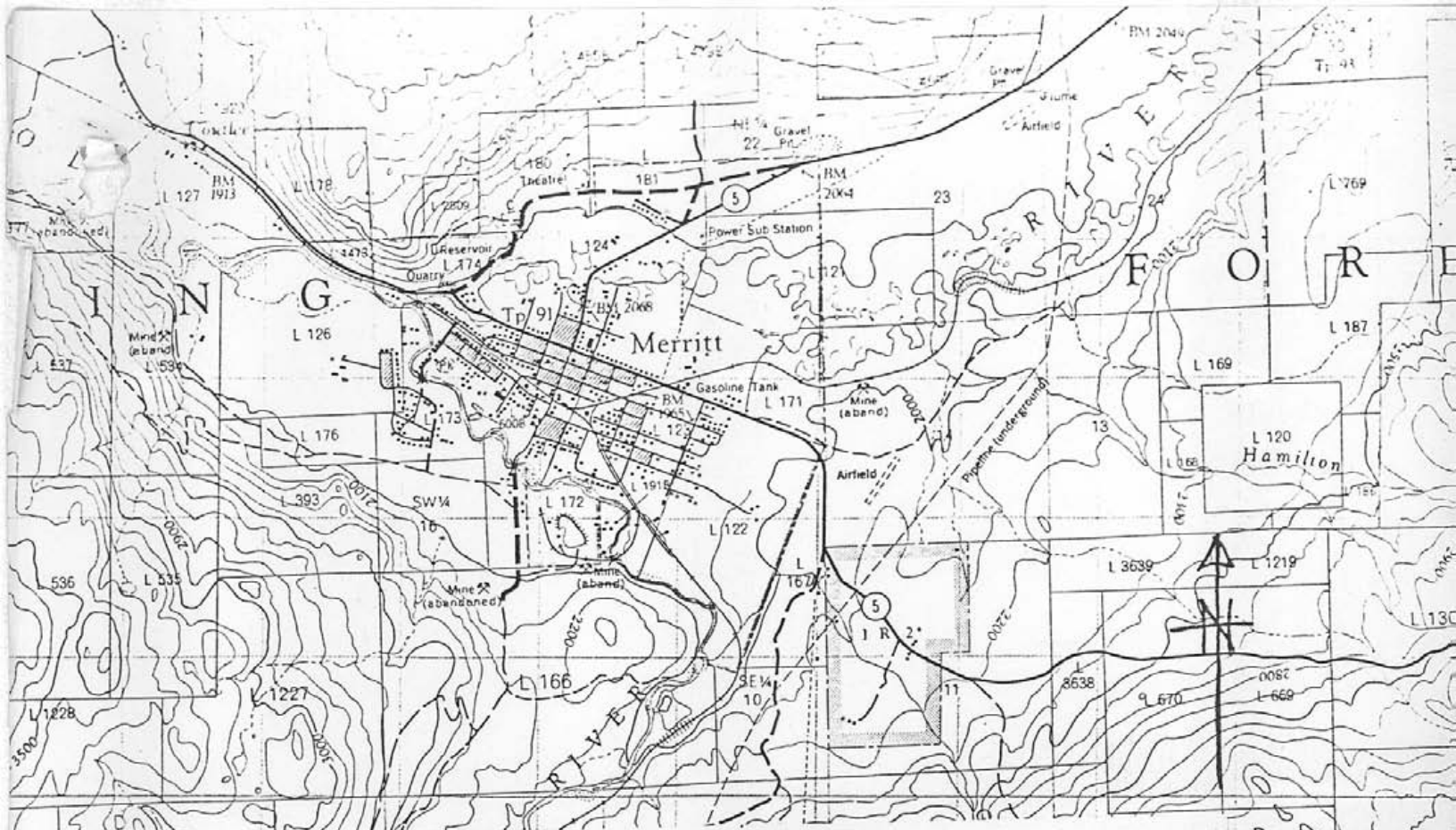
EXPERIENCE

<u>From</u>	<u>To</u>	<u>JOB</u>	<u>EMPLOYER</u>
1963-1966		Summer work on regional mapping, and prospecting	G.S.C. K.J. Springer
1968-1971		Prospecting, Studying for Ph.D	Self
1971-1972		Geologist	Woodcock Consultan
1972-1973		Geologist, prospector	Self
1973-1976		Geologist	Quintana Minerals Corporation

EDUCATION

B. Sc. (Hons. Geol.) Carleton - 1969

M.Sc. (Geol.) University of British Columbia - 1968

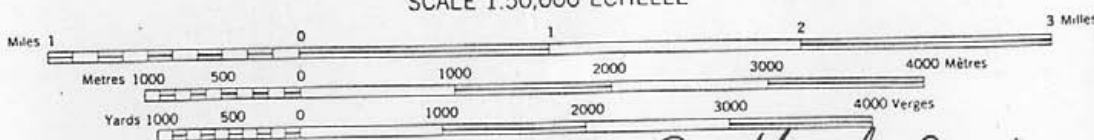


MERRITT BRITISH COLUMBIA

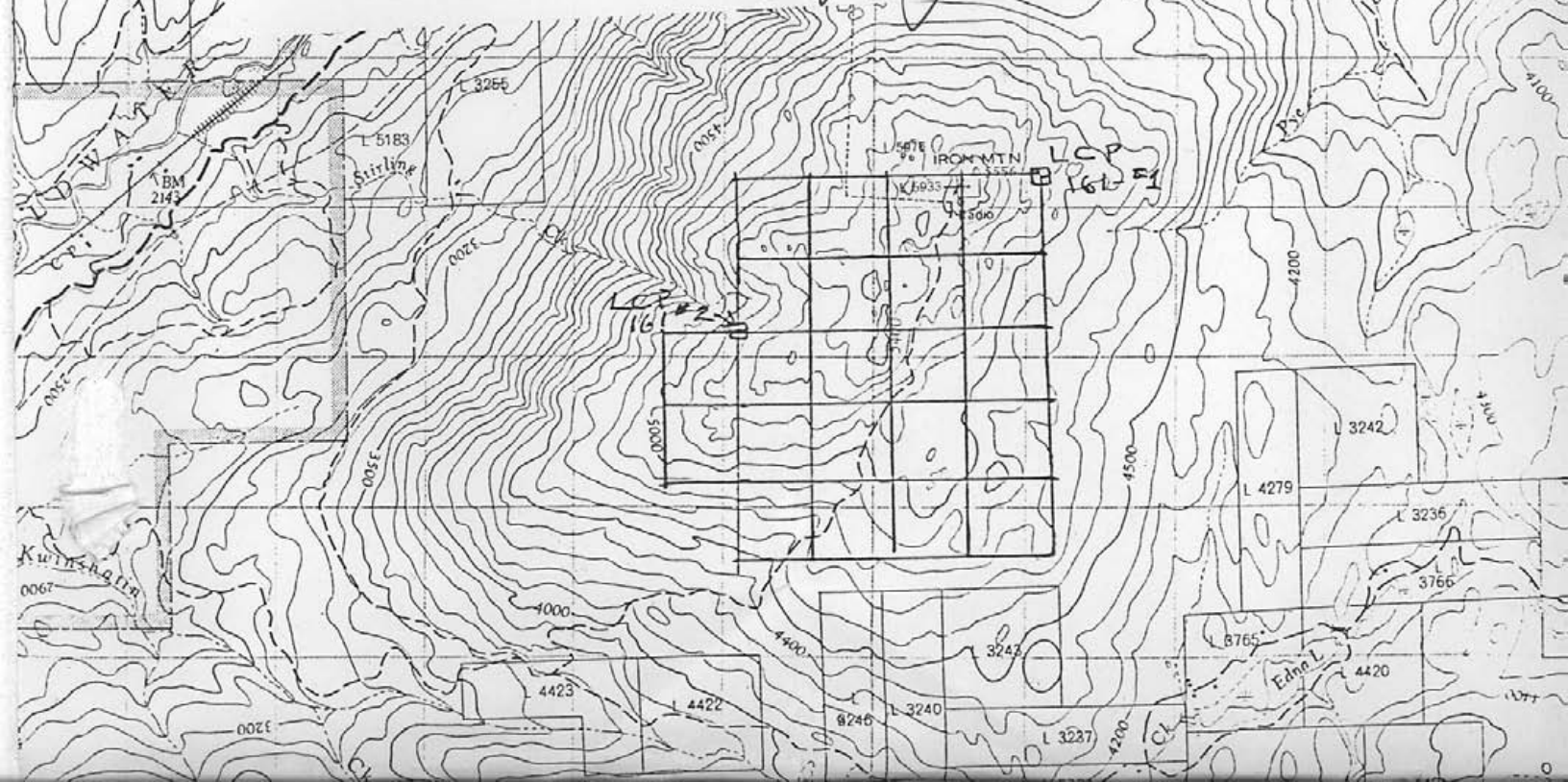
161 Index Map

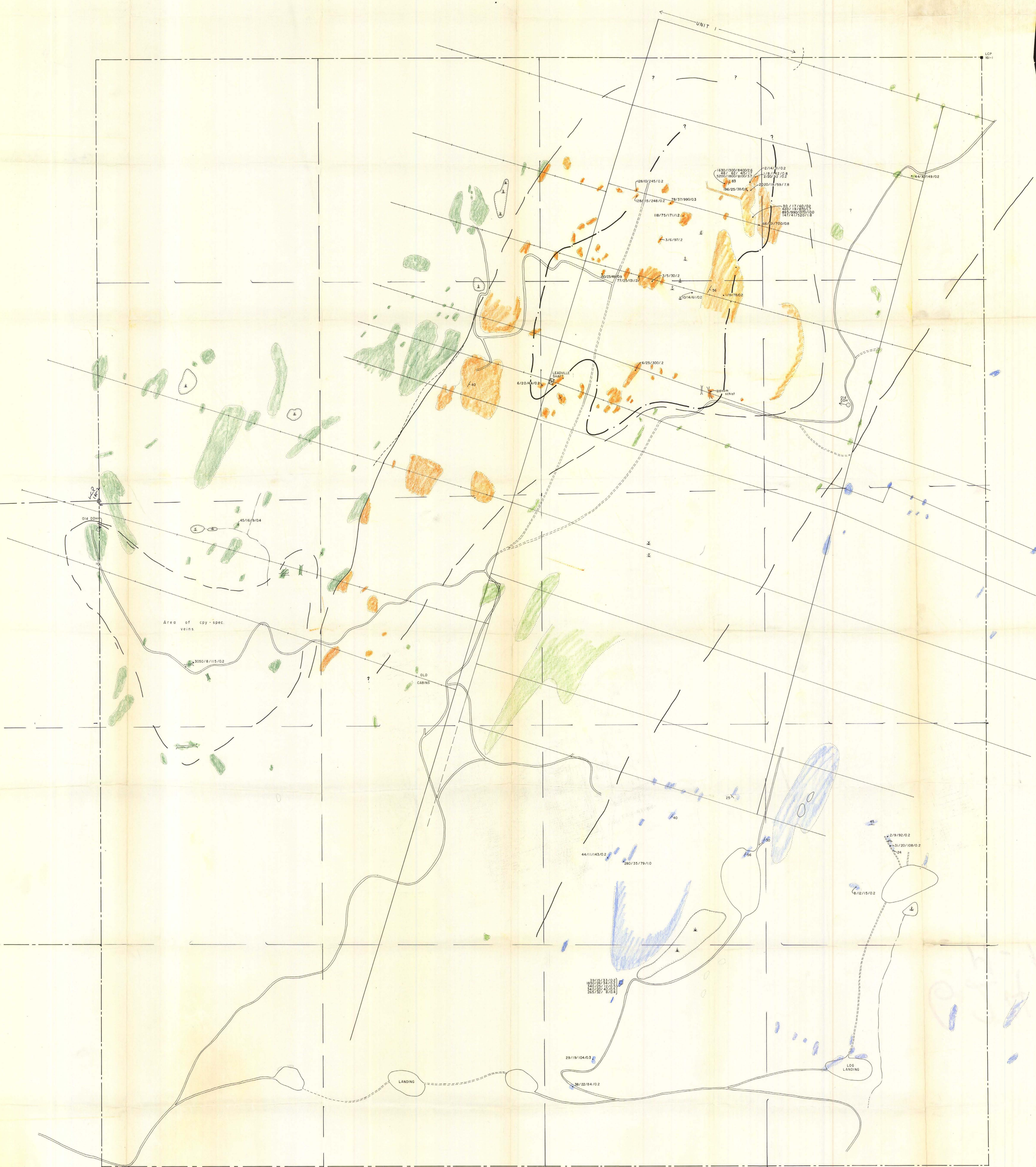
Fig 1

SCALE 1:50,000 ÉCHELLE



M.W. Hall April 21, 1977





- LEGEND**
- Limestone, shale, tuff
 - Tuffs, red, green, fine to lapilli
 - Rhyolite, dacite, shw, breccia, tuff
 - Agglomerate, tuff, coarse spi and porphyritic green.
 - Outer limit of pervasive physilicate alteration
 - Geologic contact
 - Claim boundary
 - 102/12/02/02 Rock geochemical sample site; Cu/Pb/Zn/Ag in ppm.

6248
M-1

To accompany report dated Feb. 1977, on 161-1-61-02
Approved April 20, 1977

QUINTANA MINERALS CORPORATION

161 PROJECT

GEOLOGY

FEET 0 100 200 300 400 500
METERS 0 50 100 150 200 250 300

Prepared by: W. J. ALLEN, JR.
Drawn by: ALLEN

Date: MARCH, 1977
Title: MAP AREA: 92 1 2/W
Drawing No.: