

GEOCHEMICAL AND GEOLOGICAL REPORT

on a portion of the

"FIR STUD" & "FOUR" MINERAL CLAIMS

in the

NICOLA MINING DIVISION

LATITUDE 50°03'N LONGITUDE 121°45'W

NTS 921/2

owners

G. G. Richards,
K. W. Livingstone,

by

G. G. Richards, P.Eng.
W. A. Howell, B.Sc.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

JMT SERVICES CORP.
8827 Hudson Street
Vancouver, B.C.
V6P 4N1

10,977

February 25, 1983

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INTRODUCTION and SUMMARY

A brief prospecting, mapping, and geochemical sampling programme was completed in a region known previously to contain bedded and clastic sulphides (pyrite) in shaley, sandy sediments, and copper mineralization in detritus around an old shaft. A series of 22 soil samples were collected across the presumed strike and trace of the clastic bed and across strike in the vicinity of the old shaft. The prospecting revealed the clastic bed to be more exposed than previously realized. The geochemical results proved to be fairly uniformly low.

Further mapping of the rock units in an attempt to trace the clastic unit and to define limits of the bedded sulphide bearing unit are recommended. Several geochemical soil profiles are also recommended to determine the geochemical characteristics of the soil and the effects of dry to locally arid conditions on the geochemical expression of the soil.

LOCATION AND ACCESS

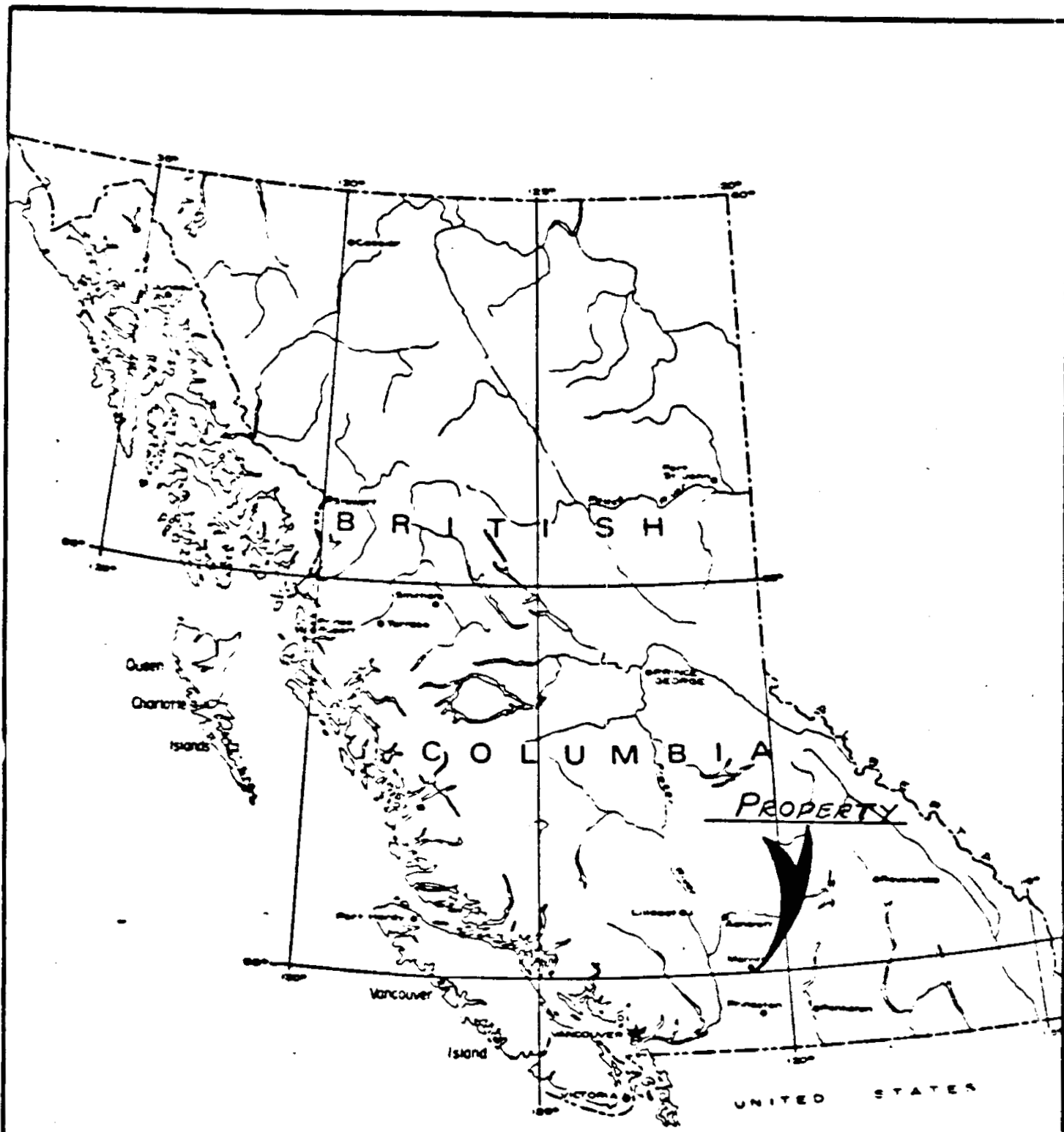
The claims are located on the south and east flank of Iron Mountain, about 8 km south east of the town of Merritt, B.C. at approximately 120° ~~121~~ 45'W 50°03'N.

Access to the property is by logging roads joining the Coldwater road about 6 km from its junction with Highway #5. A well maintained gravel road exists to the summit of Iron Mountain where CNCP and B.C. Telephone Co. maintain microwave and radio-telephone receivers and repeaters.

MINERAL CLAIMS

The Iron Mountain Property consists of 7 modified grid mineral claims listed as follows and grouped as the GYPROCK group.

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>NO. OF UNITS</u>	<u>OWNER</u>
TWO	480 (7)	2	Gordon G. Richards
BY	481 (7)	2	"
✓ FOUR	482 (7)	4	"
TWO BY FOUR	484 (7)	8	"
SHORT STUD	667 (7)	4	"
✓ FIERRO #3	997 (2)	4	"
✓ FIR STUD	1216 (12)	8	K. Wayne Livingstone
TOTAL UNITS		32 units	



J M T SERVICES CORP.			
<i>Fig 1</i>			
PROPERTY LOCATION MAP			
SCALE			
Mile 1:36	1:36 Miles		1:36 Miles
Prepared by:	Date:	NTS MAP AREA	DRAWING No.
Drawn by:	Revised:		

F O R E S T

Merritt

L 120
Hamilton

L 1304

RIVER

L 166

L 3019

L 1303

L 675

L 668

704

L 600

L 480

SHORT
STUD

Two
By
Four

Two
480 (2)

FIERRO
#3
997 (2)

By
481 (2)

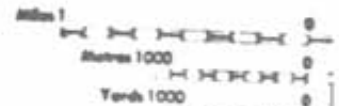
Four
482 (2)

FIR
STUD
1216
(12)

JMT SERVICES CORP.

FIG 2

CLAIM MAP



GEOLOGY

Regionally, the area around Merritt has a long history of mining related activity going back to coal production for the railroad around the turn of the century. The area has enjoyed more recent prosperity from mining activity in the highland valley and from the Craigmont mine located about 15 km north of Merritt.

Bedrock lithologies underlying Iron Mountain have been recognized by W. J. McMillan of the B. C. Ministry of Mines, as a series of intermediate to acidic tuffs, flows and breccias with interbedded sediments of volcanic origin (McMillan, report on activities, B.C. M.M. 1978). Between 1980 and 1981, Chevron Standard Ltd. mapped a portion of the property using an 8 person student crew. These efforts were located primarily to the north and west of the present study area.

Lithologies, mineralization and modes of occurrence elsewhere on the property are strongly indicative of a volcanogenic massive sulphide "Kuroko" style environment.

The present study was meant to detail the local geology and to check geochemically, the extent of a lithic sandstone unit known to contain small clasts of very fine aggregated sulphide grains (pyrite) (Unit 2, Figure 3). This unit has been recognized, with variation, more extensively than was previously realized. A grey-green siliceous tuff (Unit 4) locally containing disseminated pyrite is banded or bedded and may represent a chemical sediment. It is composed mainly of very fine grained silica with fine glassy fragments of feldspar crystals.

A recessive weathering unit (3) is a very dark grey to black argillite or siltstone. In outcroppings exposed north of the old log landing site north of the reservoir, it contains thin, distinctly graded bedding of pyrite.

The unit appears again in the south central portion of the map area in the same relative position with respect to Unit (4) but in apparent juxtaposition with unit (2). This apparent contradiction has not been resolved but might be explained by faulting, not yet recognized, or by multiple beds of shaley argillaceous sediments.

Abundant exposure of a massive grey limestone (Unit 1) occasionally cut by white calcite veins and stringers contains occasional pelecypod and ?bryozoan? fossils. The limestone outcrops on the western margin of the map area. No mineralization was observed in outcroppings of this unit, but

debris around the collar of an old shaft located near the south end of the outcrop area shows the limestone to be weakly recrystallized, cut by calcite veins and has malachite and hematite staining. Nothing is known about the origins of the workings. The last unit recognized within the map area was a grey to purple or green fragmental unit or units (5) consisting of andesitic to rhyolitic fragments in a generally chloritic fine clastic groundmass.

The stratigraphic succession of the different units is not clearly established.

GEOCHEMISTRY

22 soil samples were collected from generally dry "earthy" soils using a hand pick to excavate a small pit to a depth of 15 to 30 cm. Samples were collected from the pits using a stainless steel scoop and placed in gusseted kraft sample bags.

The samples were analysed for copper, lead and zinc. Analyses were performed by Chemex Labs, 212 Brooksbank Avenue, North Vancouver, B.C. using a perchloric-nitric acid digestion and standard atomic absorption determination. Values for lead are corrected for background absorption.

Results are presented on Fig. 3 located in the pocket appended to this report.

The geochemical results are considered inconclusive. They are uniformly low. The nature of the soils is such that a good "B" horizon was for the most part not always apparent, the soil appeared as a uniform medium to dark brown "earth". It has been established elsewhere that soils from dry regions often have a geochemically leached surface expression and may have a subsurface caliche or "hard water deposit" layer overlying the zone where normally a "B" horizon might be expected. The extent to which this condition on Iron Mountain exists is not known. Its existence could account for a uniformly low geochemical expression. A few soil pits excavated to bedrock or at least a few feet and geochemically profiled would reveal the extent to which this condition may be operative on the property. A "caliche" or "hard water deposition" layer would be visibly obvious.

DISCUSSION AND CONCLUSIONS

Considerable variation is found between, and within rock units. Subtle bedrock expressions are present and mappable at a relatively detailed scale. Parameters such as clastic sulphides and clast size and composition are readily mappable but within a single bed or unit may vary considerably over relatively short distances. The limy or siliceous component of the matrix may in fact be an alteration parameter whose variability depends on proximity to a vent. Care must be taken to avoid confusion and unwarranted multiplicity of rock units.

Unit (4) has been mentioned as a possible chemical sediment. If this is the case, its areal distribution is highly significant in terms of locating the vent source, as is its variations in mineralogical content and its alteration. The presence of this unit as a chemical sediment, indicates the relatively high level of the present surface of erosion. Considering the presence of clastic and bedded sulphide in basinal sediment associated with this unit, the potential for a buried massive sulphide body becomes obvious.

The geochemical results are uniformly low and do not yield more than minimal variation of expression for the three elements determined.

The validity of the local geochemical low expression is not clear. The possibility of caliche or hardwater deposits in the soil and surface leaching of metal geochemical expressions under 'dry belt conditions' is recognized.

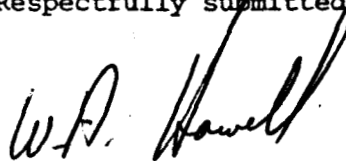
RECOMMENDATIONS

A few soil pits dug to bedrock or at least a few feet and geochemically profiled would establish the local validity of geochemical sampling. At least one pit should be placed on a fairly well drained side hill or slope and at least one pit should be near a local low drainage trace, but not necessarily in a drainage course.

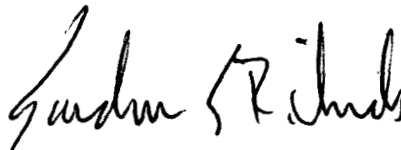
Detailed geological mapping should be undertaken by experienced personnel in selected areas of significant lithologies. Such detailed mapping should be chosen for other areas over the property in addition to the one currently selected as the subject of this report.

Such detailed mapping should provide a clarity of lithologic succession and indications of potential sources and/or deposition of massive sulphides within the context of the Iron Mountain submarine volcanic environment.

Respectfully submitted



W. A. Howell, B.Sc.



G. G. Richards, P.Eng.

APPENDIX I

STATEMENT OF COSTS

Time			
G. G. Richards	Aug 23, 24	2 days @ \$225	\$ 450.00
W.A. Howell	Aug 23, 24	2 days @ \$225	450.00
Truck rental		2 days @ \$50	100.00
Food & lodging		4 man days @ \$30	120.00
Geochem		22 samples @ \$4.10	90.20
Miscellaneous supplies			40.00
Report			<u>800.00</u>
			<u>\$2,050.20</u>

\$1600.00 to be applied to FIR STUD CLAIM, Record #1216 (12)
8 units.

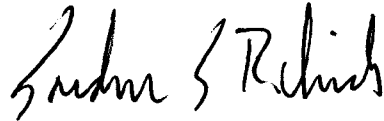
Balance to be applied to PAC account of K. Wayne Livingstone

A P P E N D I X I I

STATEMENT OF QUALIFICATIONS

I, Gordon G. Richards, of Vancouver, British Columbia, do hereby certify that,

1. I am a Professional Engineer of the Province of British Columbia, residing at 6195 Lynas Lane, Richmond, B.C., V7C 3K8.
2. I am a graduate of the University of British Columbia, B.A.Sc., 1968, M.A.Sc.m 1974.
3. I have practised my profession as a mining exploration geologist, continuously since 1968.
4. This report is based on my personal knowledge of the district, and mapping of the geology at the property.



Gordon G. Richards, P.Eng.

STATEMENT OF QUALIFICATIONS

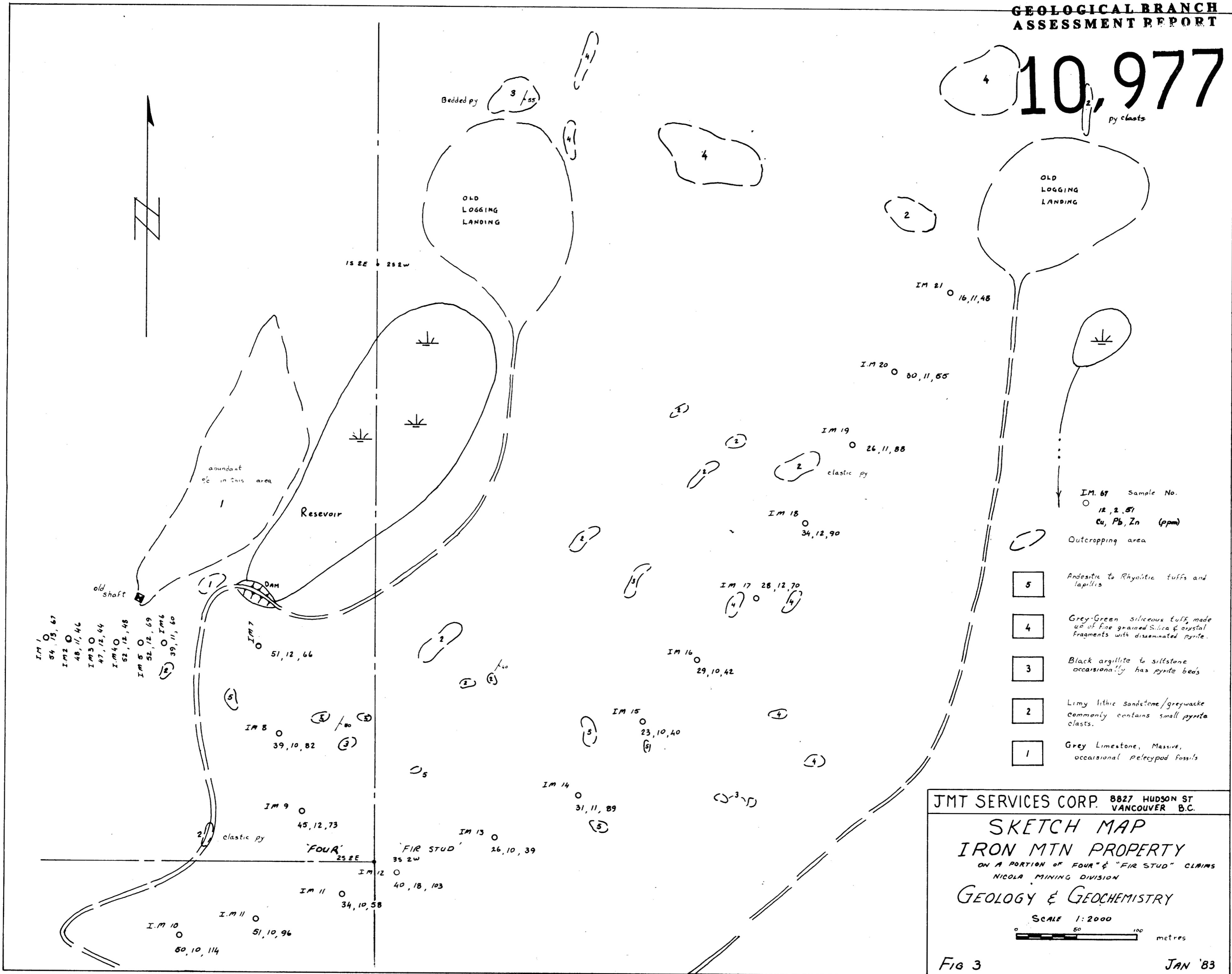
I, WILLIAM A. HOWELL, do hereby certify that:

1. I am a professional geologist working in British Columbia and residing at 10611 Ainsworth Crescent, Richmond, B.C. V7A 3V5
2. I am a graduate of the University of British Columbia, Bachelor of Science (Geology) 1971.
3. I have been employed in the mineral exploration industry since 1967 and have practiced my profession as a geologist since 1971.
4. I am a member of the Geological Association of Canada.
5. This report is based on my personal knowledge of the district and the mapping and sampling done on the property.



W. A. Howell, B.Sc.

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py clasts



JMT SERVICES CORP. 8827 HUDSON ST
VANCOUVER B.C.

SKETCH MAP
IRON MTN PROPERTY
ON A PORTION OF FOUR & "FIR STUD" CLAIMS
NICOLA MINING DIVISION

GEOLOGY & GEOCHEMISTRY

SCALE 1:2000

0 50 100 metres

Fig 3 JAN '83