81-#227-# 9018 Gov't

IRON MOUNTAIN PROJECT

M491

1980 REPORT

GEOLOGICAL & GEOCHEMICAL SURVEYS

on the GYPROCK GROUP OF MINERAL CLAIMS

Lat. 121° 45'W
Long. 50° 12'W

NTS 92I/2

NICOLA MINING DIVISION

for

CHEVRON STANDARD LIMITED
901-355 BURRARD ST.
VANCOUVER, B.C.

by

W.A. HOWELL
J.M.T. SERVICES CORP.
8827 HUDSON ST.
VANCOUVER, B.C.

March 1981

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SUMMARY

A volcanogenic exhalitive type massive sulphide environment has been identified in marine sediments of the Nicola formation. Located south of Merritt, B.C., claims have been staked covering favorable mineralization and lithologies.

A program of Geological Mapping and Soil Geochemistry has been commenced over the property. Continuation of the program is proposed for 1981.

INTRODUCTION

Location

The Gyprock group of mineral claims is located on the north-east, east, and southern flank of the summit of Iron Mountain at approximately 121° 45'W, 50° 12'N. 8 km south of the town of Merritt in the south central interior of B.C.

Access

Access to the claims is by good gravel road from the Coldwater Road about 6 km from its junction with Highway #5. An alternate route to the north flank of the mountain is from the end of the Fox Farm Road which joins Highway #5 approximately 2 km south of Merritt.

Merritt is served by the Canadian Pacific Railroad. Good provincial highways exist north to Spences Bridge, northeast to Kamloops and south to Princeton. A major highway, to be part of the Trans-Canada highway system, is under construction between Hope and Merritt via the Coquihalla Pass. The existing highway to Kamloops will be upgraded as part of this new highway construction phase.

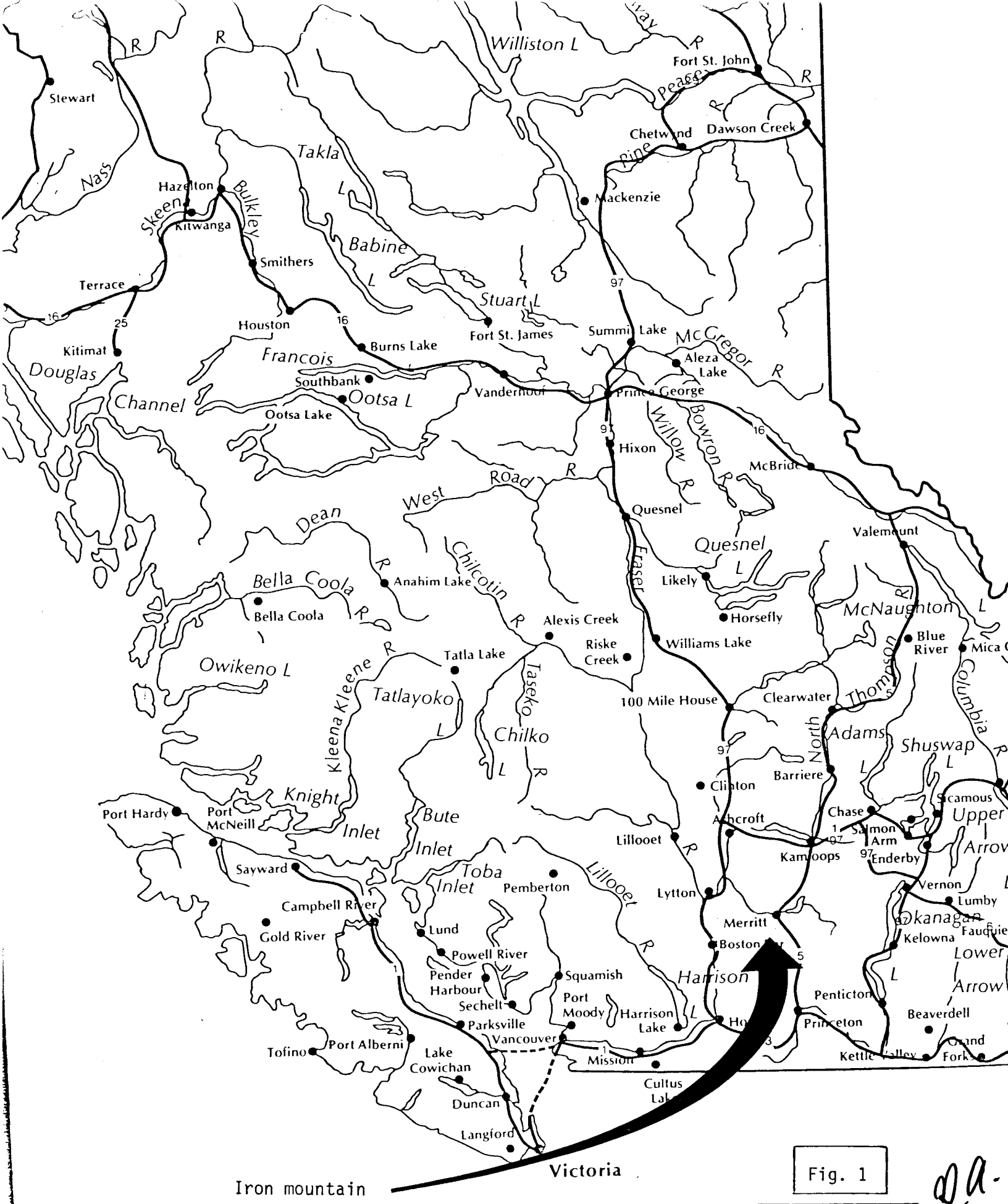

Fig. 1

IRON MOUNTAIN

LOCATION MAP

D.A.

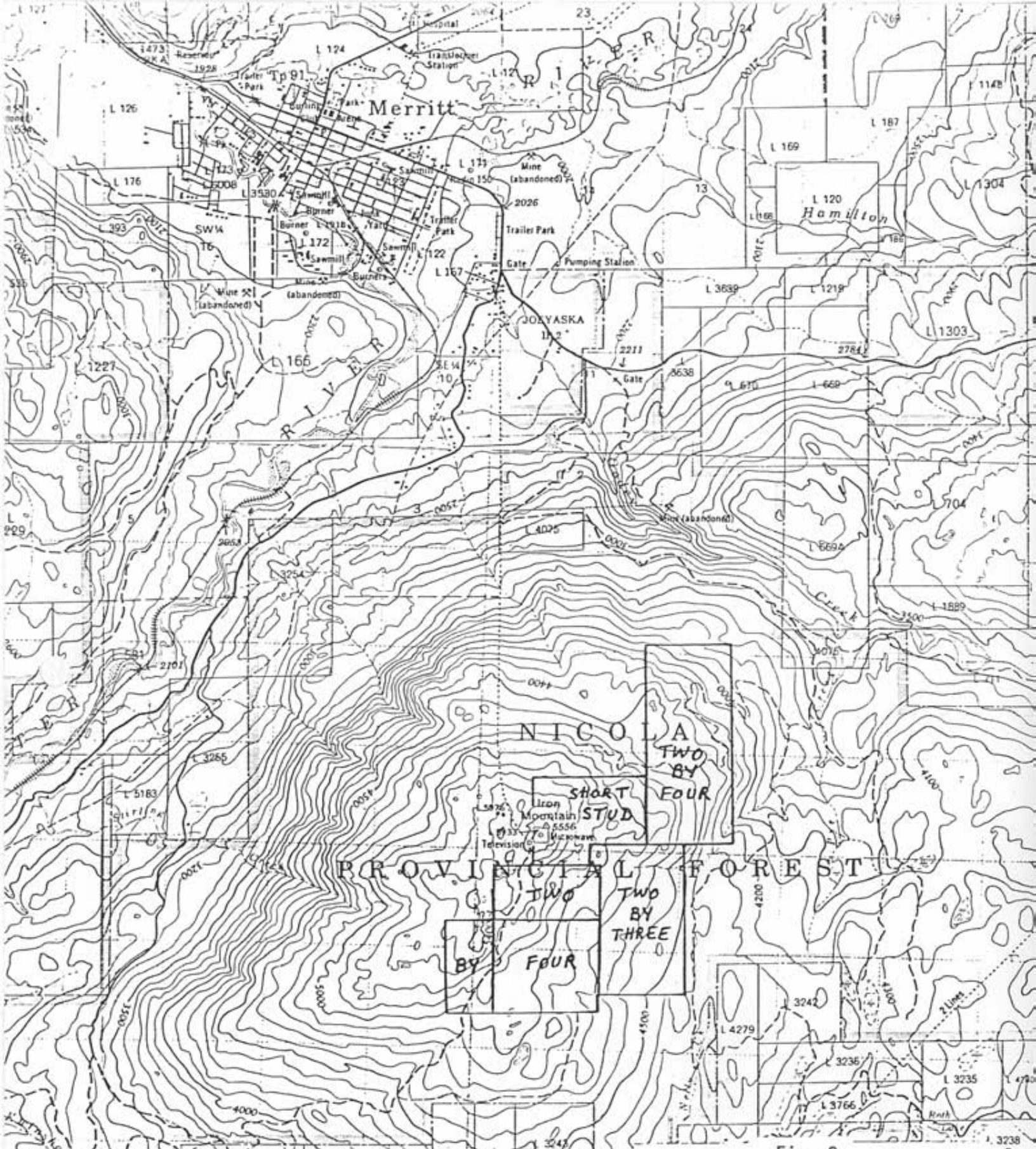

Fig. 2

IRON MOUNTAIN

0 Miles 1

0 Km. 1

1:50,000

Status: 1 Nov. 1980

Physiography

Iron Mountain lies within the south central interior of British Columbia. It is in the Kamloops division of the Yale land district. The nearby town of Merritt is the recording office for the Nicola mining divisions. The area is characterized by a high rolling plateau wooded with pine, fir and spruce. The plateau is disected by broad to steep valleys. Grasslands dominate the broad valleys and extend onto the plateau where they are commonly mixed with an "open" fir/pine forest. Most of the crown lands are designated as "open rangelands".

History

The Iron Mountain area has experienced prospecting and mineral exploration by a variety of operators since the turn of the Century. Development work by Comstock of B.C. Ltd., had been done by about 1927 on the "Leadville" shaft near the summit of the mountain, where a galena "vein" had been discovered.

Work on this prospect appears to have been fairly minimal until 1947 when a further attempt was made to reopen the old "Leadville" shaft, then renamed the "Lucky Todd". Thirty-six tons of ore were shipped to Trail with net contents consisting of 67 ounces silver, 11,819 pounds lead and 484 pounds zinc.

Similar lithologies to the "Lucky Todd" shaft area occur on the Two By Four claim, approximately 2,800 meters N43^{o}E of the old "Lucky Todd" shaft. Surface stripping by bulldozer has occurred in this area and several pits have been blasted in the exposed bedrock by previous owners.

PROPERTY

The area is now staked as the Two, By, Four, Two By Three, Two By Four and Short Stud mineral claims.

The recorded owner of the Two, By, Four, Two By Three, and Two By Four mineral claims, record #480(7), 481(7), 482(7), 483(7), respectively is:

Mr. K.W. Livingstone
6775 West Boulevard
Vancouver, B.C.

The recorded owner of the short stud mineral claim, record #667 (7) is:

Mr. William A. Howell
10611 Ainsworth Cresent
Richmond, B.C.

Together, the claims are recorded as the Gyprock group of mineral claims in the Nicola mining district.

The entire group of claims is held under option agreement by:

Chevron Standard Limited,
901-355 Burrard St.,
Vancouver, B.C.

REGIONAL GEOLOGY

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 occasional interbedded sediments of volcanic origin(McMillan report on activities, B.C. MM 1978).

LOCAL GEOLOGY AND MINERALIZATION

Detailed Mapping, begun in 1980 has not yet been completed. Mapping has been commenced at 1:5000 scale.

Lithologies, mineralization and modes of occurrence appear to

fit a volcanogenic massive sulphide conceptual model. The mapping commenced in 1980 is designed to detail the geology mapped regionally by McMillan in 1978, to identify mineralization and to try and recognize hangingwall, footwall and rootzone or vent type lithologic sequences.

The showings at the "Lucky Todd" shaft are felt to represent a small massive sulphide body. The presence of bedded gypsum, barite, ferruginous cherts or jasper, sulphide fragments and alteration zones, all of which, either singly or in combination enhances the model.

Further mapping and definition is required to resolve the relationships of these features and others with the observed lithologies in the hope that other mineralized bodies or zones of potential may be discovered.

1980 GEOCHEMICAL PROGRAM

The 1980 field program consisted of expanding and filling on portions of the grid commenced in 1979, geochemically soil sampling portions of the grid, and commencing the detailed geological mapping and prospecting program over the claims utilizing the grid and an orthogonally corrected photo base map as control.

Sampling and Analysis

Soil Samples were collected from "B" horizon soils or the best mineral soil development available at each sample site. Samples were collected with a stainless steel spoon from holes dug with a mattock or grub-hoe. Sample depths usually ranged from 20 to 35cm. The samples were transferred to a standard gussetted kraft paper bag. The samples were analysed by Chemex Labs in

North Vancouver. Analysis was made of the -80 mesh fraction sieved from the dried samples. The -80 mesh fraction was digested in a hot perchloric-nitric acid medium and the resultant solution was analysed by commonly used atomic absorption techniques.

All samples were analysed for copper, lead, zinc and barium.

During collection, the granularity, moisture content and any other significant feature of the soil were noted.

Discussion of Results

Lead:

The geochemical expression for lead is one of very low contrast. The arithmetic mean ($\bar{x}$) of a sample population of 212 is 2.06. The standard deviation(s) is 3.2.

The lower limit of threshold anomalies values is considered to be approximately ($\bar{x}$ + 2S), or a value of 8 ppm.

At this level of expression, only 2 samples respond, each with a value of 8. Those samples are located approximately 600 meters apart, no samples are considered clearly anomalous ($\bar{x}$ + 3S).

The distribution of lead values is not considered meaningful at this time. One speculation is that the erratic higher values are perhaps related to locally more alkaline soil conditions and local carbonaceous rock horizons.

Copper:

The geochemical expression for copper is also one of relatively low contrast but with more variation than lead. Threshold values

are considered to be approximately 50 ppm with any value over 65 ppm considered clearly anomalous. At this level of discrimination there is a weak grouping of erratic higher values in the western margin of the sampled area. The grouping is very interpretive in nature and more or less lies around the base of a large acidic flow or breccia complex west of the base line between lines 53N and 63N. Cu mineralization in the form of malachite clots is known at 56N 52E within a rhyolite breccia. The highest value for Cu, 108 ppm and a flanking value of 64 ppm (the only multisample anomalous cluster) do not appear to be related spatially to the rhyolite complex noted above and remain unexplained.

The geochemical expression for Copper is not considered meaningful at this time.

Zinc:

The geochemical expression for Zinc, like Copper and Lead does not show any significant areas of high values. Threshold anomalous values calculated to be between 30 and 170 ppm with any value greater than 170 ppm regarded as clearly anomalous. Only a small area in the edge of the grid adjacent to the "Lucky Todd" shaft shows a multi sample grouping in the threshold anomalous range.

Barium:

The Barium geochemical distribution in soils is similarly lacking in expression with the exception of a small grouping higher than usual samples downhill from the "Lucky Todd" shaft and another clustering around the grid coordinates 55N 56E to 54N 58E.

Barite has only been observed on the property in three locations: as common gangue in the "Lucky Todd" mineralization zone, as outcrops with minor galena and sphalerite mineralization near the north end of the grid, and as minor float associated with quartz/jasper in the central portion of the grid near 61 + 50N, 52 + 25E. Barium values have been arbitrarily contoured at 1000 ppm. The geochemical values reflect the barite occurrence at the "Lucky Todd" shaft area, but not the 61 + 50N location. The northern occurrence was covered by a small grid in 1979. Those samples were not analysed for barium.

Deposits of the type expected in the Iron Mountain terrane are invariably of relatively small areal extent and show little geochemical expression beyond their boundaries.

Isolated high geochemical values must be evaluated carefully in light of local lithologies.

Work on other genetically similar occurrences has shown broad geochemical surveys capable of discriminating and assisting in defining areas underlain by hangingwall and footwall assemblages. This type of definition is not yet established at Iron Mountain.

The geochemical results to date are not inconsistent with the expectation and the model currently favoured.

CONCLUSIONS AND RECOMMENDATIONS

The 1980 Geological mapping has enhanced the conceptual model and shown the possibility of more than one center of mineralization to be present. Mapping should be continued at the 1:5000 scale currently being used. A more detailed scale can

be used for local areas as required.

The geochemical sampling program should be continued. The results to date appear disappointingly unresponsive for copper, lead and zinc and barium. The samples have however been collected over rocks which geologically are tentatively placed in the hangingwall sequences.

Future geochemical surveys should address the area west of the 55E baseline from 50N, to approximately 65N.

Geochemical surveys and establishment of the grid for mapping control should be considered in the area of 44N 45E.

Dewatering and examination of the "Lucky Todd" shaft would be a distinct advantage in understanding the detailed geology of the deposit. Such a venture should be seriously considered.

Geophysical techniques might be considered over portions of the Iron Mountain volcanics, however the presence of sophisticated electronic equipment and the powerlines for their operation may have an adverse effect on geophysical programs and their interpretations. An evaluation of these effects should also be considered at this time.

IRON MOUNTAIN

1980 PROGRAM COSTS

LABOUR COSTS

Person	Postion	No. of Days			
		Field	Travel	Office	Total
W. Howell	Geologist	11	2	5½	18½
K. Hicks	Geologist	9	2	-	11
G. Light	Assistant	7	2	-	9
D. Madsen	Assistant	9	2	-	11
		36	8	5½	49½ days
	Total Cost		$5,433.00		$5,433.00
	(Average cost per person day		$109.76)		

EXPENSES

Truck 11 days @$35.	385.00	
Hotel	576.95	
Meals	880.00	
Analyses - 217 samples for Cu, Pb, Zn & Ba	1,606.34	
Field supplies - 36 days @$10.00	360.00	
Report typing and drafting (approx.)	300.00	
	4,108.29	$4,108.29
		$9,541.29

This work was carried out between July 23 and August 2, 1980.

David Arscott

David Arscott
March, 1981

CERTIFICATE

I, David Philip Arscott am a Professional Engineer, registered in British Columbia with office address at 901 - 355 Burrard Street, Vancouver, B. C. V6C 2G8.

I have practiced Mineral Exploration almost continuously since 1961, and hold degrees in Mining Engineering (1963) and Mineral Exploration (1966).

The 1980 program on the Iron Mountain property was carried out under my direction.

David Arscott

DAVID ARSCOTT, P. Eng.
March 1981

VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 985-5211
AREA CODE: 604

• *Specialising in Trace Elements Analyses* •

Certificate of Geochemical Analyses

–IN ACCOUNT WITH–

Chevron Standard Ltd.
901 - 355 Burrard St.
Vancouver, B.C. V6C 2G8
Attention:

Report No: 81-30-001 Page 1 of 1
Samples Arrived: January 27, 1981
Report Completed: January 30, 1981
For Project: M 491
Analyst: E.T. & VGC Staff
Invoice: 6041 Job # 81-010

Sample Marking		Cu ppm	Pb ppm	Zn ppm	Ag* ppm	Au ppb	As ppm	Sb ppm
79WH	120	68	10	162	0.5	nd	20	nd
	126	23	18	102	0.2	nd	--	--
79WH	131	86	7	5	0.2	nd	--	--
80WH	424	10	17	12	0.8	10	--	--
	427	2	2	2	nd	10	--	--
	429	95	40	148	1.8	nd	35	nd
	1321	3	4	14	0.2	nd	--	--
	1352	58	21	160	0.1	nd	--	--
	1353	18	14	99	0.3	nd	--	--
	1354	20	48	80	0.6	nd	--	--
80WH	1355	29	18	71	nd	nd	--	--

REMARKS: Ag* = Ag background corrected.

Signed:

% Mo x 1.6683 = % MoS_2 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

L E G E N D

1a / 1b — 1a ACID VOLCANICS: Rhyolites / Dacites breccias lapillis tuffs
1b Angular ferruginous lithic fragments present

2a / 2b — INTERMEDIATE VOLCANICS
2a Andesite flows
2b Andesite Dikes

3a / 3b — 3a Limestone massive, grey commonly contains tuffaceous beds
3b contains lithic fragments commonly of a destinctive red or ferruginous nature.

4 — Sediments — argillaceous or fine volcanically derived sediments

Outcropping

Trench

60° — Bedding attitude

x — Occurrence or small outcropping

TO MERRITT

Ba
Zn
Pb

Cu, hem.

Short Stud 667

Bedded py coarse float

Two by Four

Two by Three

G.S.C. MON.

Argelay/silica alteration

Telephone Tower

Radio Tower

Ferruginous chert

Barite float

Jasper

Scattered outcrop

480 Two By Four 481 482

Barite

Lucky Todd Shaft & Dump

Gypsum

Old Pit

Old Shaft

hem.

TO MERRITT

EXPLANATION

- Pit or tailings
- Shaft
- Legal corner post, I. D. post
- Good gravel road (2 WD)
- Rough gravel road (4 WD)
- "Cat" or skid trails
- Power line
- Creek

JMT SERVICES CORP.

FOR CHEVRON STANDARD LIMITED - PROJECT M 491

IRON MOUNTAIN

NTS 92-I-2
Jan. 1981

GEOLOGY

1 : 5000

0 500 1000 2000 FEET
0 100 200 300 400 500 METERS

FIG 3

TO MERRITT

Short Stud
667

Bedded py
coarse float

Telephone
Tower

Radio
Tower

Two by Three

Two by Four

480
Two
By
481
Four
482

Lucky Todd
Shaft & Dump

Old Shaft

TO MERRITT

TO MERRITT

LEGEND

- Pit or tailings
- Shaft
- Legal corner post, I.D. post
- Good gravel road (2 WD)
- Rough gravel road (4 WD)
- "Cat" or skid trails
- Power line
- Creek

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9018

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IRON MOUNTAIN

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COPPER GEOCHEMISTRY p.p.m.

1 : 5000

0 500 1000 2000 FEET
0 100 200 300 400 500 METERS

FIG 4

TO MERRITT

Short Stud
667

Bedded by
coarse float

Two by Four

Two by Three

Telephone
Tower

Radio
Tower

480
Two
By
481

Four
482

Lucky Todd
Shaft & Dump

Old Shaft

TO MERRITT

TO MERRITT

55E

LEGEND

- Pit or tailings
- Shaft
- Legal corner post, I.D. post
- Good gravel road (2 WD)
- Rough gravel road (4 WD)
- "Cat" or skid trails
- Power line
- Creek

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IRON MOUNTAIN

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LEAD GEOCHEMISTRY p.p.m.

1 : 5000

0 500 1000 2000 FEET
0 100 200 300 400 500 METERS

FIG 5

TO MERRITT

Short Stud
667

Bedded py
coarse float

Telephone
Tower

Radio
Tower

Two by Three

Two by Four

48Q
Two
By Four
481 482

Lucky Todd
Shaft & Dump

Old Shaft

55E

TO MERRITT

TO MERRITT

LEGEND

- Pit or tailings
- Shaft
- Legal corner post, I.D. post
- Good gravel road (2 WD)
- Rough gravel road (4 WD)
- "Cat" or skid trails
- Power line
- Creek

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IRON MOUNTAIN

NTS 92-I-2

Jan. 1981

ZINC GEOCHEMISTRY p.p.m.

1: 5000

0 500 1000 2000 FEET

0 100 200 300 400 500 METERS

FIG 6

TO MERRITT

Short Stud
667

Bedded py
coarse float

Two by Three

Two by Four

Radio
Tower

Telephone
&Tower

480
Two
By
481

Four
482

Lucky Todd
Shaft & Dump

Old Shaft

TO MERRITT

TO MERRITT

LEGEND

- Pit or tailings
- Shaft
- Legal corner post, I.D. post
- Good gravel road (2 WD)
- Rough gravel road (4 WD)
- "Cat" or skid trails
- Power line
- Creek

MINERAL RESOURCES BRANCH
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W.A. Howell

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IRON MOUNTAIN

NTS 92-I-2
Jan. 1981

BARIUM GEOCHEMISTRY p.p.m.

1: 5000

0 500 1000 2000 FEET

0 100 200 300 400 500 METERS

FIG 7