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MINING ENGINEERING

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LOG NO: 0525 RD.
ACTION:
FILE NO:

GEOPHYSICAL ASSESSMENT REPORT

on the

JERO 10 and 11 CLAIMS

Trail Creek Mining Division - British Columbia

Lat. 49° 02' N. Long. 117° 49' W.

FILMED

N.T.S. 82F/4W

for

GUNSTEEL RESOURCES INCORPORATED

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,759

SUB-RECORDER
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VANCOUVER, B.C.

by

E. Sykes
and
D. G. Allen, P. Eng. (B.C.)

February 28, 1989

Vancouver, B.C.

ARIS SUMMARY SHEET

District Geologist, Nelson — Off Confidential: 90.02.17

ASSESSMENT REPORT 18759 — MINING DIVISION: Trail Creek

PROPERTY:	Jero	
LOCATION:	LAT 49 02 00	LONG 117 49 00
	UTM 11 5431263	440305
	NTS 082F04W	
CAMP:	005 Rossland Camp	
CLAIM(S):	Jero 10-11	
OPERATOR(S):	Gunsteel Res.	
AUTHOR(S):	Sykes, E.;Allen, D.G.	
REPORT YEAR:	1989, 23 Pages	
KEYWORDS:	Jurassic,Rossland Group	
WORK DONE:	Geophysical,Physical	
	EMGR 1.0 km;VLF	
	LINE 0.4 km	
	MAGG 2.2 km	
RELATED REPORTS:	15414,15482,17380	

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SUMMARY AND CONCLUSION

Gunsteel Resources Incorporated holds title to the Jero 10 and 11 claims. These claims consist of 27 units in close proximity to the Rossland gold camp in southeastern British Columbia. The Rossland gold camp is the second largest gold producer to date in British Columbia. Recorded production from the Centre Stur, Le Roi and War Eagle Mines is 2,706,000 ounces of gold, 3,300,000 ounces of silver and 100,000 tons of copper from 5.9 million tons of ore.

Mineralization in the Rossland camp consists predominantly of pyrrhotite-rich quartz veins containing up to 70% sulphides found along faults intersecting augite prophyry or diorite porphyry intrusions.

Jero 10 and Jero 11 were worked on from February 8th to February 10th, 1989. In total 2.2 kilometres of magnetometer data was collected with 1 kilometre of VLF-electromagnetic data. An additional 350 metres of line was added to a grid established in 1987.

An anomalous magnetic high was identified on line 2+00W near station 0+75S. This anomaly is coincident with a VLF-electromagnetic anomaly and a gold anomaly in the soils. A second magnetic high was indicated on line 2+00W at station 3+75S. This anomaly is coincident with gold, silver and lead anomalies in the soil as well as being close to a VLF-electromagnetic anomaly.

These two anomalous zones should be trenched in order to discover their source. A more comprehensive VLF-electromagnetic survey along with detailed geological mapping would aid in defining the structures on the claims.

INTRODUCTION

Gunsteel Resources Incorporated hold title to the claims Jero 10 and Jero 11. The two claims total 27 units near the Rossland gold camp in southeastern British Columbia.

The Centre Star, Le Roi and War Eagle Mines located four kilometres north of the Jero 10 and 11 claims produced 2,706,000 ounces of gold,

3,300,000 ounces of silver and 100,000 tons of copper. This makes the Rossland gold camp the second largest gold producer in British Columbia.

The Jero 10 and 11 claims were staked because of their close proximity to electromagnetic conductors revealed by an airborne survey (R. Sheldrake, 1981) that correlate with favourable geology.

The 1989 exploration program consisted of magnetometer and VLF-electromagnetic surveys. These surveys were performed on a grid emplaced in the 1987 exploration program. Work for the 1989 exploration program was performed by E. Sykes and F. Critchlow. The following report summarizes work performed on the Jero 10 and 11 claims.

LOCATION, ACCESS, PHYSIOGRAPHY

The Jero 10 and 11 claims lie two kilometers southwest of Rossland, in southeastern British Columbia (Figures 1 and 2). Elevation varies from 600 metres along Little Sheep Creek to 1300 metres on Tamarak Mountain. The terrain varies from flat areas to very steep slopes. Vegetation is a secondary growth of balsam fir, cedar, jack pine, spruce, birch and alder. Primary stands of mature cedar can be found along some water courses. The claims are easily accessible by paved road. There are also some good 4X4 roads on the claims.

CLAIM DATA

The Jero 10 and 11 comprising 27 units are registered in the name of Gunsteel Resources Incorporated. Claim boundaries are shown on Figures 2 and 3.

The claim data is as follows:

Claim Name	No. of Units	Record No.	Expiry Date
Jero 10	18	948	Feb. 24, 1990*
Jero 11	9	949	Feb. 19, 1990*

***Note:** Assuming that the work represented by this report is accepted for assessment purposes.

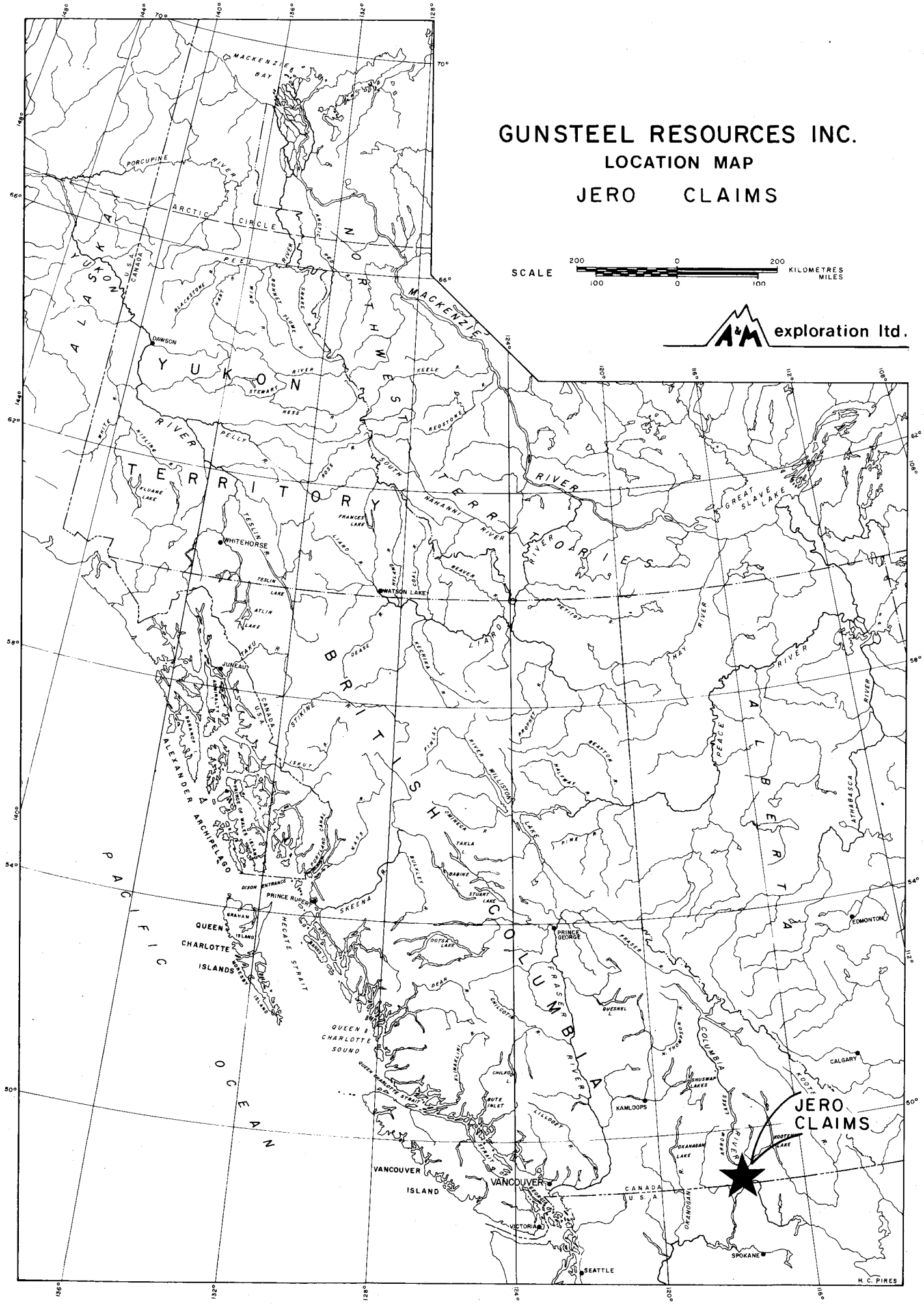
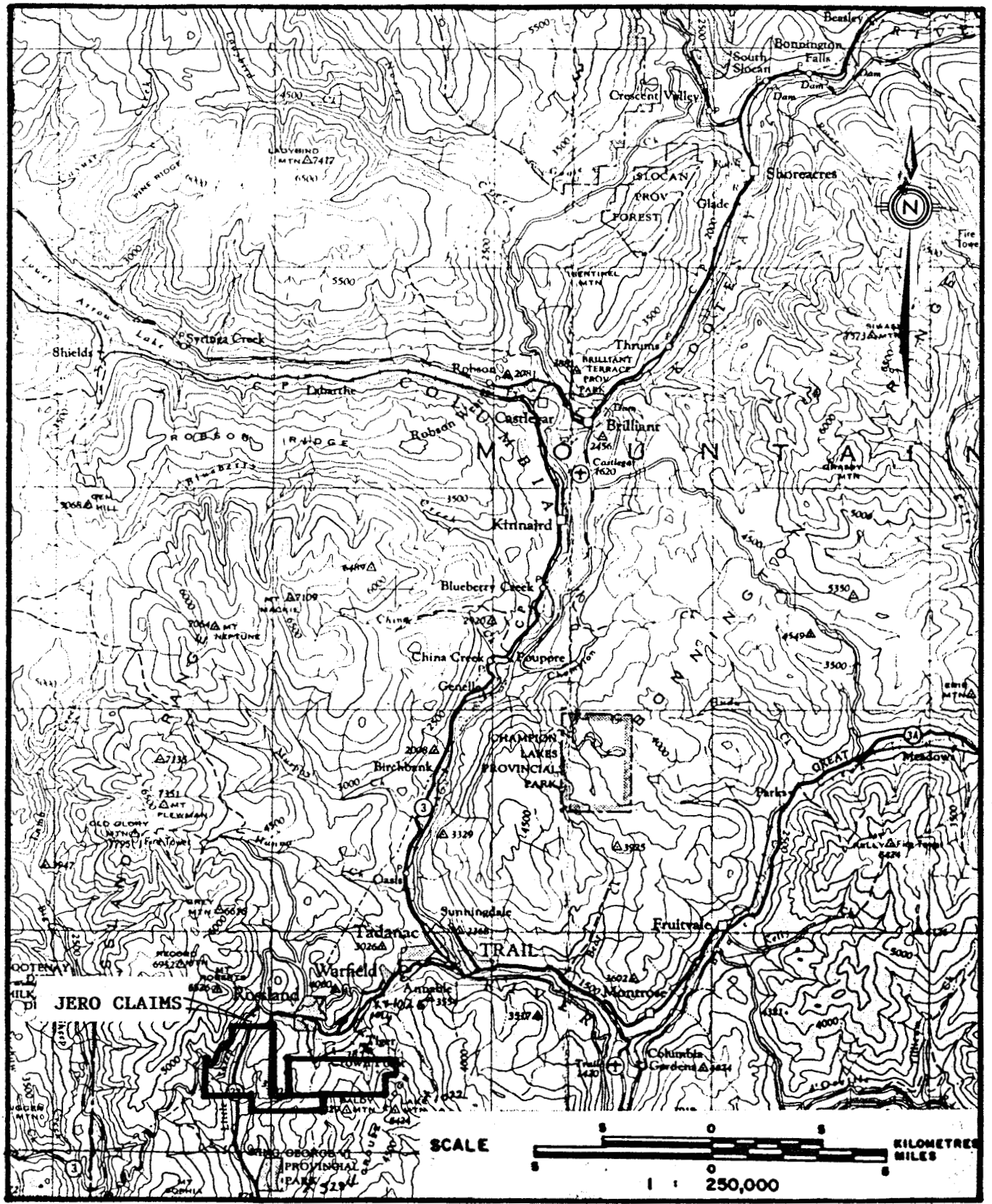

GUNSTEEL RESOURCES INC.
LOCATION MAP
JERO CLAIMS
SCALE
200 0 200 KILOMETRES
100 0 100 MILES
A&M exploration ltd.
JERO CLAIMS
MACKENZIE BAY
PORCUPINE RIVER
ARCTIC CIRCLE
PEEL RIVER
ALASKA
YUKON
NORTHWEST TERRITORIES
MACKENZIE RIVER
DAWSON
WHITEHORSE
WATSON LAKE
BRITISH COLUMBIA
ALBERTA
PACIFIC OCEAN
JUNEAU
PRINCE RUPERT
QUEEN CHARLOTTE ISLANDS
VANCOUVER ISLAND
VANCOUVER
PRINCE GEORGE
KAMLOOPS
EDMONTON
CALGARY
VICTORIA
SEATTLE
SPOKANE
CANADA
U.S.A.
H. C. PIRES

FIGURE – 1



N.T.S. 82/F

GUNSTEEL RESOURCES INCORPORATED

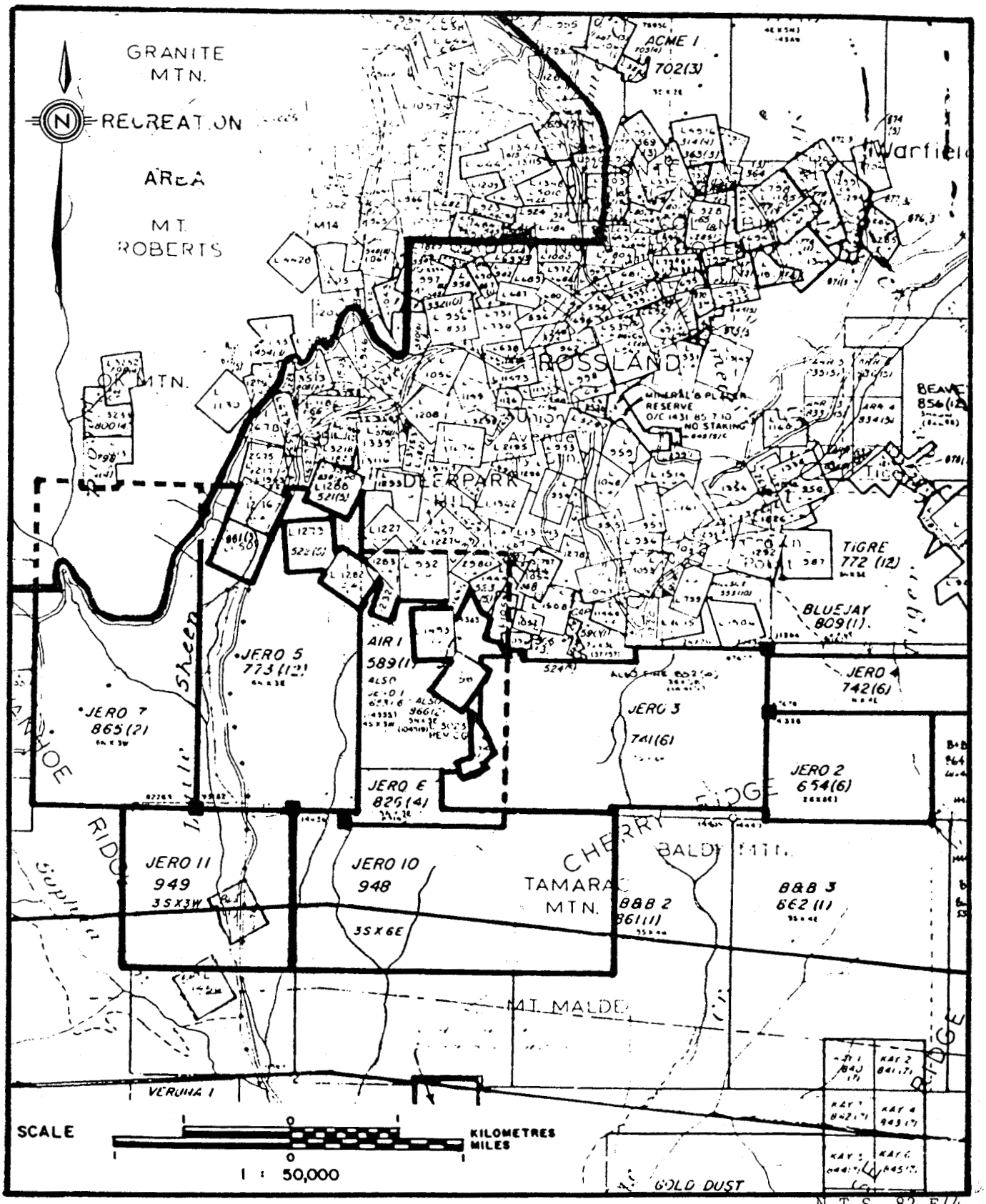
ACCESS MAP

JERO CLAIMS

Trail Creek Mining Division - British Columbia

A·M exploration ltd.

Figure 2



N.T.S. 82 F/4

GUNSTEEL RESOURCES INC.

CLAIM MAP

JERO CLAIMS

Trail Creek Mining Division – British Columbia

A·M exploration ltd.

Figure 3

HISTORY

The Rossland mining camp was the second largest gold camp in British Columbia in terms of recorded production. Total recorded production (mainly during the period 1895-1937) is 2,706,000 ounces of gold, 3,300,000 ounces of silver and 100,000 tons of copper from 5,915,000 tons of ore. The average grade was 0.46 ounces of gold per ton, 0.6 ounces of silver per ton and 1.79 ounces per ton copper. Most of the production came from four deposits (LeRoi, Centre Star, War Eagle and Josie) in the core of the camp. Molybdenum was produced at Red Mountain during the period 1966 to 1971.

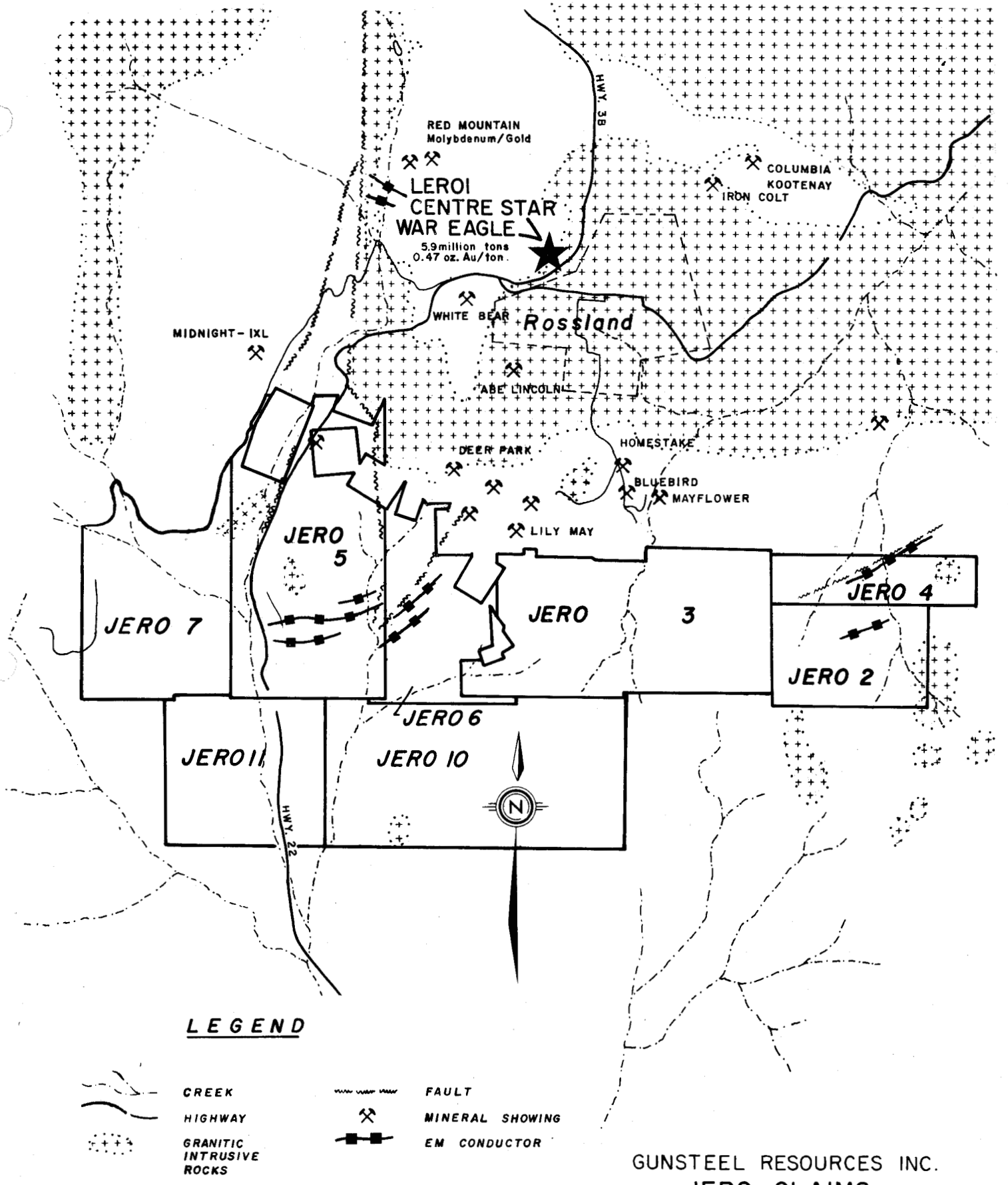
Old claim maps indicate that the area in which Jero 10 and 11 are located has been staked and restaked many times, but apparently little systematic exploration work has been carried out. R. Sheldrake (1981) conducted an airborne electromagnetic survey and outlined a number of electromagnetic anomalies in the area. These anomalies have since been verified by ground VLF-electromagnetic surveys. Since 1982, Jero Resources has conducted claim acquisitions and has carried out preliminary geological, geophysical and geochemical surveys in this area. In 1985, Jero Resources amalgamated with Gunsteel Resources Incorporated, who have continued work on the claims (Figure 4).

GEOLOGY

Regional Geology

The Rossland area lies in the Nelson Map Area, 82F(West Half), the geology of which has been described by Little (1960). The geology of the Rossland Mining Camp has been well documented by Drysdale (1915), Bruce (1917), Gilbert (1948), Fyles (1970) Fyles et al (1973), Thorpe (1973) and Little (1982). In summary, the gold deposits of the Rossland camp occur in a complex environment in which major volcanic, sedimentary and intrusive rocks occur. The oldest rocks are the Carboniferous Mount Roberts Formation which consists of siltstone, sandstone, conglomerate and

ROSSLAND PROPERTY



GUNSTEEL RESOURCES INC.

JERO CLAIMS

TRAIL CREEK MINING DIVISION - BRITISH COLUMBIA

0 1 2 3 KM.

SCALE

CLAIMS & GEOLOGY

Donald R. Allen

A&M exploration ltd.

Figure 4

minor limestone. They are overlain by volcanic rocks and inter-bedded sediments of the Jurassic Rossland Group. Irregular bodies and dykes of augite porphyry were apparently coeval with the Rossland volcanics. These rocks are intruded by five groups of plutonic rocks: The Rossland monzonite, the Trail batholith (granodiorite), Coryell intrusions (syenite), Rainy Day stock (quartz diorite) and a large number of dykes including diorite, lamprophyre, syenite, and quartz feldspar porphyry.

The Jero 10 and 11 claims are largely overburden covered. No attempt has yet been made to undertake geological mapping. Presumably the claims are underlain by volcanic rocks of the Rossland Group.

Ore Deposits of Rossland Camp

The gold-copper deposits of the Rossland camp are predominantly pyrrhotite-rich quartz veins containing up to 70% sulphides. They are locallized by east and north-trending faults where they intersect or lie along contacts of highly competent rocks such as augite porphyry and diorite porphyry. Thorpe (1973) has defined three zones: central, intermediate and outer. Veins of the central zone have a high chalcopyrite content and gold/silver ratio. Veins in the intermediate zone are characterized by a wide range of mineralogies including pyrrhotite, chalcopyrite, arsenopyrite, pyrite, molybdenite, cobaltite, gold bismuth and bismuth and bismuthinite. Veins in the outer zone contain sphalerite, galena and tetrahedrite and have a lower gold/silver ratio.

The molybdenite deposits on Red Mountain occur in brecciated granodiorite, and hornfelsic and skarny sedimentary rock of the Mount Roberts Formation. Mineralization consists of irregularly distributed disseminations and veinlets of pyrrhotite, pyrite, magnetite, molybdenite, scheelite and chalcopyrite (Eastwood, 1966; Fyles, 1967; Hainsworth, 1966). Appreciable amounts of gold are reported in the deposits.

1989 WORK PROGRAM

A work program an Jero 10 and 11 was conducted from February 8th to 10th 1989. The work was performed by E. Sykes, geophysicist, and F. Critchlow, prospector.

The baseline (1.1 kilometres) for the grid established during the 1987 work program was surveyed with a magnetometer. This data was used to correct data gathered in 1987 for diurnal variation. A Scintrix MP-2 proton precession magnetometer was used.

A total of one line kilometre was surveyed using the VLF-electromagnetic method. Station spacing was 25 metres and a Sabre Model 27 VLF-EM receiver was used.

There was 350 metres of line added to the 1987 grid. The additional grid was added using compass and hip chain.

MAGNETOMETER SURVEY

Instrumentation

The magnetic data was collected using a Scintrex MP-2 proton precession magnetometer. This magnetometer has a sensitivity of one gamma.

MAGNETIC SURVEY

Method

A total of 2.2 kilometres of magnetic surveying was performed over the Jero 10 and Jero 11 claims. The survey was conducted over the baseline of the grid established during the 1987 work program. The purpose of the survey was to provide data to correct the 1987 magnetic data for diurnal variation. Correction for diurnal variation was done using the loop method. Data for the survey was collected every 25 metres on lines spaced 100 metres apart. A contoured plot of the data is presented in Figure 5.

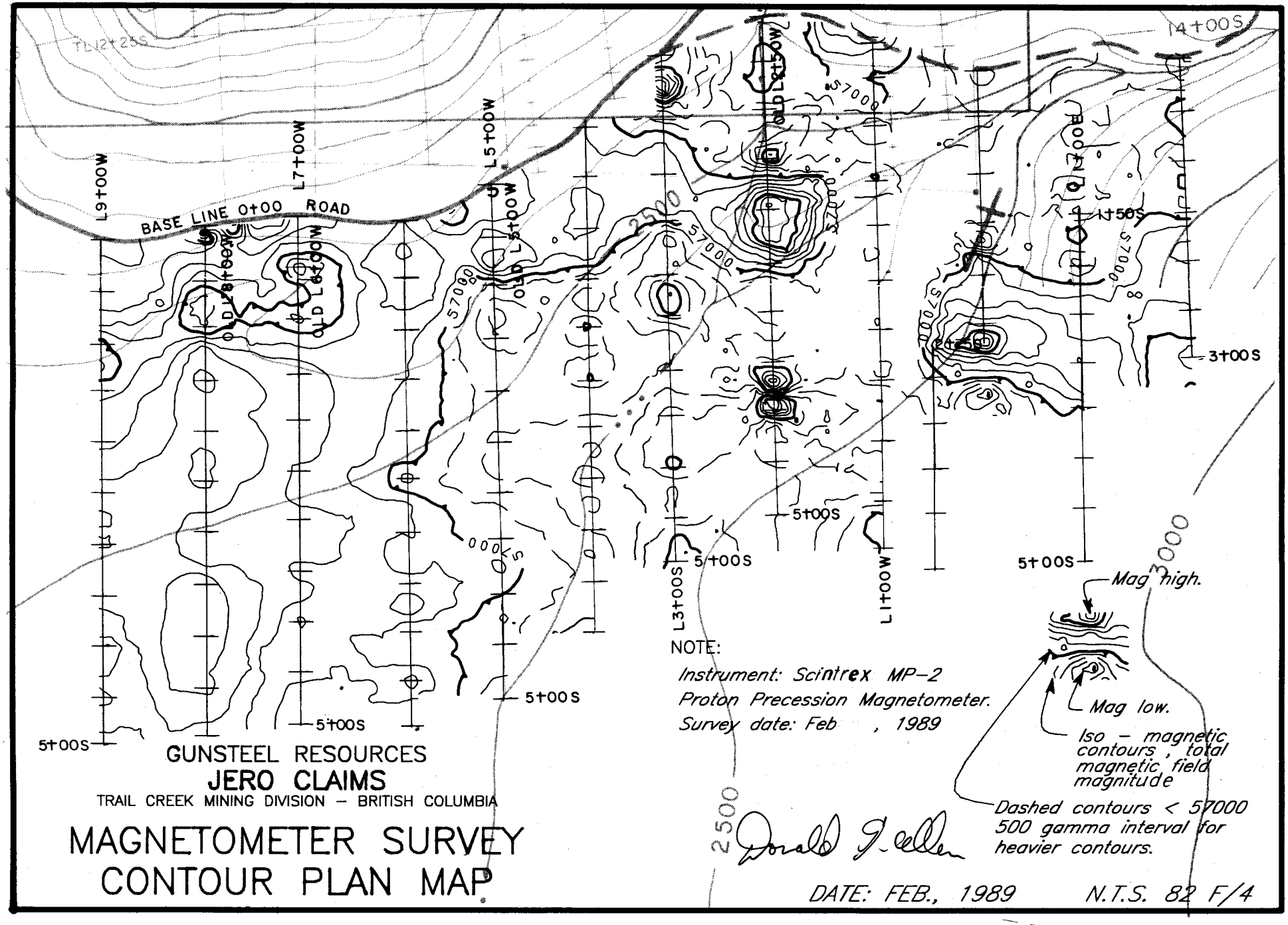

BASE LINE 0+00 ROAD
L9+00W
L7+00W
L5+00W
L3+00S
L1+00W
OLD L8+00W
OLD L5+00W
OLD L3+50W
5+00S
1+50S
3+00S
14+00S
57000
2500
3000
Mag high.
Mag low.
Iso - magnetic contours, total magnetic field magnitude
Dashed contours < 57000
500 gamma interval for heavier contours.
NOTE:
Instrument: Scintrex MP-2
Proton Precession Magnetometer.
Survey date: Feb , 1989
GUNSTEEL RESOURCES
JERO CLAIMS
TRAIL CREEK MINING DIVISION - BRITISH COLUMBIA
MAGNETOMETER SURVEY
CONTOUR PLAN MAP
DATE: FEB., 1989
N.T.S. 82 F/4

FIGURE 5

RESULTS

Magnetic highs are present within the survey area. These highs could be related to pyrrhotite-rich areas, which have been associated with gold-copper deposits in the Rossland Camp.

An interesting magnetic high trending east, near line 2+00W; station 0+75S, is coincident with a VLF-electromagnetic anomaly within the soils. Another interesting high is present on line 2+00W at station 3+75S. It is coincident with lead, gold and silver geochemical anomalies within the soils. This magnetic anomaly also lies within 50 metres of a VLF-electromagnetic anomaly.

There are two other magnetic highs which are of interest only because of their magnitude. Both these anomalies are approximately 700 gammas above background. These anomalies are located on line 2+00W at station 2+00S and line 0+00 at station 2+75S.

The lack of information regarding the geology of the survey grid area makes further interpretation speculative.

VLF-ELECTROMAGNETIC SURVEY

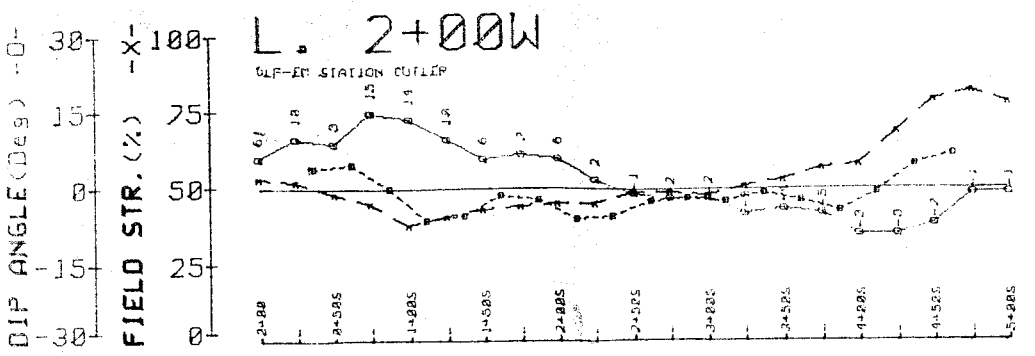
Instrumentation

The VLF-electromagnetic (VLF-EM) receiver used for the survey was a Sabre Model 27 VLF-EM receiver. This receiver is manufactured by Sabre Electronics of Burnaby, British Columbia.

Method

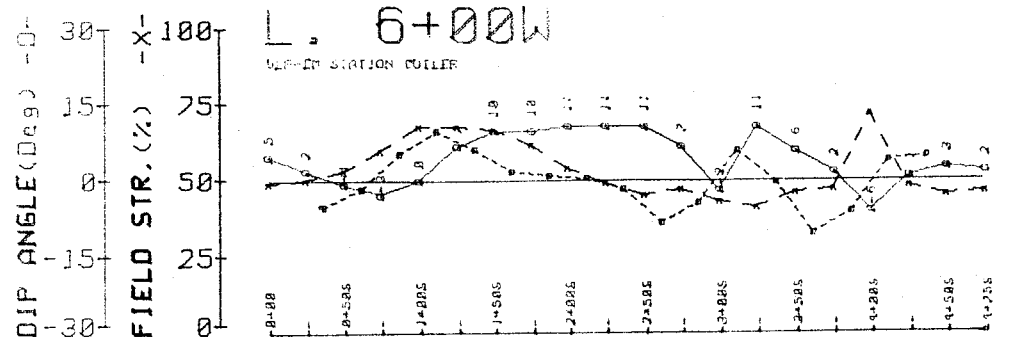
A total of one kilometre of VLF-electromagnetic surveying was carried out on the Jero 10 and Jero 11 properties. Lines 6+00W and 2+00W were traversed as a test for future VLF-electromagnetic surveys.

The VLF-EM receiver was tuned to Cutler, Maine (24.0 kilohertz). Profiles of the data are shown on Figure 6 with anomalies marked in plan view on Figure 7.



LINE 2+00W

STN#	DIP(deg)	FS%	F.FILTER
0+00	6	53	0
"	18	52	-8
0+50S	9	48	-18
"	15	45	0
1+00S	14	38	13
"	18	41	11
1+50S	6	43	3
"	2	44	5
2+00S	6	45	12
"	-2	45	11
2+50S	-1	49	5
"	-2	48	4
3+00S	-2	48	5
"	-5	51	2
3+50S	-4	53	5
"	-5	57	9
4+00S	-3	58	2
"	-9	69	-18
4+50S	-7	78	-14
"	-1	82	0
5+00S	-1	78	0



LINE 6+00W

STN#	DIP(deg)	FS%	F.FILTER
0+00	5	48	0
"	2	58	11
0+50S	-1	53	4
"	-3	60	-11
1+00S	0	68	-28
"	2	68	-13
1+50S	10	62	-4
"	10	62	-2
2+00S	11	54	-1
"	11	48	9
2+50S	11	45	12
"	5	42	5
3+00S	-2	43	-12
"	11	41	1
3+50S	6	46	22
"	2	42	13
4+00S	-6	22	-8
"	1	48	-18
4+50S	3	45	0
4+25S	2	46	3

Instrument : Sabre Model 27 VLF—EM Rerceiver.
Survey date: Feb 9, 1989
Transmitter station: Cutler, Maine.

GUNSTEEL RESOURCES INC.

JERO CLAIMS

TRAIL CREEK MINING DIVISION—BRITISH COLUMBIA

VLF—EM PROFILES

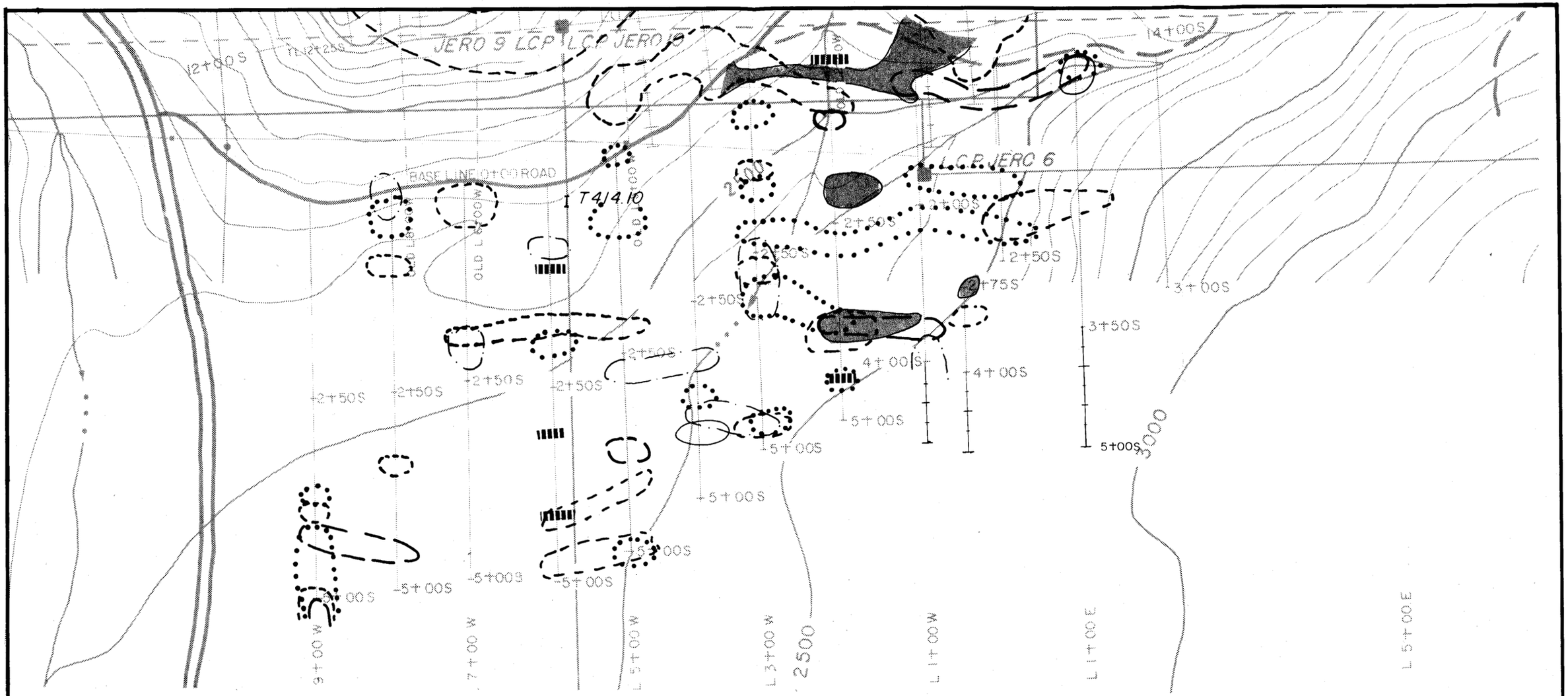
LINE 2+00 & 6+00

SCALE 200 0 200 METRES
500 0 500 FEET
1 : 5,000

A·M exploration ltd.

DATE: FEB., 1989 N.T.S. 82F/4

FIGURE 6



Highway, Road, Trail

Powerlines

Claimline, Post

LCP

1986 grid line

Old grid line

1987 survey grid

Outcrop

Float

Fault

Geological contact

Prospect

Trench

Glory hole

VLF–EM anomaly.

Magnetic anomaly

Geochemical anomaly

Au ≧ 10 ppb
Ag ≧ 0.4 ppm
Cu ≧ 80 ppm
Pb ≧ 20 ppm
Zn ≧ 300 ppm

NOTE: Legend and geology in part after Fyles (1970)

GUNSTEEL RESOURCES INC.

JERO CLAIMS

TRAIL CREEK MINING DIVISION – BRITISH COLUMBIA

COMPILATION MAP

SCALE 100 50 0 100 200 METRES
1:5000

A&M exploration ltd.

Donald Galbraith

DATE FEB, 1989 N.T.S. 82F/4

Figure 7

VLF-ELECTROMAGNETIC RESULTS

The VLF-electromagnetic survey revealed several anomalous zones. Due to the limited extent of the survey the continuity and trends of the anomalous zones are unknown. The limited nature of the survey restricts associating VLF-EM anomalies with soil anomalies, magnetic anomalies or local geology.

In general VLF-EM anomalies are caused by relatively conductive zones in the earth's crust (i.e. shear zones or massive sulphides). VLF-EM anomalies which are coincident with magnetic highs are likely massive sulphides with a high percentage of pyrrhotite or magnetite.

For reasons stated above VLF-EM anomalies on line 2+00W at stations 0+50S and 4+50S are of interest because of their proximity to local magnetic highs. Both these anomalies are also coincident with geochemical anomalies within the soils. The anomaly at station 4+50S is particularly strong.

Anomalies on line 6+00W are less interesting than those on line 2+00W because they do not have coincident magnetic highs. However, the anomaly on line 6+00W at station 4+00S is strong and is coincident with a geochemical gold anomaly in the soils.

DISCUSSION OF RESULTS

The magnetic survey located two areas of interest. One zone is a linear magnetic high trending east to west located on line 2+00W at station 0+75S. This zone coincides with a VLF-electromagnetic anomaly and gold anomalies in the soils. The other interesting magnetic anomaly is located on line 2+00W at station 3+75S. This magnetic high is in close proximity to a VLF-electromagnetic anomaly and is coincident with silver, gold and lead anomalies within the soil. The magnetic highs are made more significant because gold is often associated with pyrrhotite in the Rossland area.

Geological mapping and a more extensive VLF-electromagnetic survey would aid in defining the structure on the claims more completely. Trenching of the magnetic anomalies above is warranted.

Donald G. Allen

REFERENCES

Allen, D.G. and MacQuarrie, D.R. (1984). 1983 Assessment Report on the JERO 1 to 4 Claims.

Beddoe-Stephens, B. and Lambert, R. St. J. (1981). Geochemical, mineralogical, and isotopic data relating to the origin and tectonic setting of the Rossland volcanic rocks, Southern B.C. Can. Journ. Earth Sci., Vol. 18, pp. 858-868.

Brownlee, D.J. (1988). Geochemical, Geophysical and Geological Assessment Report on the Jero Claims (Rossland Property). Private Report for Gunsteel Resources Incorporated. April 28, 1988.

Bruce, E.L. (1917). Geology and ore-deposits of Rossland. B.C. Minister of Mines Ann. Rept. for 1917, pp. K214-244.

Eastwood, G.E.P. (1966). Geology of the Coxey-Giant Area in B.C. Dept. Mines Ann. Rept. for 1966, pp. 200-208.

Fyles, J.T. (1967). The Geology of Red Mountain in B.C. Dept. Mines Ann. Rept. for 1967, pp. 236-238.

Fyles, J.T. (1970). Preliminary map of the Rossland area. B.C. Dept. Mines, Preliminary Map No. 4.

Fyles, J.T. (1984). Geological Setting of the Rossland Mining Camp. B.C. Dept. Mines, Bulletin No. 74.

Fyles, J.T., Harakal, J.E., and White, W.H. (1973). The age of sulphide mineralization at Rossland. B.C. Economic Geology, Vol. 68, pp. 23-33.

Gilbert, G. (1948). Rossland Camp in Structural Geology of Canadian Ore Deposits. C.I.M.M. Jubilee Volume, pp. 189-196.

Gravel, J., Allen, D.G., and MacQuarrie, D.R. (1987). Geochemical and Geophysical Assessment Report on the JERO claims.

Hainsworth, W.G. (1966). Molybdenum Deposition on Red Mountain. Western Miner, June, 1966, pp. 53-57

Little, H.W. (1960). Nelson Map-Area, West Half, B.C. Geol. Surv. Canada, Memoir 308.

Little, H.W. (1982). Geology of the Rossland-Trail Map Area. Geol. Surv. Canada, Paper 79-26.

REFERENCES (Cont'd)

Pasieka, C.T. (1981). A Report on the Geochemical Survey on the TAP Claim. B.C. Ministry of Mines Assessment Report 8776.

Sheldrake, R.A. (1981). Report on a helicopter magnetic and electromagnetic survey, Rossland area. Private Report for Rubicon Resources Ltd.

Thorpe, R.I. (1967). Mineralogy and zoning of the Rossland area. University of Wisconsin. Unpublished Ph.D. Thesis.

CERTIFICATE

I, Donald G. Allen, certify that:

1. I am a Consulting Geological Engineer, at A & M Exploration Ltd., with offices at Suite 704, 850 West Hastings Street, Vancouver, British Columbia, V6C 1E1.

2. I am a graduate of the University of British Columbia with degrees in Geological Engineering (B.A.Sc., 1964; M.A.Sc., 1966).

3. I have been practising my profession since 1964 in British Columbia, the Yukon, Alaska and various parts of the Western United States.

4. I am a member in good standing of the Association of Professional Engineers of British Columbia.

Donald G. Allen

February 28, 1989
Vancouver, B.C.

Donald G. Allen
P. Eng. (B.C.)

CERTIFICATE

I Evan Sykes, certify that:

1. I am a geophysicist residing at 6331 Azure Road, Richmond, British Columbia.

2. I am a graduate of the University of British Columbia with a degree in Geological Engineering (B.A.Sc., 1988).

3. I have practised my profession in British Columbia since 1986.

4. This report is based on fieldwork carried out personally during the period February 8 to February 10, 1989 and on information listed under References.

February 28, 1989
Vancouver, B.C.

E Sykes
Evan Sykes,
Geophysicist

APPENDIX I

Affidavit of Expenses

AFFIDAVIT OF EXPENSES

This is to certify that the work program outlined in this report was carried out on the Jero 10 and 11 mineral claims, Rossland area, Trail Creek Mining Division, during the period of February 8, 1989 to February 10, 1989 to the values of the following:

Personnel			
Geophysicist			$1,993.75
Labourer			450.00
Field			
Transportation	Truck Rental	3 days @ $50/day	150.00
	Mileage	1250 km @ $0.15/km	187.50
	Gas/oil		97.90
Room and Board			125.63
Field Supplies			6.10
Communications			8.03
Equipment Rental			30.00
Office			
Drafting	Draftsman		270.00
	Maps		55.95
Typing/compilation			108.00
		TOTAL	**$3,482.86**

D. I. Allen