'81-#24-#8918

GEOPHYSICAL REPORT

MAX 3, 4, 5 & 6 MINERAL CLAIMS

KAMLOOPS MINING DIVISION
NTS 82M/13E
Latitude 51°53' Longitude 119°43'

Owner: A. Horne

Operator: St. Joseph Explorations Limited

Report By: J.L. Wright and D.C. Miller

December 30, 1980

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INTRODUCTION

Location & Access

The Max claims are located 32 km northeast of Clearwater, B.C. Access to the property is provided by logging roads which follow the north bank of Raft River and the west bank of Maxwell Creek.

Property

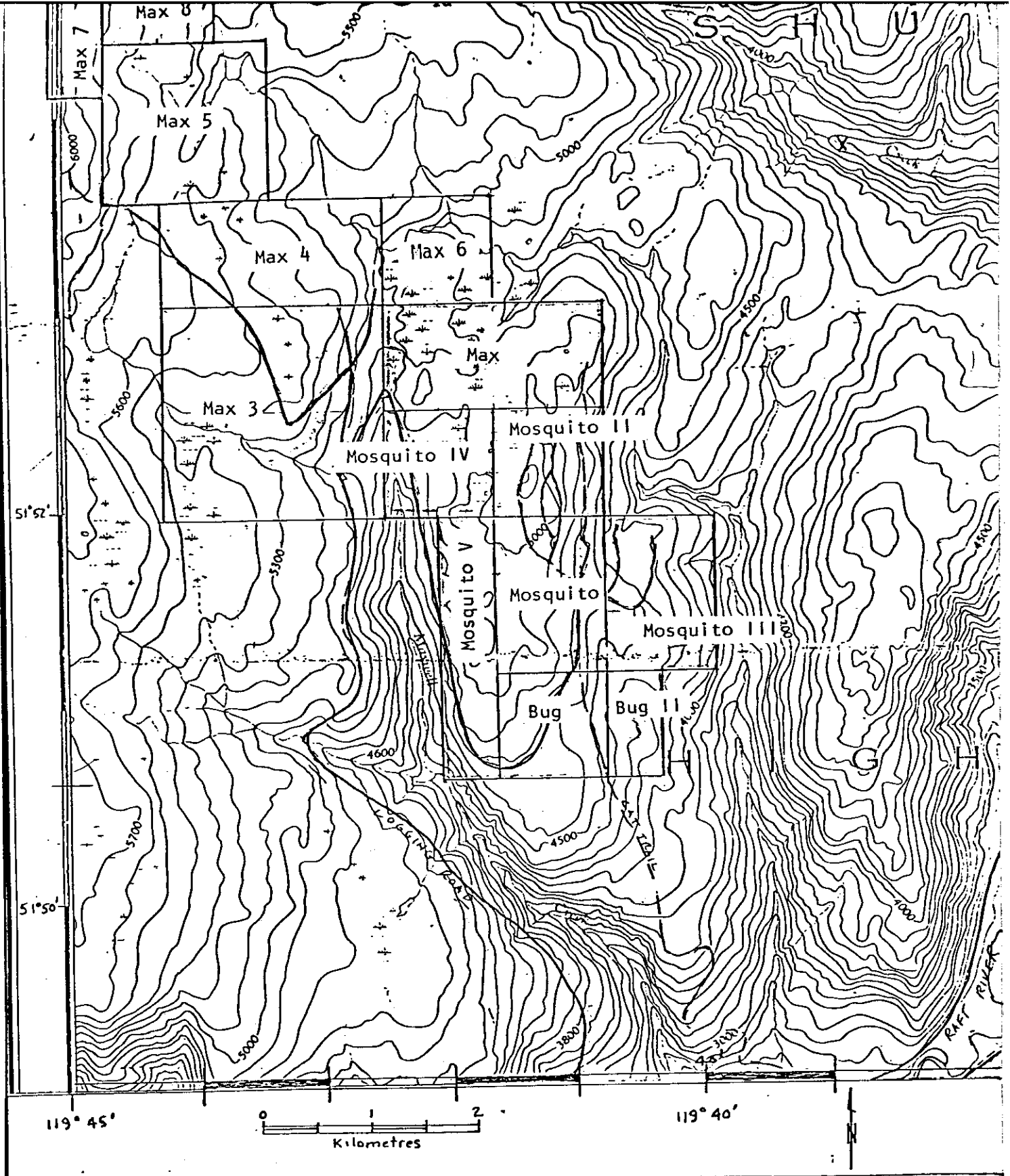
Under the terms of an agreement, dated May 12, 1979, the following contiguous claims were optioned from A. Horne, prospector.

CLAIM	UNITS	RECORD NO.	CURRENT DUE DATE
Max 3	16	1777	March 30, 1983
Max 4	8	1778	March 30, 1983
Max 5	9	1779	March 30, 1983
Max 6	4	1780	March 30, 1983
Max 7	2	1955	July 24, 1983
Max 8	2	1956	July 24, 1983
Mosquito	6	68	July 15, 1983
Bug	4	69	July 21, 1982
Mosquito II	4	139	October 22, 1984
Max	8	1593	Nov. 23, 1982
Mosquito III	6	1717	Feb. 16, 1983
Bug II	2	1718	Feb. 16, 1983
Mosquito IV	4	1731	March 9, 1983
Mosquito V	5	1732	March 9, 1983

During the survey, work was done only on the Max 3, 4, 5 and 6 claims. The locations of various claims is shown on the index map (Figure 1).

Physiography

The Max claims are located between 1490 and 1840



APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG. LATITUDE LONGITUDE	PROJECT NO. 5261-1 FIGURE NO. 1	SHEET NO. ___ OF ___ N.T.S. 82M/13E	INDEX MAP MAX GROUP RAFT RIVER AREA, B.C.

ST. JOSEPH EXPLORATIONS LIMITED

TORONTO, CANADA

m in elevation. Topography is generally moderate except along Maxwell Creek valley where relatively steep slopes are present. Overburden cover is extensive and only sparse outcrops are present. Meadows are present in higher areas with stunted spruce and balsam forests. Lower elevations are forested with mature spruce which is currently being logged. Ice advanced southward during the last glacial period.

History

The original showings on Max 5 and 7 were located and trenched by the late E. Garten of Vavenby, about 1906.

The Moose 1-20 claims were staked by Colin Wilson for L.G. White of the Cariboo Syndicate during 1972. A geological, geochemical and geophysical report (No. 3935) was filed for work completed to September 2, 1972.

The discovery of chalcopyrite bearing float by A. Horne in 1975 led to the staking of the Max, Bug and Mosquito claims. Various geophysical, geochemical, geological surveys and percussion drilling were conducted in 1975, 1976 and 1979 by Sicintine Mines, Bethlehem Copper and St. Joseph Explorations (assessment reports 5836 & 6071).

Geology and Mineralization

The Max claims are underlain by schists, gneisses, and felsic intrusive rocks of the Shuswap Metamorphic Complex. Within the area surveyed, pyrrhotite-chalcopyrite-galena-

sphalerite mineralization occurs within pelitic schists. The grade of mineralization, where seen in outcrops, is generally less than 1% combined copper-lead-zinc, up to several metres thick and traceable over a strike length of nearly 2 km.

Summary of Current Work

During June-July, 1980, line cutting and geophysical surveys were conducted on the Max 3, 4, 5 and 6 claims. Details of this work are tabulated as follows:

Line Cutting

Dates:	May 27 to June 20, 1980
Personnel:	Contractor - Great Bear Industries Ltd. c/o John Foster, Monte Lake, B.C., V0E 2N0
Work:	Part of former geochem grid cut out to geophysical standards - total 18.4 line km.

Induced Polarization Survey

Dates:	July 2-15, 1980
Personnel:	L. Stoliker, G. Moum, J.W. Wright, D. Windsor
Instrumentation:	Rx - Huntec Mk-4 Tx - Phoenix IPT-1
Array:	Gradient; a = 50 m; c1-c2 = 3000 m c1: L68N, L78N, L88N; 8000E c2: L68N, L78N, L88N, 11000E Dipole-Dipole; a = 50 m; n = 1,2,3
Station Interval:	25m
Line Spacing:	200m
Length Surveyed:	14.6 km
Parameters Read:	Chargeability (msec) & Resistivity (ohm-m)

H.L.E.M. Survey

Dates:	June 28-30, 1980
Personnel:	D. Windsor, G. Moum
Instrumentation:	Apex Parametrics Max-Min II
Frequency:	888 & 3555 Hz

Coil Separation:	50m
Station Interval:	12.5m
Line Spacing:	200m
Length Surveyed:	15.2 km
Parameters Read:	In-phase and Out-of-phase percentage of the secondary field

Magnetic Survey

Dates:	June 28-30, 1980
Personnel:	L. Stoliker
Instrumentation:	Barringer GM-122 Magnetometer Scintrex MBS-2 Base Station
Base Station Value:	50400 gammas
Line Spacing:	200m
Length Surveyed:	15.6 km
Parameters Read:	Amplitude of Total Field

All dipole-dipole data is presented upon three-level pseudo-sections and contoured at intervals of logarithmic in ohm-m for the resistivities and linearly at intervals of 5 msec. or 10 msec. for the chargeabilties. The gradient data are plotted upon grid maps at a scale of 1:5000 and contoured with intervals of logarithmic ohm-m for the resistivities and linearly with an interval of 5 msec. for the chargeabilities. Both the magnetics AND H.L.E.M. are plotted upon grid maps at a scale of 1:5000 and 1:2500 respectively. No topography or culture is depicted upon the H.L.E.M. plots however. The magnetics are contoured at an interval of 100 gammas following a datum subtraction of 58000 gammas. Profiles of the in-phase and out-of-phase components at a profile scale of 1 cm = 10% are presented upon the H.L.E.M. plots. All plotting conventions are completely explained upon each map. Maps or groups of plots

can be found in the accompanying map pockets. Titles are as listed below:

1) Induced Polarization Survey (Chargeability)
2) Induced Polarization Survey (Resistivity)
3) H.L.E.M. Survey - 3555 Hz
4) H.L.E.M. Survey - 888 Hz
5) Magnetometer Survey

INTERPRETATION

Each survey will be discussed separately in the following to facilitate organization.

Induced Polarization Survey: Chargeabilities show a background of about 13 msec. to 19 msec. rising from south to north across the property. This likely represents a general increase in chargeable material due to an intrusive lying more northerly or a relatively large scale metamorphic effect. Anomalies rise to be in excess of 30 msec. Six anomalous zones are noted and designated A-F. Line locations are listed below:

Zone A: L66N, 9135E; L68N, 9135E; L70N, 9145E; L72N, 9170E

Zone B: L78N, 9100E-9300E; L80N, 9120E-9330E; L82N, 9100E-9350E; L84N, 9100E; L86N, 9000E-9200E; L88N, 9350E; L90N, 9225E

Zone C: L76N, 9675E; L78N, 9425E; L80N, 9450E; L82N, 9430E; L84N, 9425E; L86N, 9375E; L88N, 9350E; L90N, 9380E

Zone D: L78N, 9675E; L80N, 9650E; L82N, 9600E; L84N, 9600E; L86N, 9675E; L88N, 9675E; L90N, 9175E; L92N, 9715E

Zone E: L80N, 9850E; L82N, 9850E; L84N, 9850E; L86N, 9865E

Zone F: L88N-L92N, 9800E (easterly)

All zones appear as if semi-formational in nature. Zone B is somewhat broad and ill-defined. Strongest responses are found upon Zone C which also seems to be most persistent. Zones B, C, D and F exit northerly off the grid. Zone F appears to be

reflecting a lithologic unit most likely a graphitic shale or slate. From a massive sulfide point of view Zones C and E seem most favourable. Indeed, Zone C shows good correlation with a magnetic anomaly of roughly 200 gammas amplitude. Another prominent magnetic feature to be reviewed later also shows a somewhat loose correlation with Zone E. The resistivity values show a background on the order of 150-450 ohm-m. Zone F shows a quite strong low resistivity correlation with bulk values as low as 15 ohm-m.

H.L.E.M. Survey: The electromagnetic data for the most part is quite featureless. No good conductors are noted. Some inductive 'noise' is noted on the eastern extreme of L88N. This is reflecting the lithologic unit outlined by Zone F discussed under the I.P. survey. Two other poor conductors are noted and have line locations of L82N, 9575E and L82N, 9850E. The more easterly and slightly more conductive one corresponds with an intercept of Zone E noted under the I.P. survey. It likely is reflecting a small concentration of pyritic material as no magnetic correlation exists.

Magnetic Survey: Background values over the grid appear to be in the 58450 gamma range. Southerly of L80N magnetic relief is extremely flat with only a total offset of around 75 gammas. However, northerly of L80N magnetic relief increases showing a total offset on the order of 1200 gammas. Two linear features are designated Zone C and E and have line locations as follows:

Zone C: L84N, 9375E; L86N, 9365E; L88N, 9375E; L90N, 9385E

Zone E: L82N, 9925E; L84N, 9850E; L86N, 9900E; L88N, 9850E; L90N, 9775E; L92N, 9850E

Zone C correlates well with the Zone C discussed in conjunction with the I.P. data. Zone E which is a quite strong feature correlates loosely with the I.P. Zone E. A quite high frequency magnetic low located at L80N, 9675E is strongly suspected to be cultural in origin. Magnetic 'noise' is noted near L84N-L90N, 9000E and L88N, 10100E.

RECOMMENDATIONS AND CONCLUSIONS

No really good massive sulfide targets are noted. Results upon the Max grid proper would indicate only disseminated sulfides strongly stratigraphically related with little concentration.

The results, as a whole, would appear to be less than encouraging. Perhaps further geochemical or geologic input could help clean-up and codify the results. No further geophysical work seems warranted at this time.

James L. Wright
Geophysicist

D.C. Miller
Geologist

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D. C. MILLER

DCM:vg

COST STATEMENT

Max Claims 5261.1
May to December 1980

1)	Wages		
	a) J.L. Wright July 7-18, August 26 13 Days @ $120/Day	$	1,560.00
	b) D.C. Miller May 19 & 20, June 26 & 27, August 28, December 30 6 Days @ $150/Day		900.00
	c) J.D. Blanchflower July 17 1 Day @ $138/Day		138.00
	d) D. Windsor June 25 - July 7 13 Days @ $70/Day		910.00
	e) L. Stoliker June 25 - July 18 24 Days @ $60/Day		1,440.00
	f) G. Moum June 25 - July 18 24 Days @ $55/Day		1,320.00
	Sub-total	$	6,268.00
2)	Food & Accomodation		
	a) J.L. Wright July 7-18 12 Days @ $19/Day	$	228.00
	b) D. Windsor June 25 - July 7 13 Days @ $19/Day		247.00
	c) L. Stoliker June 25 - July 18 24 Days @ $19/Day		456.00
	d) G. Moum June 25 - July 18 24 Days @ $19/Day		456.00
	Sub-total	$	1,387,00

3)	Rentals	
	a) Bowmac June 23 - July 7	$ 364.76
	b) Bowmac June 27	75.16
	c) Bowmac July 7-21	452.87
	d) Bowmac July 14-17	394.24
	e) Great Bear Industries Trailer Rental June 23 - July 15	350.00
	Sub-total	$ 1,637.03
4)	Linecutting	
	a) Great Bear Industries 18.4 line km May 27 - June 20, 1980	$ 5,920.37
5)	Consumable Field Supplies, Telephone & Freight	$ 1,059.23
6)	Drafting & Reproduction	$ 500.00
	TOTAL	$ 16,771.63

STATEMENT OF QUALIFICATIONS

I, D.C. Miller, of 970 Laval Crescent, #5, Kamloops, B.C., V2C 5P5, hereby certify that:

1) I am a graduate of the University of British Columbia and obtained a B.A.Sc. degree in geological engineering in 1959.
2) I have been continuously employed as a mining geologist since 1959.
3) With respect to work described in this report, I supervised line cutting, camp support, and provided input with respect to property definition, history, geology, and the cost statement.

D.C. Miller

December 30, 1980

STATEMENT OF QUALIFICATIONS

I, James L. Wright, of 90 Eglinton Avenue, W., Suite 505, Toronto, Ontario, M4R 2E4, hereby certify that:

1) I am a graduate of Stanford University and obtained a M.Sc. degree in geophysics in 1975.

2) I have had 6 years of experience in mining geophysics.

3) The geophysical work described in this report was done under my supervision.

James L. Wright

December 30, 1980

CHARGEABILITY

-92E. -93E. -94E. -95E. -96E. -97E. -98E. -99 -100E. -101E. -102E. -103E. -104E. -105E.

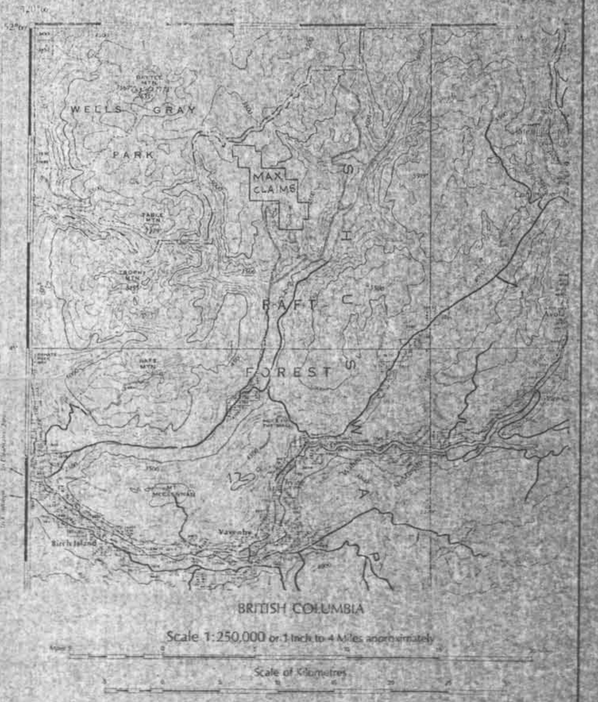
BASE LINE

L104N. L103N. L102N. L101N. L100N. L99N. L98N. L97N. L96N. L95N. L94N. L92N. L90N. L88N. L86N. L84N. L82N. L80N. L78N. L76N. L74N. L72N. L70N. L68N. L66N. L64N. L62N.

MAX 7 MAX 8 MAX 5 MAX 4 MAX 3 MAX 6

Intermittent trickle, stream
Claim line, claim post
Track, logging road

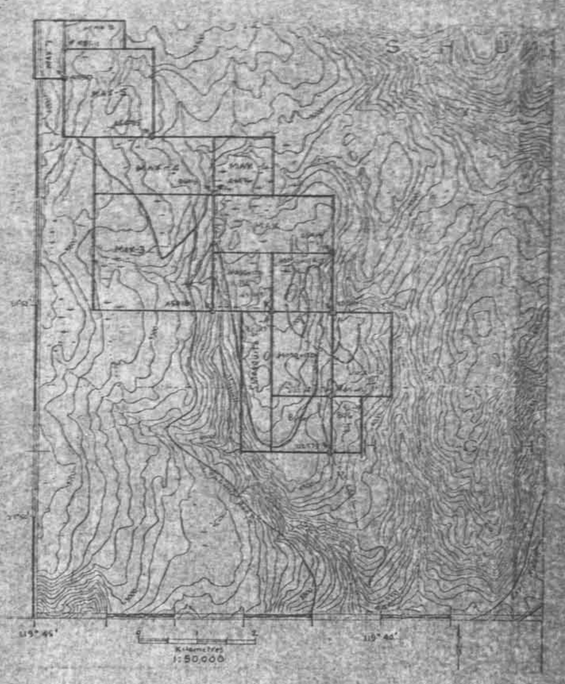
SCALE 1:5000
0 100 200 300 400 500 METRES



Scale 1:250,000 or 1 inch to 4 Miles approximately

Scale of Kilometres

LOCATION MAP



INDEX MAP

Instrumentation: Rx - Huntec Mk.4
Tx - Phoenix I.P.T.-1

Array: Gradient
a=50m.
C_1-C_2=3000m.
C_1: L68N, L78N, L88N; 80+00E
C_2: L68N, L78N, L88N; 110+00E

Station Interval: 25m.

Contour Interval: 5msec.

Line Spacing: 200m.

Personnel: L. Stoliker, G. Moum, J. Wright, D. Windsor

Dates: July 2-15, 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8918
NO.

TO ACCOMPANY GEOPHYSICAL REPORT BY J.L. WRIGHT & D.C. MILLER DEC. 30, 1980

ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA

MAX CLAIMS, B.C.
RAFT RIVER AREA
INDUCED POLARIZATION SURVEY
SCALE 1:5000 (CHARGEABILITY) MAP-1

APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG.
LATITUDE
LONGITUDE
PROJECT NO. 5261-1
REPORT NO.
SHEET NO.
OF
N.T.S. 82M/15E

RESISTIVITY

-92E. -93E. -94E. -95E -96E. -97E. -98E. -99 BASE LINE -100E. -101E. -102E. -103E. -104E. -105E.

L104N. L103N. L102N. L101N. L100N. L99N. L98N. L97N. L96N. L95N. L94N. L92N. L90N. L88N. L86N. L84N. L82N. L80N. L78N. L76N. L74N. L72N. L70N. L68N. L66N. L64N. L62N.

MAX 7 MAX 8 MAX 5 MAX 4 MAX 3 MAX 6

Intermittent trickle, stream
Claim line, claim post
Track, logging road

N

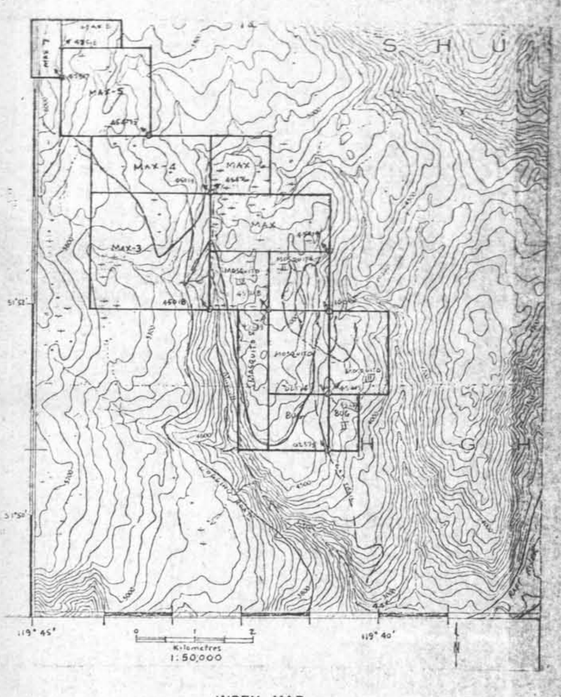
SCALE 1:5000
0 100 200 300 400 500 METRES

BRITISH COLUMBIA

Scale 1:250,000 or 1 Inch to 4 Miles approximately

Scale of Kilometres

LOCATION MAP



INDEX MAP

Instrumentation: Rx – Huntec Mk. 4
Tx – Phoenix I.P.T.–I

Array: Gradient
a = 50 metres
$c_1 - c_2$ = 3000 metres
c_1: L68N., L78N., L88N.; 80+00E.
c_2: L68N., L78N., L88N.; 110+00E.

Station Interval: 25 metres

Contour Interval: Logarithmic Ω metres

Line Spacing: 200 metres

Personnel: L. Stoliker, G. Moum, J. Wright, D. Windsor

Dates: July 2–15, 1980.

TO ACCOMPANY GEOPHYSICAL REPORT BY J.L. WRIGHT & D.C. MILLER DEC. 30, 1980

ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA

MAX CLAIMS, B.C.
RAFT RIVER AREA
INDUCED POLARIZATION SURVEY
(RESISTIVITY)

SCALE 1:5000 MAP-2

APPROX. LAT. & LONG. OF LOWER, RT. COR. OF DWG.
LATITUDE
LONGITUDE

PROJECT NO. 5261-1
REPORT NO.

DWG. NO. 82M/15E

L64N L66N L68N L70N L72N L74N L76N L78N L80N L82N L84N L86N L88N L90N L92N

90 E
91 E
92 E
93 E
94 E
95 E
96 E
97 E
98 E
99 E
100 E
101 E
102 E
103 E

Base Line

(-4)-5 5(6)

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8918

TO ACCOMPANY GEOPHYSICAL REPORT BY J.L. WRIGHT & D.C. MILLER DEC. 30, 1980

Instrumentation: Apex Max-Min II
Frequency: 3555 Hz.
Coil Separation: 50m.
Station Interval: 12.5m.
Line Spacing: 200m.
Profile Scale: 1cm. = 10%
I.P. ——————
O.P. - - - - - -
Personnel: D. Windsor, G. Moum
Survey Dates: June 28, 30, July 1, 1980

(-) I.P.	(+) O.P.
-5	4
-2	1
3	-2
4	-3

SCALE 1:2500
0 50 100 150 200 250 METRES

ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA

MAX CLAIMS, B.C.
RAFT RIVER AREA
HLEM. SURVEY-3555Hz.

SCALE: 1:2500 MAP-3

APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG.
° ' ° '
—·— LATITUDE
— — LONGITUDE

PROJECT NO. 526H
REPORT NO.
SHEET NO. — OF —
N.T.S. 82M/13E

L64N L66N L68N L70N L72N L74N L76N L78N L80N L82N L84N L86N L88N L90N L92N

90E 91E 92E 93E 94E 95E 96E 97E 98E 99E 100E 101E 102E 103E

Base Line

(-) | (+)
I.P. O.P.

Instrumentation: Apex Max Min II
Frequency: 888Hz.
Coil Separation: 50metres
Station Interval: 12.5metres
Line Spacing: 200metres
Profile Scale: 1cm = 10%
I.P. · — · — ·
O.P. x---x---x---
Personnel: D.Windsor, G.Moum
Dates: June 28, 30, July 1, 1980

SCALE 1:2500
0 50 100 150 200 250 METRES

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 8918

TO ACCOMPANY GEOPHYSICAL REPORT BY J.L. WRIGHT & D.C. MILLER DEC. 30, 1980

ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA

MAX CLAIMS, B.C.
RAFT RIVER AREA
H.L.E.M. SURVEY - 888Hz.

SCALE: 1:2500 MAP-4

APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG.
LATITUDE
LONGITUDE

PROJECT NO. 526-1
REPORT NO.

SHEET NO. ____ OF ____

N.T.S. 82M/13E

-92E. -93E. -94E. -95E -96E. -97E. -98E. -99 -100E. -101E. -102E. -103E. -104E. -105E.

BASE LINE

MAX 7

MAX 8

MAX 5

MAX 4

MAX 3

MAX 6

L 104 N.
L 103 N.
L 102 N.
L 101 N.
L 100 N.
L 99 N.
L 98 N.
L 97 N.
L 96 N.
L 95 N.
L 94 N.
L 92 N.
L 90 N.
L 88 N.
L 86 N.
L 84 N.
L 82 N.
L 80 N.
L 78 N.
L 76 N.
L 74 N.
L 72 N.
L 70 N.
L 68 N.
L 66 N.
L 64 N.
L 62 N.

Intermittent trickle, stream
Claim line, claim post
Track, logging road

N

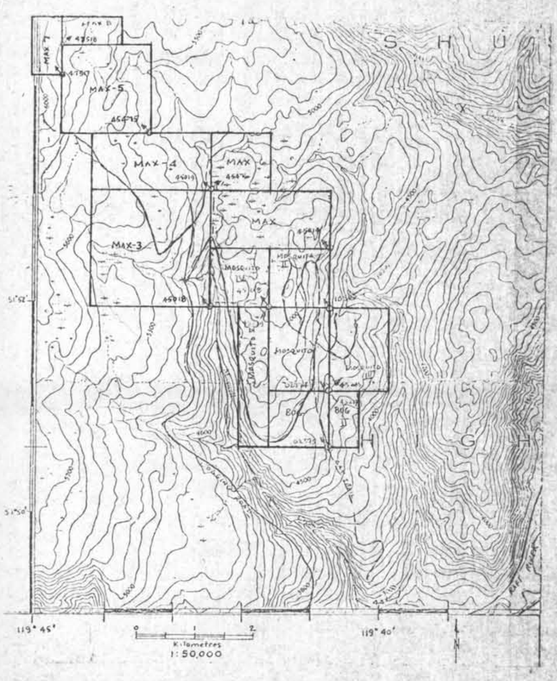
SCALE 1:5000
0 100 200 300 400 500 METRES

BRITISH COLUMBIA

Scale 1:250,000 or 1 Inch to 4 Miles approximately

Scale of Kilometres

LOCATION MAP



INDEX MAP

Instrumentation: Barringer GM-122 Magnetometer
Scintrex MBS-2 Base Station
Base Station Location: ★
Base Station Value: 58400 γ
Datum Subtracted: 58000 γ
Line Spacing: 200 m.
Station Interval: 25 m.
Contour Interval: 100 γ
Pesonnel: L. Stoliker
Survey Dates: June 28, 30 & July 1, 1980.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8918
NO.

TO ACCOMPANY GEOPHYSICAL REPORT BY J.L. WRIGHT & D.C. MILLER DEC. 30, 1980

ST. JOSEPH EXPLORATIONS LIMITED
TORONTO, CANADA

MAX CLAIMS, B.C.
RAFT RIVER AREA
MAGNETOMETER SURVEY

SCALE: 1:5000 MAP-5

APPROX LAT & LONG OF LOWER RT. COR. OF DWG. ° ' LATITUDE ° ' LONGITUDE	PROJECT NO. 5261-1	SHEET NO. of
	REPORT NO.	N.T.S. 82M/13E