Twin Peaks

812666

THE OMINECA JOINT VENTURE

FEB. 1971

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TABLE OF CONTENTS

A P P E N D I C E S

A. SMITHERS - BABINE NOTES

B. GROUND FOLLOW UP

C. I. P. TEST PROFILES

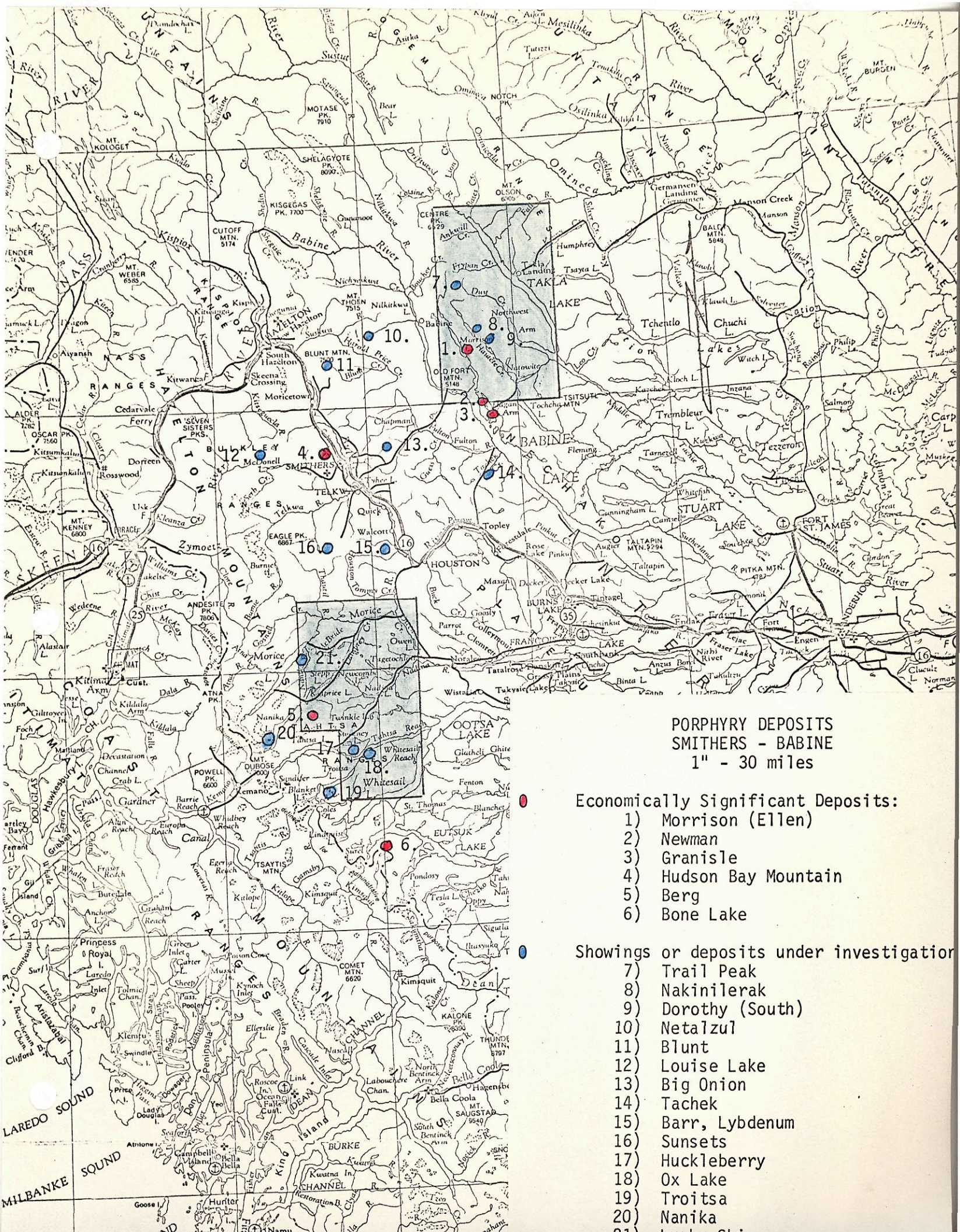
D. LEGAL AGREEMENT

THE OMINECA JOINT VENTURE
INTRODUCTION

Whitesail Mines and Twin Peak Mines, (public companies which the writer controls) and Ducanex Resources Limited initiated an exploration program in the Smithers area in 1970 involving both property work and grass roots prospecting. The program was managed by Evergreen Explorations, a private contracting company controlled by the writer. An expansion of this program is proposed by enlarging the syndicate membership to five with an anticipated annual contribution of fifty thousand dollars ($50,000) per member. With Whitesail-Twin Peak sharing one membership and Ducanex accepting the second, three new members are required.

During 1969, small selected drift covered areas adjacent to known porphry mineralization were investigated by helicopter mounted magnetic and electro-magnetic survey equipment. Test profiles were also flown over the commercial porphyry deposits of the district. Four properties were acquired in this manner, the DOROTHY, NETALZUL, BLUNT and JEANIE properties. One of the mag-complexes on the Dorothy Group was investigated by a ground reconnaissance mag-I.P.-radem-soil survey. The results indicated a possible porphyry environment which was verified by bulldozing. This significant copper-moly find is currently being diamond drilled. Similar follow-up ground surveys are planned for the Netalzul, Blunt and Jeanie properties.

During 1970, in partnership with Ducanex, the airborne reconnaisance program was expanded. An airborne mag unit was purchased and a start was made on the 2,000 line mile Babine Project. The area selected is believed to be the drift covered northern extension of the Babine Camp. Because of the extensive, although probably shallow cover, the reconnaissance stream sediment sampling geochemical programs previously conducted by other groups in the area were probably ineffective. The Dorothy Property lies within this area and is a good example of a porphyry deposit covered by twenty or thirty feet of till which effectively eliminates a strong stream sediment geochemical anomaly.



PORPHYRY DEPOSITS
SMITHERS - BABINE
1" - 30 miles

● Economically Significant Deposits:
1) Morrison (Ellen)
2) Newman
3) Granisle
4) Hudson Bay Mountain
5) Berg
6) Bone Lake

● Showings or deposits under investigation
7) Trail Peak
8) Nakinilerak
9) Dorothy (South)
10) Netalzul
11) Blunt
12) Louise Lake
13) Big Onion
14) Tachek
15) Barr, Lybdenum
16) Sunsets
17) Huckleberry
18) Ox Lake
19) Troitsa
20) Nanika
21) Lucky Ship

PROPOSED 1971 PROGRAM

The airborne mag program in the Babine Syndicate area will be continued. Magnetic complexes outlined by this survey will be investigated by reconnaissance ground geophysical and geochemical surveys similar to those conducted on the Dorothy Property in 1970. The description of this reconnaissance technique is enclosed in the appendix to this report.

A similar area of low relief adjacent to a concentration of known porphyry "copper-moly" occurrences has been selected in the Tahtsa Lake area about 70 miles south of Smithers, B. C. The porphyry occurrences are in the exposed areas in nearby hills and mountains. Although the area selected has been previously investigated by other groups, this work was probably primarily stream sediment sampling. The widespread cover in the area would effectively blanket most bedrock geochemical features. Therefore, a program of airborne mag followed up by ground geophysical and geochemical reconnaissance is required to effectively test the area.

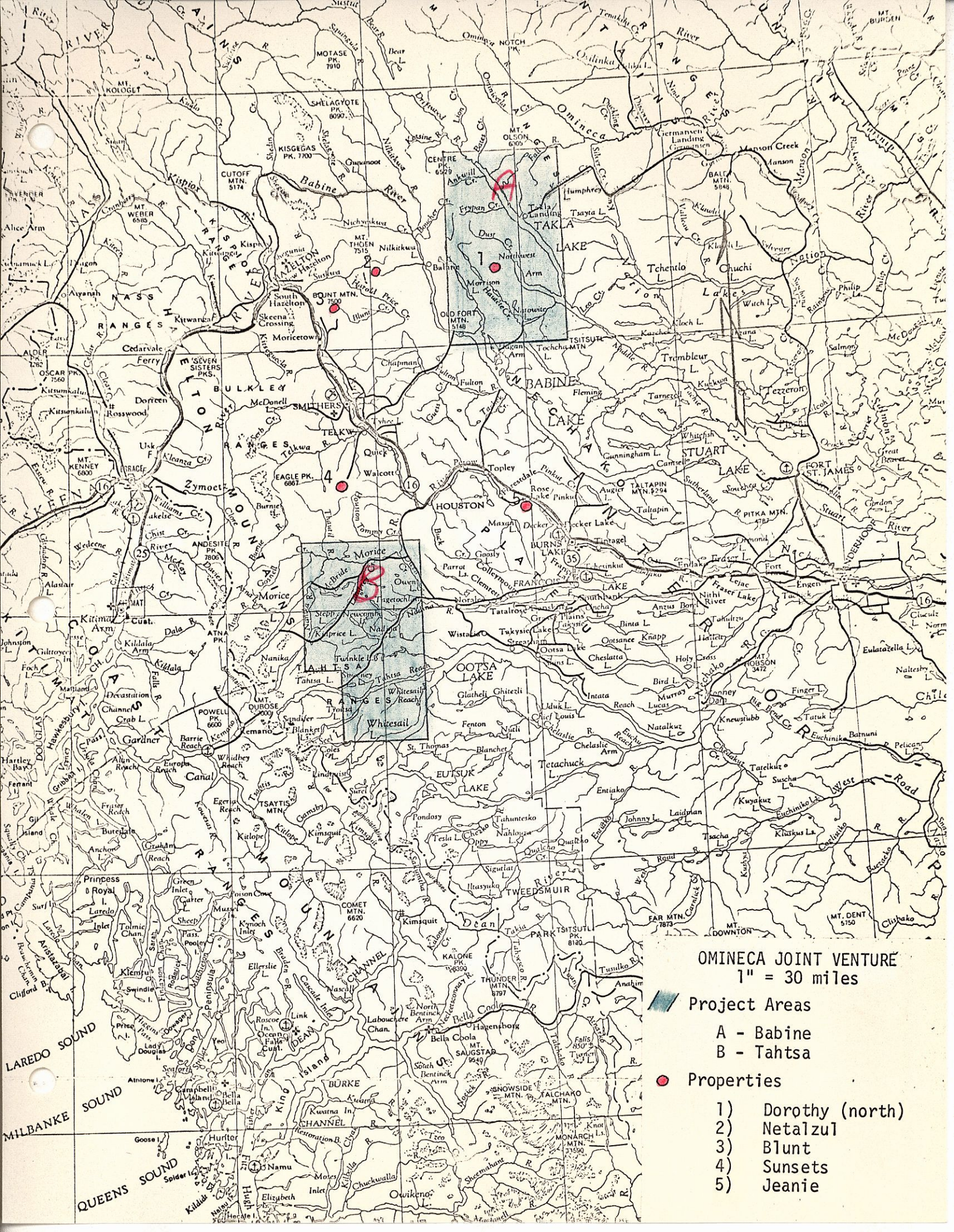
Several properties in the general Smithers-Babine Lake area are slated for work in 1971. Some of these properties contain known porphyry environments while others are interesting geophysical-geochemical expressions of possible porphyry mineralization.

Jeanie Property

Small Lower Tertiary subvolcanic acid plutons are the host rocks of all the known economically significant base metal deposits of the Smithers-Babine Lake area. The Jeanie Property, southeast of Topley, B. C., was acquired in 1969 following an airborne mag-E.M. survey in the vicinity of known Tertiary intrusives. In 1970, a ground magnetometer and soil sampling survey outlined an area of anomalously high copper values adjacent to a magnetic complex. An Induced Polarization survey and geological mapping is planned for 1971.

Netalzul Property

Netalzul Mountain, about 40 miles northeast of Smithers, B. C., is underlain by Hazelton sediments which have been intruded by granodiorite.


A
B
1
2
3
4
5
OMINECA JOINT VENTURE
1" = 30 miles
Project Areas
A - Babine
B - Tahtsa
Properties
1) Dorothy (north)
2) Netalzul
3) Blunt
4) Sunsets
5) Jeanie

The latter, in several places, shows molybdenite-chalcopyrite mineralization associated with quartz veining in a porphyry environment. An airborne-magnetic-electromagnetic survey outlined a possible porphyry environment on the drift covered flank of Netalzul Mountain about 2 miles south of the above noted mineral showing. Ground reconnaissance surveys are planned.

Blunt Property

This claim group is 30 miles north of Smithers, B. C. and shows evidence of copper-molybdenum mineralization associated with minor alteration both along the margins of a granodiorite pluton and with porphyry dykes within the pluton itself. An airborne-magnetic-electromagnetic survey indicated the presence of several anomalies which warrant ground investigation.

North Dorothy Property

A helicopter mag-E.M. complex was outlined in 1969. Ground reconnaissance in 1970 indicated an area of interest adjacent to a swampy lake about 17 miles north of the Newman deposit and about 2½ miles northeast of the recently discovered porphyry deposit on the Dorothy South property. On the North Dorothy, an I. P. complex coincides with an area of magnetic interest near the nose of a large regional magnetic feature which may be an expression of an outlier of the Omineca batholith.

Sunsets Property

A Tertiary pluton, about 22 miles south of Smithers in the Telkwa Range, has been fractured, hydrothermally altered, and mineralized with pyrite, magnetite, chalcopyrite, and molybdenite. Although surface samples from pits ran upwards of 0.5% MoS_2 about 2,000 feet of drilling has failed to intersect economic grades. Further mapping and correlation of existing data is required prior to drill testing the second of the two main quartz-sericite alteration zones.

APPENDIX A

SMITHERS - BABINE NOTES

SMITHERS - BABINE NOTES

(1) There are five economically significant porphyry deposits in the area: Newman, Granisle, Hudson Bay Mountain, The Berg, and Bone Lake.

(2) The Porphyry "environments" of three of the above noted deposits were naturally exposed in areas of moderate to steep relief. Only the Newman deposit was completely covered.

(3) The "blind" Newman deposit is also probably the highest grade (considering only Cu) due to secondary enrichment and lack of subsequent erosion.

(4) The three "exposed" porphyries were found by stream sediment sampling or conventional prospecting.

(5) Newman was found by a geophysical and to a lesser extent geochemical testing (August 1962) of a geological idea as follows:

   (a) An old Pb-Zn-Cu vein was naturally exposed immediately adjacent to a slightly rusty shear zone on the shore of Babine Lake about 1/2 a mile from the then undiscovered Newman deposit. Was this economically insignificant vein mineralization peripheral to a near-by porphyry?

   (b) The old showing was 5 miles from a known porphyry (Granisle) deposit. Porphyry deposits tend to occur in clusters.

   (c) To determine whether the vein was related to other adjacent but covered mineralization, the covered area immediately inland from the vein and along its strike projection was tested with a JEM survey. An en echelon series of conductors parallel to the vein strike was outlined.

   (d) A soil survey (1963) outlined a weak Cx copper high adjacent to the third conductor, which was about 1/2 a mile inland from the vein.

   (e) The Newman breccia pipe, which was immediately adjacent to the third conductor, was apparently the late phase result of sub-volcanic intrusion and mineralization at the junction of two shatter zones in the centre of Newman Peninsula. One

of the shear structures was intensely pyritized which accounted for the JEM response. This pyritized shatter zone also contained the vein deposit on the shore of Babine Lake.

(6) The Newman deposit, to the writer's knowledge, is the only one in the area with a significant secondary zone. Although many exotic copper minerals are present, bornite is the most abundant secondary mineral and is present to a depth of 500 feet where the secondary zone abruptly stops. It is significant that Newman, which is in a relatively flat area close to lake level, is enriched whereas the Granisle deposit, which was exposed naturally as a stained talus slope on a prominent hill was not significantly enriched.

(7) Many large-scale regional stream sediment sampling programmes have been carried out over the past 10 years resulting in the discovery of most of the exposed porphyries. The remaining undiscovered porphyries probably share the following characteristics:

(a) A boulder till blanket of 10 to 100 feet which drastically reduces or entirely eliminates a geochemical expression;

(b) Secondary biotite alternation with associated disseminated magnetite resulting in a

(c) Moderate associated mag high on the ground and a magnetic "complex" from the air;

(d) A greater possibility of secondary enrichment because of their location in flat drift covered areas which may have escaped some of the glacial erosion of the Pleistocene.

(e) Fairly intense pyritization resulting in

(f) A moderate to strong induced polarization anomaly and sometimes (if the pyrite is massive enough),

(g) An EM response on the ground and from a helicopter mounted 4000 cps in phase out of phase system.

The writer has test flown Hudson Bay Mountain, the Morrison Lake deposit, Newman, and Granisle with Lockwoods' helicopter mounted mag-EM system. A characteristic mag-EM "complex" was located in

each case. About 1500 line miles of subsequent flying revealed that this type of complex does not reflect many non-porphyry phenomena so that it is an effective method of selecting targets. However, it is geologically quite likely that a porphyry will be found which does not have an associated weak conductor whereas the probability of a porphyry without secondary biotite and associated disseminated magnetite is extremely remote.

(8) Based on the above description of the characteristics of the Smithers-Babine porphyries and the history of exploration work to date in the area, it appears obvious to the writer that the next deposits will be found by groups with the ability and tenacity to use geology and geophysics to test the low lying covered areas. The approach should include:

(a) The selection of covered areas adjacent to known porphyries and

(b) The selection of covered areas structurally (and therefore possibly geologically) similar to the Babine structure,

(c) The testing of these areas initially by low level helicopter mag. (Some helicopter mag-EM may be warranted in areas of extreme magnetic background.)

(d) Ground follow-up of all (even remotely) significant airborne complexes by:

(i) induced polarization with min. 200 ft. penetration,

(ii) ground mag,

(iii) ground VLF-EM (which is very helpful in distinguishing IP anomalies due to graphite),

(iv) and soil and stream sediment sampling in case the plumbing does daylight.

APPENDIX B

GROUND FOLLOW UP

GROUND FOLLOW UP

A reconnaissance technique was evolved to include four separate surveys conducted simultaneously. The heart of the technique is a portable battery powered "Sabre" Induced Polarization unit. Test profiles over the Newman porphyry copper deposit at Babine Lake (see Appendix B) suggest penetration capabilities of close to 400 feet.

The 500 watt transmitter and receiver are housed in a single 40 lb unit which is strapped to a pack board. A 400 foot Wenner array is used (see diagram, lower left, of Newman Test profiles) resulting in four men each 400 feet apart with one man carrying most of the equipment and taking all the I.P. readings. Each time a reading is taken, everyone moves 400 feet to the next station. In order to better utilize the three helpers, who are required only to set electrodes, one helper runs a magnetometer, one takes soil samples, and one runs a V.L.F.-E.M. The line is flagged by the leading helper who runs the compass and, since the wire lengths remain constant (everyone changes stations simultaneously), they are used to keep chainage.

The technique works well in moderately open bush. Some of the first lines on the Dorothy Property were run in this fashion. However, cut lines are often required before the long lengths of I.P. wire can be dragged through the bush. In addition, when an area of significance has been indicated, it is often wise to convert to separate surveys. This is especially desirable for the mag survey since it is so much faster when run independently and the diurnal errors are reduced if an operator is able to tie into the base line more frequently. Also, detailed I.P. coverage and especially careful electrode preparation are desirable in areas of interest.

APPENDIX C

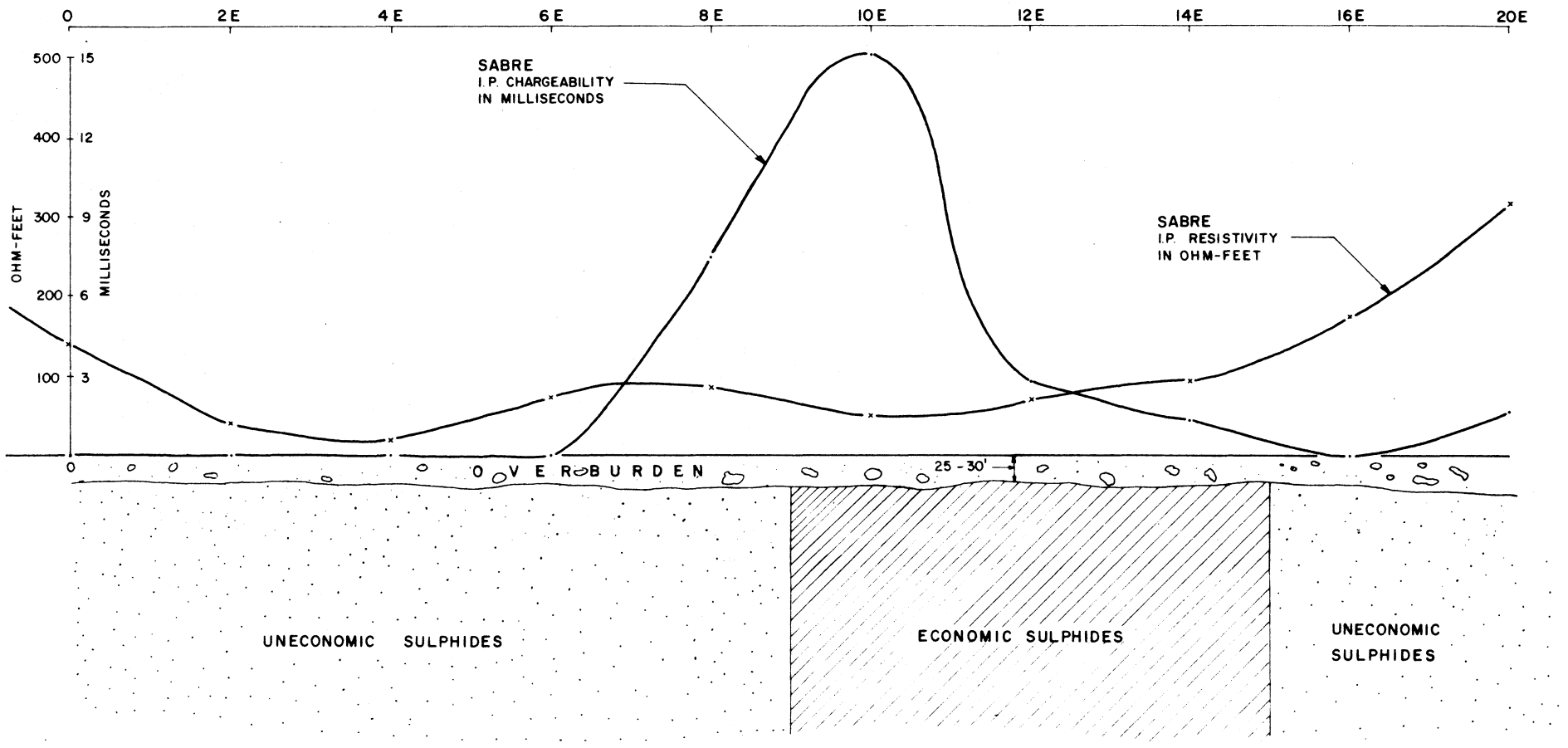
I. P. TEST PROFILES

INDUCED POLARIZATION:

The Sabre Portable Pulse Type instrument is a 500 watt unit capable of 3 or 4 hundred foot penetration as shown on the accompanying profiles. Very little reduction in anomaly intensity was noted over the northern limb of Noranda's Newman ore body, where it is covered by 100 feet of glacial till.

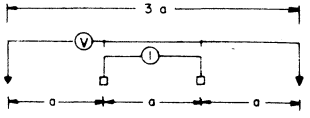
Because of its light weight, the "Sabre" is ideal for reconnaissance work. Using a 400 foot Wenner array, Radem (V.L.F./E.M.), and Magnetometer readings can be taken, soil samples collected, and the chargability and resistivity determined by a 4 man crew simultaneously in open bush without pre-existing lines. Cut lines are necessary only in areas of high magnetic intensity where it is impossible to maintain a straight line by compass.

The "SABRE" at NEWMAN



INSTRUMENT

SABRE - PORTABLE PULSE TYPE
500 WATTS a = 400' WENNER ARRAY



NOTE:

GEOLOGICAL DATA COURTESY OF NORANDA EXPLORATION Co. LTD.

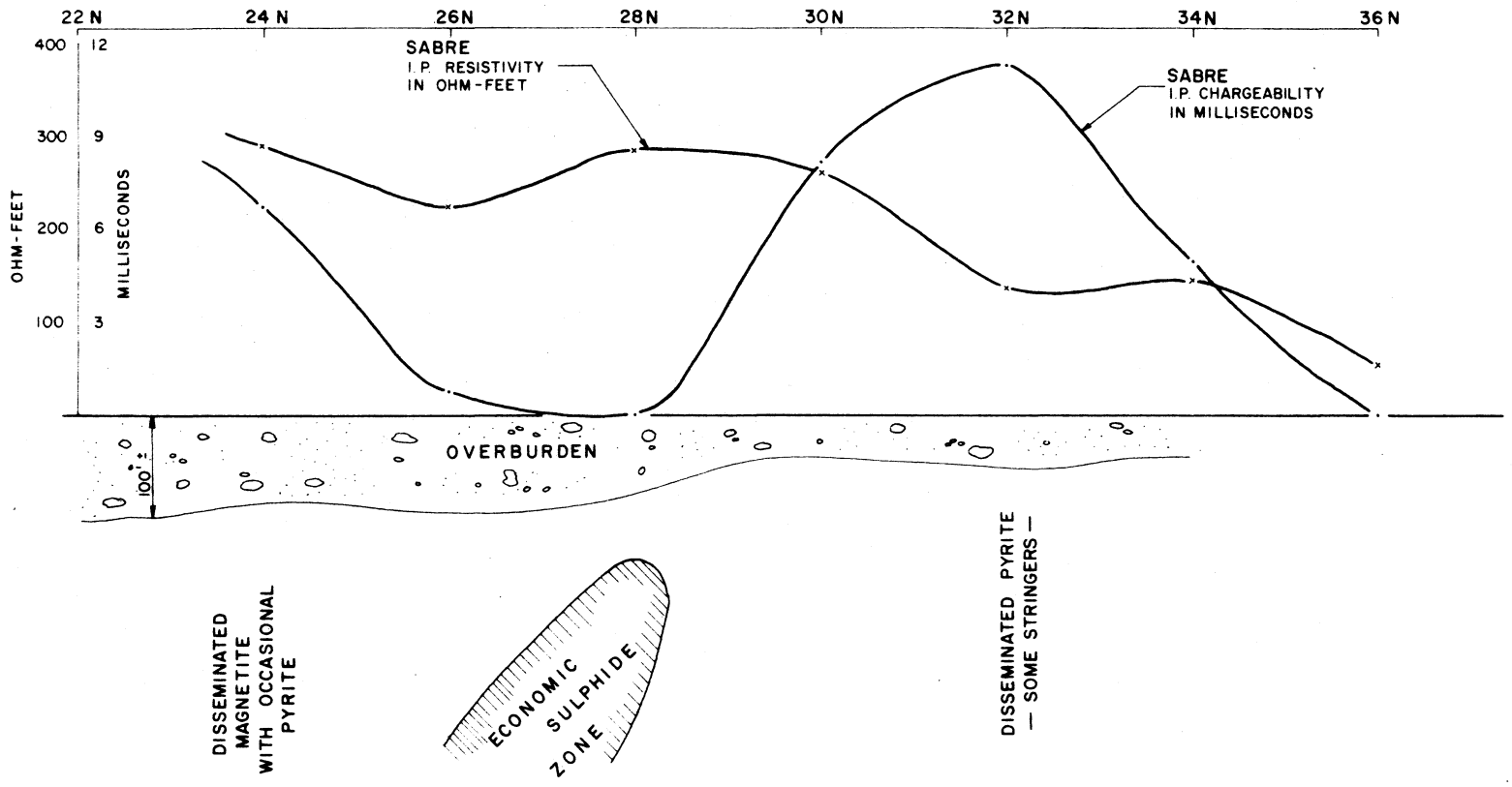
LINE 20 N

NEWMAN PROPERTY

AT

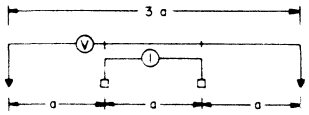
BABINE LAKE, B.C.

Evergreen Explorations Ltd.



INSTRUMENT

SABRE - PORTABLE PULSE TYPE
500 WATTS a = 400' WENNER ARRAY



NOTE

GEOLOGICAL DATA COURTESY OF
NORANDA EXPLORATION Co. LTD.

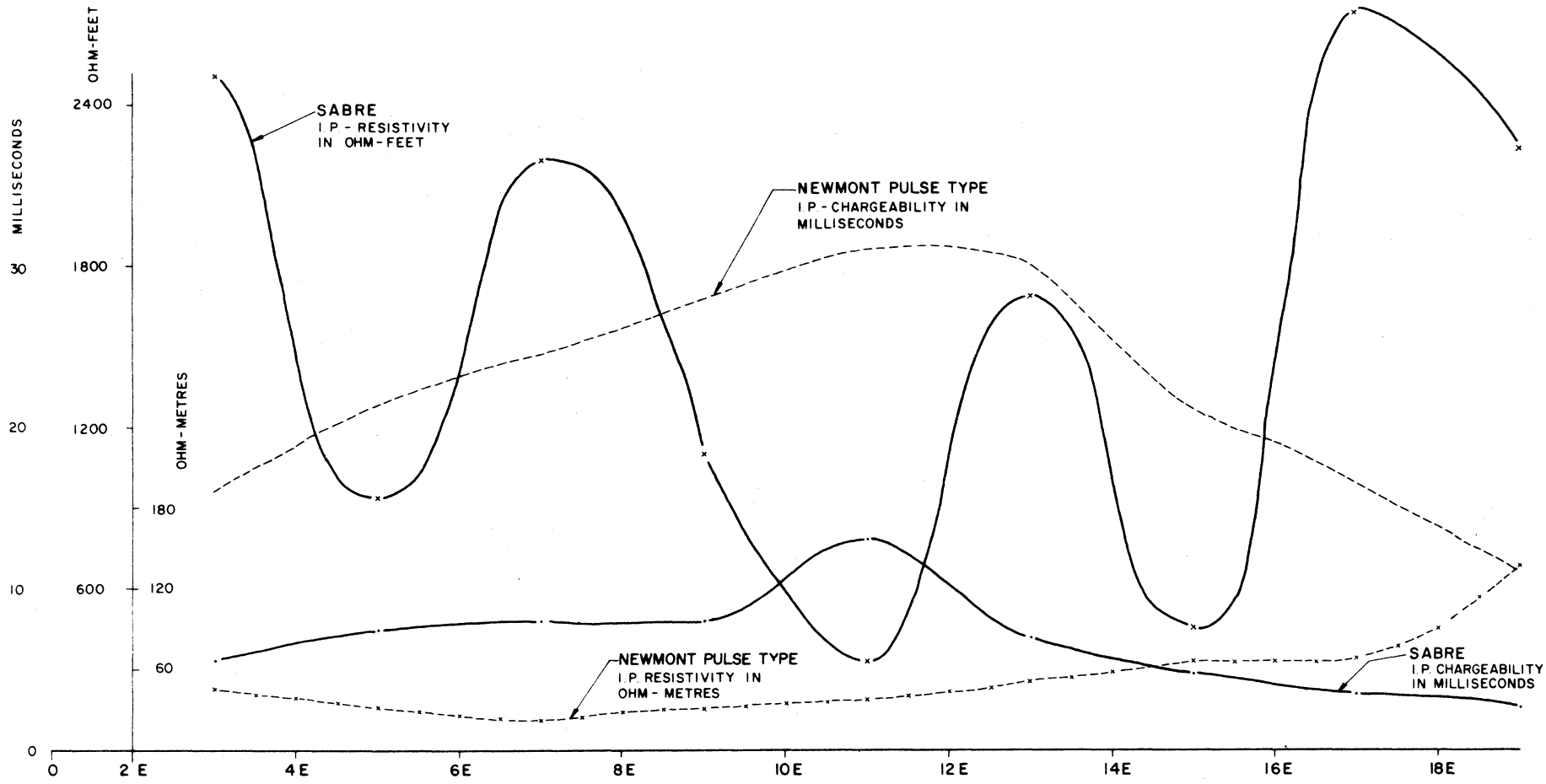
LINE 25 E

NEWMAN PROPERTY

AT

BABINE LAKE, B.C.

Evergreen Explorations Ltd.



INSTRUMENTS:

SABRE - PORTABLE PULSE TYPE
500 WATTS a = 200' WENNER ARRAY

NEWMONT - PULSE TYPE
7500 WATTS n = 1, a = 200' POLE-DIPOLE

NOTE

SURVEY PERMISSION COURTESY OF
CYPRUS EXPLORATION CORPORATION LTD.

LINE 16 N

BIG ONION PROSPECT

AT

SMITHERS, B.C.

Evergreen Explorations Ltd.

APPENDIX D

LEGAL AGREEMENT

LEGAL AGREEMENT

WHEREAS

A. The Participants will, during 1971, conduct a mineral exploration program in two project areas in the Omineca Mining Division of British Columbia as outlined below and may option and prospect claims as directed by the Management Committee.

B. The Participants have defined the project areas as follows:

Area "A" by a line joining

55° 45'	north	125° 45'	west	to
55° 45'	"	126° 15'	"	to
55° 00'	"	126° 15'	"	to
55° 00'	"	125° 45'	"	to
55° 45'	"	125° 45'	"	to

Area "B" by a line joining

54° 15'	north	127° 30'	west	to
53° 45'	"	127° 30'	"	to
53° 45'	"	127° 15'	"	to
53° 30'	"	127° 15'	"	to
53° 30'	"	126° 45'	"	to
54° 15'	"	126° 45'	"	to
54° 15'	"	127° 30'	"	

C. The Participants wish to participate in the aforesaid mineral exploration program and in a possible continuing program on the basis hereinafter set out:

WITNESSETH that for valuable consideration and the mutual covenants and promises herein exchanged, the Participants covenant and agree each with the other as follows:

1. The Participants agree to participate equally in the said mineral exploration program and to share all expenses and benefits, if any, equally as hereinafter provided. This agreement provides for a joint venture not a partnership between the participants.

2. The joint venture provided for herein is a continuing venture which shall terminate only upon completion of the purposes of the venture. The obligations or liabilities (except such as have been accrued prior to the withdrawal hereinafter provided for) of each of the Participants shall not extend beyond the date of withdrawal. Any Participant may withdraw at any time after December 31, 1971, provided however that no Participant shall withdraw during the period May 1 through October 31 in any year.

3. The Participants agree that Whitesail, pursuant to the directions of the Management Committee hereafter provided for, will administer and direct all exploration in the program area and shall stand possessed, either directly or through its nominee, of all properties acquired or to be acquired pursuant to this Agreement for the Participants as their interests may from time to time exist.

4. The Participants other than Ducanex and Whitesail agree to share with Ducanex and Whitesail their expenses to date with respect to this project and to reimburse Ducanex and Whitesail promptly after executing this Agreement their respective shares of said expenses. Expenses paid have amounted to ?

5. So long as this joint venture is operating in the program area the Participants agree to refrain from any operations of their own therein without the prior written consent of all the Participants. A Participant may acquire an interest in claims, except by staking, within project areas, only after the said interest has been offered to and been refused by the management committee for the joint venture. The terms of the offer made to the joint venture must be identical with those made to the Participant. A Participant may not stake within 2 (two) miles of any of the boundaries of the program areas or optioned claim groups.

6. It is agreed that the 1971 program will not exceed a cost of $250,000 (inclusive of the costs in clause 4 above) and that Whitesail will call for funds for the program and each of the Participants agrees to pay their respective equal shares as follows:

On signing	-	$10,000
May 1st	-	$10,000
June 1st	-	$10,000
July 1st	-	$10,000
August 1st	-	$10,000

No further obligations shall be incurred or contributions required except as hereinafter provided in clauses 16 and 17. It is further provided that Whitesail, as manager, may terminate or curtail the program at any time during 1971 after $225,000 has been expended or committed when in its sole judgment it appears likely that expenditures in excess of $250,000 may be incurred, unless said excess expenditures are specifically approved by a unanimous vote of the Management Committee (as hereinafter provided for) which vote shall be binding on all Participants.

7. Each Participant will appoint one representative from time to time and the representatives so appointed will form a Management Committee (hereinafter called the "Committee").

(a) At Committee Meetings each representative shall have a weighted vote proportionate to the interest held by his principal and he shall be fully empowered to act, for and on behalf of the Participant appointing him, in all matters relating to the program.

(b) Each Participant will appoint an alternate representative from time to time to act in the absence of its regular representative.

(c) Committee decisions may only be made by a majority vote of the Participants unless otherwise specified. A quorum of the Committee shall not be deemed to exist at any meeting at which less than three of the Participants are represented. A written consent to any decision from

a Participant unable to be represented at a meeting shall be deemed a valid vote and to be a representative present for quorum purposes.

(d) The Committee shall formulate its own rules for calling and conducting meetings. Reasonable notice of any meeting and of the business to be transacted shall be given all Participants and their representatives.

(e) Any Participant who withdraws from this joint venture shall not be entitled to representation on the Committee from the date of such withdrawal.

8. The Committee will be responsible for the planning of the program, acquisition or sale of mineral claims, the approval of all expenditures, and the general magement of all activities.

9. Whitesail, as manager for the Committee, shall provide monthly statements of expenditures for approval by the Committee and shall include such charges as may be involved in rendering accounting services either by its own staff or by others and in providing Workmen's Compensation, Unemployment Insurance, and other customary insurance. Whitesail will render a final accounting at the end of each season.

10. The Participants other than Whitesail in its capacity as manager shall not charge to the program any salaries or expenses without the prior approval of the Committee.

11. At monthly intervals and upon completion of the 1971 exploration program, Whitesail will present each of the Participants with reports describing the work done and will at all reasonable times make available to each of the Participants all maps, surveys, assay results and other information relating to the program area.

12. The Participants shall not dispose of any part of their interest under this Agreement to any person, firm, or corporation (other than to a parent or associated company of the respective Participant) without first offering the same in writing for at least thirty (30 days) to the other

Participants proportionately at the same price and on the same terms on which the Participant proposes, in good faith, to sell elsewhere. If any such proposed sale is not completed within at least thirty (30) days after the expiration of the said period of thirty (30) days the Participant shall not have the right to dispose of such interest again without first offering the same to the Participants as above provided. For the purpose of this Agreement, the following are deemed to be Associated Companies;

1. Whitesail Mines N.P.L. Ltd. and Twin Peak Mines Ltd.
2. Lacanex Mining Company Limited and Ducanex Resources Limited

All offers, rejections and acceptances shall be made in writing provided that failure to give notice of acceptance shall be deemed to be a rejection of the offer.

13. The Participants will use their best efforts to insure that no information in any way related to the program is revealed to anyone unless authorized by the Committee or unless required by law or regulation.

14. The Committee may transfer all or any part of the properties evolving from the program or subsequent continuing program to a new company or other legal entity to own, explore and develop such properties.

15. After deducting any vendors' or optionors' interest in any properties acquired, the remaining interest in such properties shall belong to the Participants equally, subject to the provisions of paragraph 16 and 17.

16. It is intended to expend the original $250,000 in the primary exploration of the program areas within the 1971 field season. Any finds made will not be investigated beyond the usual preliminary stage of stripping, sampling, checking with geochemical or geophysical instruments, or limited drilling or bulldozing to indicate the presence of economic mineralization. On completion of the 1971 season (and each succeeding season) the Participants shall determine whether to continue the joint venture in order to provide for additional exploration or development or to dissolve the joint venture. After a decision is made to continue the joint venture, the Committee shall decide

all questions with respect to subsequent development of any property in the program area except that the estimated cost of each season must be submitted by the Committee to each Participant prior to December 1 in each year. Each Participant then either agrees to contribute its proportion of the proposed budget or withdraws from the joint venture by January 1 of the same year. If any Participant shall withdraw from the joint venture, such Participant shall have no interest in this joint venture, shall have no interest whatsoever in any properties developed by the joint venture in the program area, and shall be deemed to have waived any rights to further participation with the joint venture in any properties in the program area.

17. The Committee may at any time recommend subsequent development of one or more properties within the program area and formation of a company or other legal entity to carry on such development, and in such case the then Participants may decide to effect such development in such manner only upon unanimous consent. Formation of such company for such development shall not operate to terminate this joint venture unless otherwise agreed by the then Participants. The initial interest of the Participants in any such company or entity, after allowing for interest in clause 15, shall be in proportion to the then current interests of the Participants in the property to be explored.

18. On abandonment of development of any property an effort will be made to sell the same and the net proceeds after payment of all expenses will be shared pro-rata by the Participants therein. This shall likewise apply should all properties be abandoned or this joint venture terminated. Any Participant may, if it elects, abandon its interests in any property but any such abandonment shall not affect its accrued rights and liabilities.

19. In the event any dispute arises between the Participants or any of them with regard to any matter not otherwise provided for, then the dispute shall be referred to a single arbitrator who shall proceed to hear and determine the matter in dispute in accordance with the provisions of the Arbitration Act of the Province of British Columbia.

20. The obligations of the Participants shall be several and not joint and each of the Participants shall be responsible only for the share of the obligations and liabilities of the undertaking which may properly be allotted to each of the Participants as herein specified.