GEOLOGICAL REPORT
ON THE
SANTANA MINERAL CLAIMS

NTS 92K/3E
50°11' North Latitude
125°10' West Longitude

- Prepared for -

LONSDALE CAPITAL CORPORATION

- Prepared by -

C.K. IKONA, P.Eng.

July, 1989

GEOLOGICAL REPORT on the SANTANA MINERAL CLAIMS

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

Lonsdale Capital Corporation has an option to acquire 100% of the Santana mineral claim group located on Quadra Island in British Columbia. The claims contain a copper mineral prospect with minor gold and silver values. The occurrence has been traced for some 250 metres of strike length with reported widths varying up to 10 metres.

This report is intended to summarize the known information on the project and recommends a two stage exploration project on the property totalling $100,000.

The writer examined the property on June 15, 1989.

2.0 LIST OF CLAIMS

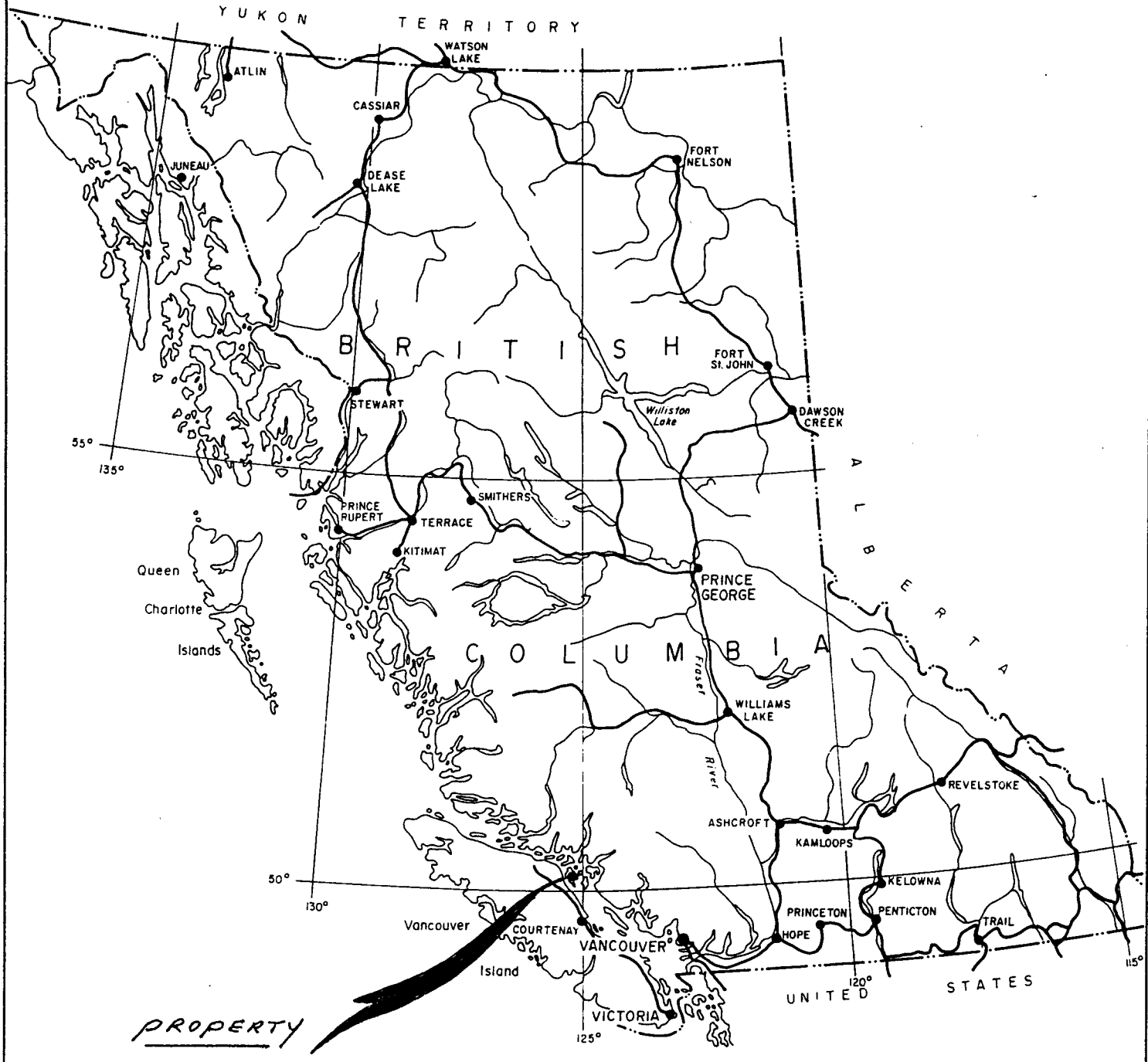
The property consists of 10 reverted Crown granted two post mineral claims as listed below.

Claim Name	Record Number	Expiry Date	Owner of Record
Santana 1-5 incl.	2735-2739 incl.	July 23, 1989	D. Javorsky
Gem	2740	July 23, 1989	D. Javorsky
Bonanza	2741	July 23, 1989	D. Javorsky
Santana 6-8 incl.	2882-2884 incl.	March 1, 1992	Dollie E. Johnson

3.0 LOCATION, ACCESS AND PHYSIOGRAPHY

The property is located in the Bold Point area near the east coast of Quadra Island (Figure 2).

Access to the claims is by the Quadra Island ferry from Campbell River to Quathiaski Cove, a paved secondary road for some 10 kilometres through the village of Herrot Bay and then by good gravel roads for some 13 km to the



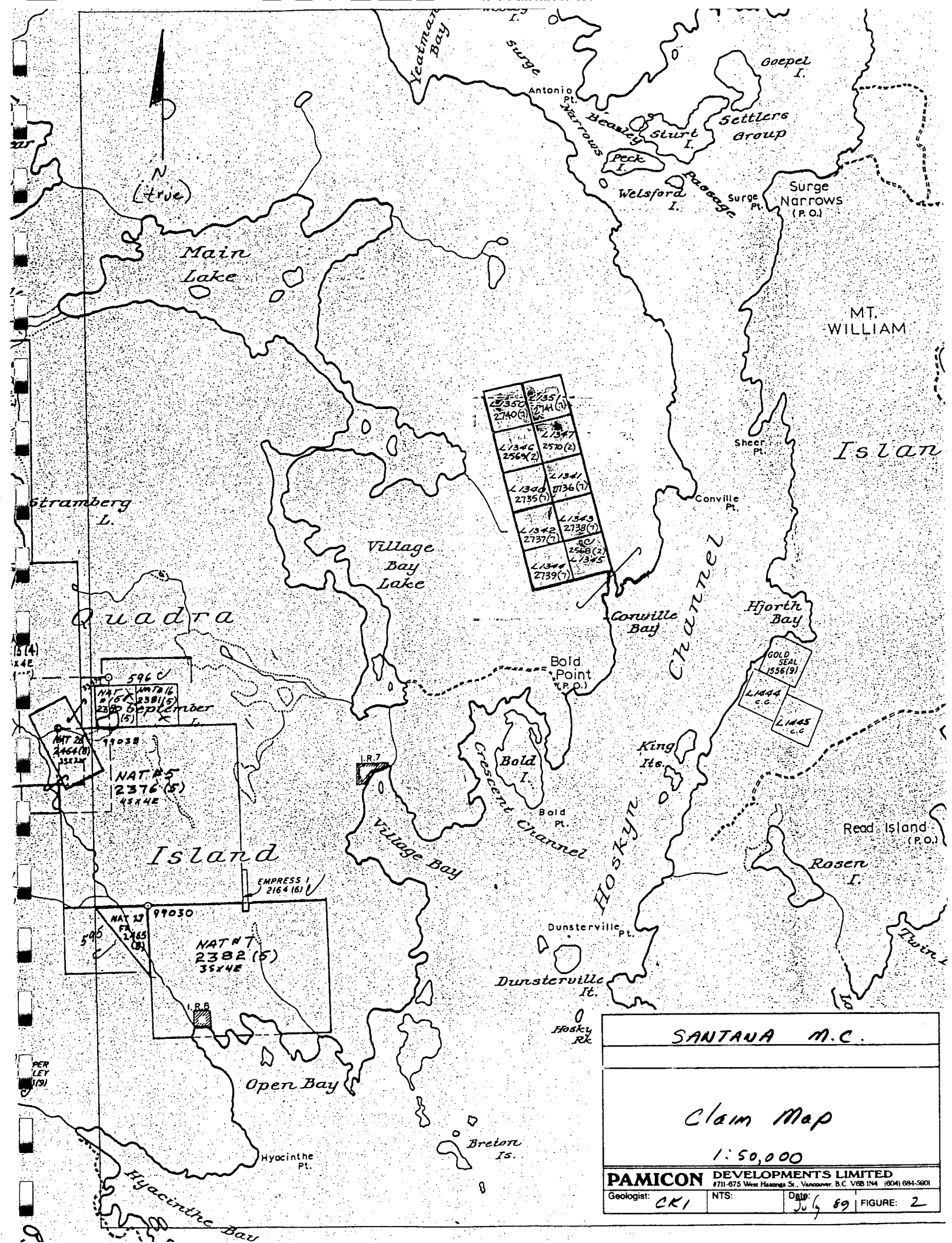
SANTANA 1-10 M.C.

PROPERTY LOCATION MAP

0 100 200 MILES
0 100 200 300 KILOMETRES

PAMICON DEVELOPMENTS LTD.

DRAWN	PROJECT	DATE	FIG.
CKI		July 89	1



SANTANA M.C.

Claim Map

1:50,000

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#711-675 West Hastings St., Vancouver, B.C. V6B 1N4 (604) 684-5801

Geologist: CKI	NTS:	Date: July 89	FIGURE: 2

property. Overgrown 4 wheel drive roads exist in the area of the mineralization which could be opened at moderate expense.

Campbell River offers most facilities required for project support.

Elevation of the property is approximately 200 metres asl with topography moderate to rugged in areas.

The area of claims has been logged at one time. Vegetation now consists of mature alders and immature coniferous trees with salal groundcover.

4.0 HISTORY

Mineralization was discovered on the property in 1916 or 1917. At that time the original owners conducted trenching and drove several adits on the property. A shipment of ore from the vicinity of one of these adits was made to the A.S. & R. smelter at Tacoma which reportedly was 174 tons of 4.5% Cu and some 0.2 oz of gold. this material was most probably hand sorted on site.

In 1929 and 1930 the property was controlled by the Santana Copper Syndicate which was promoted by the then existing brokerage firm of J.M. Taylor & Co. of Vancouver. Apparently little work on the property was accomplished.

The next reported work on the property was in 1964 when a program under the direction of Mr. R. Renshaw, P.Eng. was conducted. This consisted of some surface work and four diamond drill holes totalling some 2,500 feet. High grade intersections from this drilling are not reported although some indication of extensive disseminated copper mineralization in the quartz diorite hanging wall material is referred to in a memo by H.L. Coons, P.Eng. dated January 7, 1970.

The present owners of the property assembled the reverted Crown grants in 1987 and 1988 and have subsequently performed minor assessment work consisting of prospecting and resampling of some of the old trenches.

5.0 REGIONAL GEOLOGY

The Santana claims are situated approximately 6 to 7 kilometres east of the Insular Tectonic Belt and Coast Crystalline Plutonic Complex boundary. The Coast Plutonic Complex is defined as a plutonic and metamorphic terrane extending through western British Columbia (mainly along the Coast Mountains) from northern Washington State to the Alaska-Yukon boundary.

Diorite and quartz diorite are the predominant intrusive compositions along the western edge of the complex versus biotite-bearing granodiorite and quartz monzonite along the eastern margin. Potassic-rich, hornblende-bearing granodiorite, quartz monzonite and granite predominate in the interior belt.

The Insular Textonic Belt began in Upper Triassic continuing into Upper Jurassic and persisting in modified form through much of Lower Cretaceous, submarine and island volcanics spewed vast quantities of andesitic lava and pyroclastic debris that interfingered with and merged into clastic and some carbonate sediments derived from nearby and more distant continental sources.

The oldest rocks within the Insular Belt consist of 8,000 to 10,000 feet of Sicker Group altered basalt flows, breccias and tuffs of Permian age with greywacke, argillite and chert. These are overlain by 1,000 feet of Early Permian crinoidal and cherty limestone and argillite. Following in mid-Triassic to mid-Karnian time, 10,000 feet of Karmutsen Formation sodic basalt flows were subsequently laid down. From late Triassic to early Jurassic 400 to 3,000 feet of Quatsino and Kunga Formation limestone weredeposited over the area. Also in the late Triassic, Bonanza Formation consisting of explosive eruptions of porphyritic andesite agglomerate and tuffs was distributed over the south parts of Vancouver Island. Into mid-Jurassic times, Yakoun Forma-

LEGEND

SEQUENTIAL LAYERED ROCKS

	PERIOD		STAGE	GROUP	FORMATION	SYMBOL	AVERAGE THICKNESS (m)	LITHOLOGY
CENOZOIC			late Tert. volc's of Port McNeill			Tvs		
					SOOKE BAY	mpTSB		conglomerate, sandstone, shale
			EOCENE to OLIGOCENE		CARMANAH	eoTc	1,200	sandstone, siltstone, coglomerate
					ESCALANTE	eTE	300	conglomerate, sandstone
			early EOCENE		METCHOSIN	eTM	3,000	basaltic lava, pillow lava, breccia, tuff
MESOZOIC		LATE	MAESTRICHTIAN		GABRIOLA	uKGA	350	sandstone, conglomerate
					SPRAY	uKS	200	shale, siltstone
					GEOFFREY	uKG	150	conglomerate, sandstone
					NORTHUMBERLAND	uKN	250	siltstone, shale, sandstone
			CAMPANIAN	NANAIMO	DE COURCY	uKDC	350	conglomerate, sandstone
					CEDAR DISTRICT	uKCD	300	shale, siltstone, sandstone
					EXTENSION - PROTECTION	uKEP	300	conglomerate, sandstone, shale, coal
					HASLAM	uKH	200	shale, siltstone, sandstone
			SANTONIAN		COMOX	uKC	350	sandstone, conglomerate, shale, coal
			CENOMANIAN	QUEEN	conglomerate unit	lKqc	900	conglomerate, greywacke
		EARLY	ALBIAN APTIAN?	CHARLOTTE	siltstone shale unit	lKqp	50	siltstone, shale
			VALANGINIAN BARREMIAN		LONGARM	lKL	250	greywacke, conglomerate, siltstone
	JURASSIC	LATE MIDDLE	TITHONIAN CALLOVIAN		Upper Jurassic sediment unit	uJs	500	siltstone, argillite, conglomerate
		EARLY	TOARCIAN? PLIENSBACHIAN SINEMURIAN	BONANZA	volcanics	lJB	1,500	basaltic to rhyolitic lava, tuff, breccia, minor argillite, greywacke
					HARBLEDOWN	lJH		argillite, greywacke, tuff
			NORIAN		PARSON BAY	uR PB	450	calcareous siltstone, greywacke, silty-limestone, minor conglomerate, breccia
	TRIASSIC	LATE	KARNIAN	VANCOUVER	QUATSINO	uRQ	400	limestone
					KARMUTSEN	muRK	4,500	basaltic lava, pillow lava, breccia, tuff
		MID	LADINIAN		sediment - sill unit	TRds	750	metasiltstone, diabase, limestone
PALEOZOIC					BUTTLE LAKE	CPBL	300	limestone, chert
	DEV. or PENN. and EARLIER? PERM.			SICKER	sediments	CPSs	600	metagreywacke, argillite, schist, marble
					volcanics	CPSv	2,000	basaltic to rhyolitic metavolcanic flows, tuff, agglomerate

CRYSTALLINE ROCKS, COMPLEXES OF POORLY DEFINED AGE

NAME	SYMBOL	ISOTOPIC AGE Pb/U	ISOTOPIC AGE K/Ar	LITHOLOGY
silicic	Tg		32-59	quartzdiorite, trondhjemite, agmatite, porphyry
SOOKE INTRUSIONS basic	Tgb		31-49	gabbro, anorthosite, agmatite
METCHOSIN SCHIST, GNEISS	Tmn		47	chlorite schist, gneissic amphibolite
LEECH RIVER FM.	JKL		38-41	phyllite, mica schist, greywacke, argillite, chert
PACIFIC RIM COMPLEX	JKP			greywacke, argillite, chert, basic volcanics, limestone
ISLAND INTRUSIONS	Jg		141-181	granodiorite, quartzdiorite, granite, quartz monzonite
WESTCOAST silicic	PMns	264	163-192	quartz-feldspar gneiss metaquartzite, marble
COMPLEX basic	PMnb			hornblende-plagioclase gneiss, quartz diorite, agmatite, amphibolite
diabase sills	P?b			
limestone	Ls			
metavolcanic rocks	PMmv			metavolcanic rocks, minor metasediments, limestone, marble
TYEE INTRUSIONS	Pg	>390		metagranodiorite, metaquartzdiorite, metaquartz porphyry
COLQUITZ GNEISS	Pns	>390		quartz feldspar gneiss
WARK DIORITE GNEISS	Pnb		163-182	hornblende-plagioclase gneiss quartz diorite, amphibolite

project area

N

SANTANA M.C.

Regional Geology
G.S.C. O.F. 463 (Muller 1977)
1: 250,000

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Geologist:	NTS:	Date: July 89	FIGURE: 3

tion explosive volcanism similar to earlier Bonanza Formation took place. Mid-Jurassic to Early Cretaceous was a period of general non-deposition with abundant sediment formation.

The latest significant volcanic event occurred during Early Tertiary time. At the southern tip of Vancouver Island, 7,500 feet of Eocene submarine pillow basalts (Metchosin Formation) occur while on the Queen Charlotte Islands an extensive 18,000 foot thick sequence of mostly subaerially columnar basalt flows and breccias and rhyolitic ash flows (Masset Formation) continued from the Paleocene into the Eocene.

The latest significant sedimentary event occurred in late Tertiary time with the deposition on eastern Graham Island and western Vancouver Island of sandstone, conglomerate and shale.

Regional geology is presented in Figure 3 of this report (GSC Open File 463, Muller 1977).

6.0 PROPERTY GEOLOGY

The property appears to be underlain by two rock units. To the west is a quartz diorite intrusive not mapped by Muller (1977) but possibly part of the Island Intrusive complex of Jurassic age. This unit is in contact on the east with a thinly interbedded grey limestone-calcareous shale unit which would appear to correlate to the Parsons Bay Formation of Triassic age. This unit has a general north-south strike dipping 75° to 85° to the west.

Mineralization noted on the property to date appears to be associated with the contact between these formations. Previous authorities, notably reports of the Minister of Mines (1916, 1920 and 1929) classify the mineralization as a metasomatic type deposit with the mineralization occurring within skarnification along the contact. During the writer's examination, however, only a minor amount of skarn mineralization was noted and most of the copper mineral-

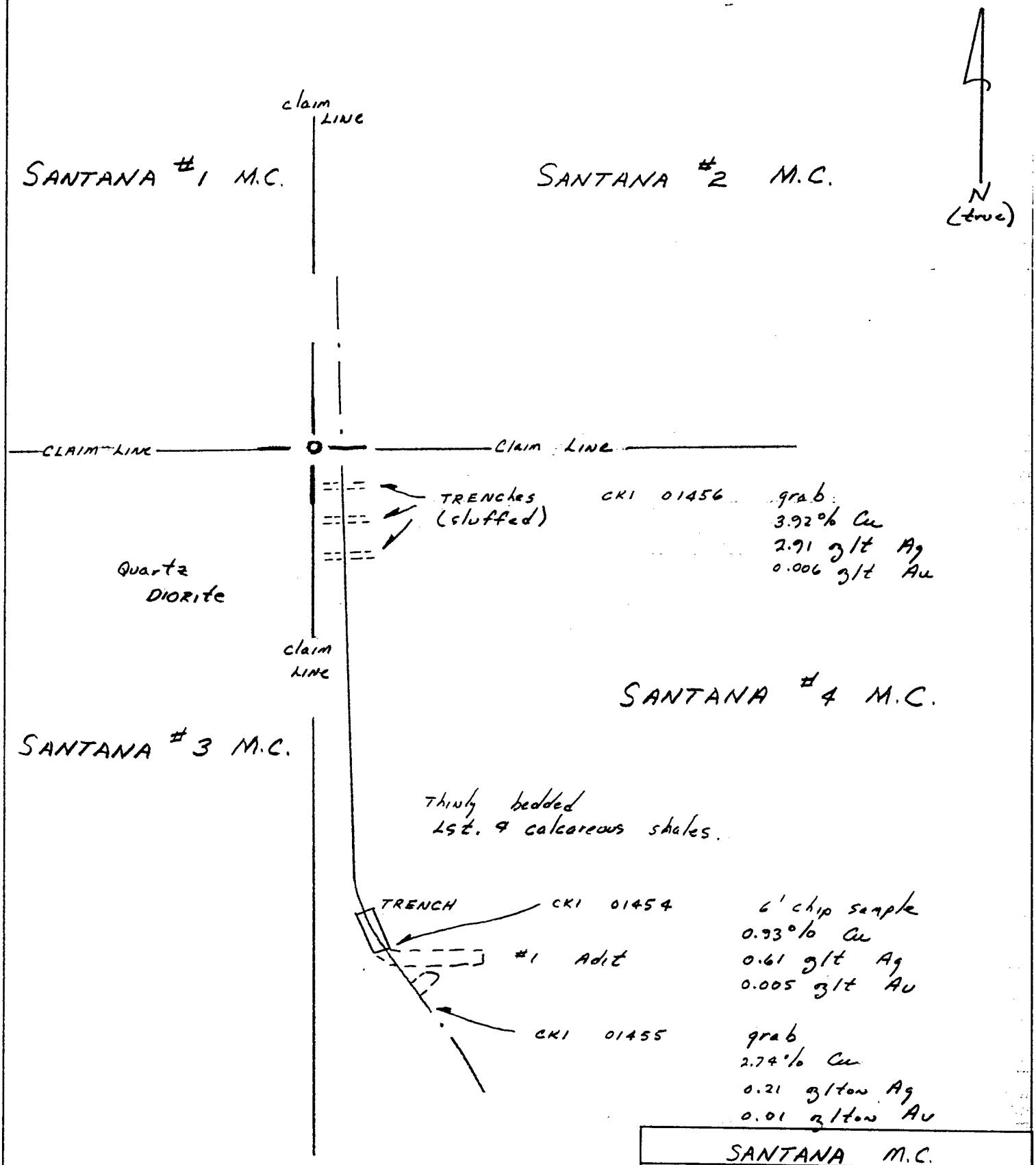
ization appeared to be within the intrusive. This varied from massive blebs of fine grained chalcopyrite to discrete disseminations of coarser chalcopyrite to stockwork type mineralization occurring in narrow veinlets exhibiting secondary silica. Aside from its location adjacent to the contact the mineralization gave the impression of being structurally controlled, possibly by shearing adjacent to the contact. This has resulted in a gneissic texture in areas within the zone. Further geological mapping and sampling is required to define the nature of the mineralization.

Previous authorities have reported mineralization extending for over 1,500 feet in strike with widths up to 40 feet. At the time of the writer's examination mineralization was noted for approximately 200 metres (660 feet) in strike length and up to approximately 20 feet in width. At present many of the trenches are sluffed in. New growth may have obscured the extensions referred to in the old reports.

The zone is best exposed in the area of the No. 1 adit where the old shipment to Tacoma most likely came from. Even here however mineralization can be seen in both the hanging and footwall indicating that a true width of the zone is not exposed. Exposure in the old trenches is intermittent due to the sluffing.

Three samples were collected by the writer for assay as listed below:

Sample No.	Description	Cu (%)	Ag (oz/ton)	Au (oz/ton)
01454	6' chip across centre of zone above portal; quartz diorite intrusive - chalcopyrite in blebs and finely disseminated	0.94	0.61	0.005
01455	random grab - mineralized material 20 metres SE of portal	2.74	0.21	0.010



SANTANA M.C.

SKETCH
MINERALIZD ZONE

1CM = 20 M. (approx.)

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Geologist: CKI	NTS:	Date: July 89	FIGURE: 4

Sample No.	Description	Cu (%)	Ag (oz/ton)	Au (oz/ton)
01456	random grab - mineralized material from series of sluffed in trenches 150 to 176 metres north of portal	3.92	2.91	0.006

Coons in his memo of January 7, 1970 provides the following assays:

Sample #1	width 10 feet at tunnel mouth	1.8	0.01
Sample #2	width 10 feet 60 feet southeast of Sample #1	3.3	0.005
Sample #3	ore dump at mouth of tunnel	2.45	0.01

Other assays ranging up to 11% copper and 0.75 oz/ton gold have been reported for the property although the reliability of these is not known at this time.

7.0 DISCUSSION AND CONCLUSIONS

The property contains some impressive mineralization which is exposed intermittently over a significant distance. Geological controls on this mineralization is not well understood at this time.

Adequate sampling of the mineralized zone is hindered by the lack of exposures over the entire width due to either sluffing or the attitude of the old work. The nature of the mineralization also dictates that collection of larger samples than was possible during a cursory inspection will be necessary to provide more accurate results.

The property is worthy of further exploration as recommended in the following section of this report.

8.0 RECOMMENDED PROGRAM

PHASE I

1. Closely spaced grid along the intrusive-sedimentary contact.

2. Geological mapping on the property including detailed mapping of grid area.

3. Geochem and magnetometer survey on grid.

4. Trenching and sampling of exposed mineralization.

$ 40,000

PHASE II - Contingent upon Phase I results:

Continued trenching and sampling and or diamond drilling.

70,000

Total Phases I and II $110,000

Respectfully submitted,

Charles K. Ikona, P.Eng.

APPENDIX I

BIBLIOGRAPHY

BIBLIOGRAPHY

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Humphreys, Noel, BCLS (1929): Notes on Survey for Crown Granting.

Javorsky, Dave (1987/88): Assessment Report, Santana Copper Mine.

Muller, J.E. (1977): GSC Open File 463, Geology of Vancouver Island (W 1/2).

Taylor, J.M. & Co. (1930): Prospectus for Santana Copper Syndicate.

APPENDIX II

COST STATEMENT

COST STATEMENT

SANTANA, GEM, BONANZA CLAIMS

NANAIMO MINING DIVISION

JUNE 15 TO JULY 20, 1989

WAGES

C.K. Ikona, P.Eng. 711, 675 West Hastings Street Vancouver, B.C. V6B 1N4	
2 days @ $400.00	$ 800.00
Stephen Quin, Geologist 711, 675 West Hastings Street Vancouver, B.C. V6B 1N4	
2 days @ $300.00	600.00
Terry Rochfort (labourer) 711, 675 West Hastings Street Vancouver, B.C. V6B 1N4	
2 days @ $250.00	500.00

EXPENSES

Travel and Accommodation	
3 men x 2 days @ $40.00/man day	240.00
Assays	63.00
Report	750.00
Total This Project	$2,953.00

APPENDIX III

ASSAY CERTIFICATE

VGC VANGEOCHEM LAB LIMITED

MAIN OFFICE
1988 TRIUMPH ST.
VANCOUVER, B.C. V5L 1K5
● (604) 251-5656
● FAX (604) 254-5717

BRANCH OFFICES
PASADENA, NFLD.
BATHURST, N.B.
MISSISSAUGA, ONT.
RENO, NEVADA, U.S.A.

REPORT NUMBER: 890266 AA JOB NUMBER: 890266 **PAMICON DEVELOPMENT LTD.**

SAMPLE #	Cu %	Ag oz/st	Au oz/st
01454	.93	.61	.005
01455	2.74	.21	.010
01456	3.92	2.91	.006
DETECTION LIMIT	.01	.01	.005

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million < = less than

signed: _____

APPENDIX IV

ENGINEER'S CERTIFICATE

ENGINEER'S CERTIFICATE

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Consulting Mining Engineer with offices at Suite 711, 675 West Hastings Street, Vancouver, British Columbia.

2. THAT I am a graduate of the University of British Columbia with a degree in Mining Engineering.

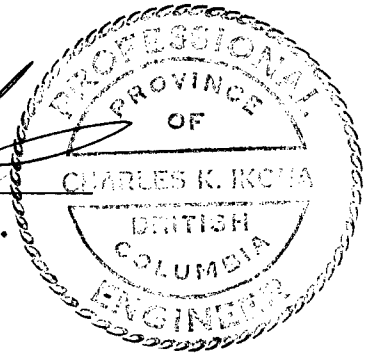
3. THAT I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.

4. THAT this report is based on all available information and on my personal examination of the subject property on June 15, 1989.

5. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to acquire any such interest.

6. THAT I consent to the use by Lonsdale Capital Corporation of this report in a Prospectus or Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendent of Brokers.

DATED at Vancouver, B.C., this 19th day of July, 1989.



Charles K. Ikona, P.Eng.