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# ROMULUS RESOURCES LTD.

# ASSESSMENT REPORT - 1992 EXPLORATION PROGRAM

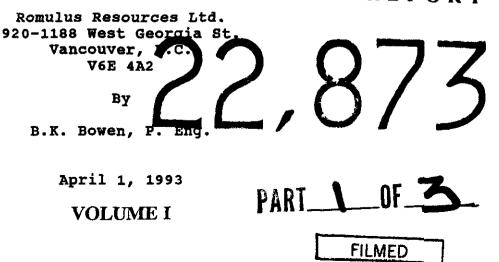
# **PINE PROPERTY**

OMINECA MINING DIVISION BRITISH COLUMBIA CANADA

N.T.S. 94E/2&7 Latitude 57°13'N Longitude 126°42'W

CLAIM	<u>TENURE #</u>	CLAIM	<u>TENURE #</u>
Fin 3	238305	Fin 25	308123
Fin 11	240089	Fin 26	308124
Fin 12	240090	Song 1	310079
Fin 14	240091	Song 2	310064
Fin 16	240092	Egg 1	310065
Fin 17	240093	Egg 2	310066
Fin 18	240094	Song 3	310038
Fin 19	240095	Song 4	310039
Fin 20	241595	Song 5	310040
Fin 21	241596	Song 6	310041
Easter 1	241918	Song 7	310042
Easter 2	241919	Song 8	310043
Easter 3	241920	Song 9	310044
Easter 4	241921	Song 10	310045
Easter Seal	303156	Ly 1	310081
Fin 21	308119	Ly 2	310060
Fin 22	308120	Ly З	310061
Fin 23	308121	Ly 4	310062
Fin 24	308122	Ly 5	310080

# owner and operateop LOGICAL BRANCH ASSESSMENT REPORT



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 A Geophysical Report on an Induced Polarization Survey on the Pine Property Omineca Mining Division British Columbia For Romulus Resources Ltd.

> By Daniel A Klit, B.Sc. and John Lloyd, M.Sc. P. Eng. Lloyd Geophysics Inc.

November, 1992

#### SUMMARY

The Pine Property consists of 439 claim units covering 100 square kilometres and is located approximately 450 km northwest of Prince George, in north-central British Columbia, Canada.

All-weather mainline logging roads and the Omineca Resources Access Road provide access to the property from the communities of Mackenzie and Fort St. James. The Sturdee valley airfield, which is serviced by scheduled aircraft based in Smithers and Vancouver, is 38 road km from the property.

The claims are subject to an option agreement between Romulus Resources Ltd. and Electrum Resources Ltd. under which Romulus has the right to earn a 70% undivided interest in the property and is the operator.

The property covers an area that was worked by: Kennco Exploration (Western) Ltd., from 1968 to 1973; Riocanex, from 1979 to 1980; Brinco, in 1982; and Cominco, in 1990.

In 1992, Romulus Resources Ltd. entered into an option agreement with Electrum Resources Ltd. and proceeded to carry out an integrated program of grid establishment, IP surveying, soil and rock geochemical sampling, detailed geological mapping, air photography, survey control, additional sampling of Riocanex core and 783 m of HQ diamond drilling in four holes.

Grid establishment included 65.5 line kilometres of cut grid for IP survey control, 37 line kilometres of flagged soil sampling lines, 1.5 line kilometres of flagged grid for detailed mapping control and 3.25 kilometres of reconnaissance soil sampling lines. A total of 1435 soil samples and 62 rock samples were collected from the property.

1.0

Eagle Mapping Ltd. completed a property-wide low-level, coloured aerial photography survey in conjunction with the placement of 24 surveyed air photo targets. Two legal corner posts and all but two drill hole collars were surveyed.

Additional (fill-in) sampling was done on several Riocanex holes which yielded significant gold and copper values in core that was not thoroughly and systematically assayed. A total of 74 fill-in samples were collected. The 783 metres of drilling demonstrated that the IP anomaly is highly prospective and probably represents the geophysical expression of a large gold-copper porphyry-type sulphide system.

#### 2.0 <u>INTRODUCTION</u>

### 2.1 Location and Access

The Pine property is located in north-central British Columbia at latitude 57°13' North, longitude 126°42' West, in the Omineca Mining Division approximately 275 km north of Smithers and 450 km northwest of Prince George. The property lies 25 km due north of the Kemess Project (Figure 1), where two large gold-copper porphyry deposits have recently been delineated.

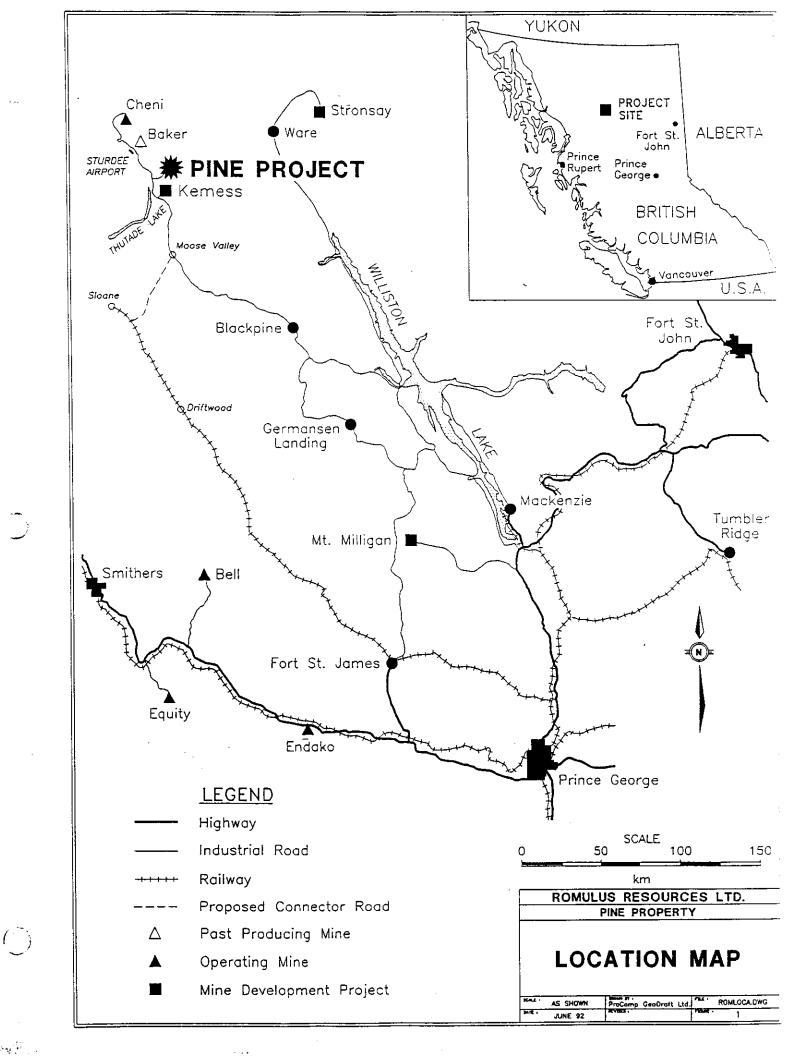
Access to the property is from Fort St. James or Mackenzie via allweather mainline logging roads and the Omineca Resources Access Road. A 21 km service road provides vehicle access to the core of the property. The Sturdee Valley airfield, which is serviced by scheduled aircraft based in Smithers and Vancouver, is 38 road km from the property.

El Condor Resources Limited's proposed construction of a 62 km connector road from the Omineca Resources Access Road at Moose valley, along the Sustut River Valley, would provide access to the B.C. Railway at Sloane and thence to the Pacific Ocean ports of Prince Rupert and Vancouver (Figure 1).

The communities of Prince George, Mackenzie, Fort St. James and Smithers are south of the property (Figure 1) and have a tradition of supplying the goods and services required for mineral exploration and mine development.

## 2.2 <u>Topography, Vegetation and Climate</u>

The Pine property lies in the Arctic drainage system along the western margin of the Swannell Range of the Omineca Mountains. Property topography is dominated by the broad (5 km wide) Finlay River Valley with its moderately flat terrain of old river terraces. Moderate to locally more rugged, alpine terrains to the



. .

northwest and southeast flank the valley bottom. Elevations range from 1000m to 2000m.

A mixed coniferous forest of lodgepole pine and spruce dominates the river valley portion of the claims area. The climate is generally moderate with temperatures ranging from  $+30^{\circ}$  to  $-35^{\circ}$ celsius. Precipitation (some 890 mm per year) is moderate and is more or less uniformly distributed throughout the year.

### 2.3 <u>Claims</u>

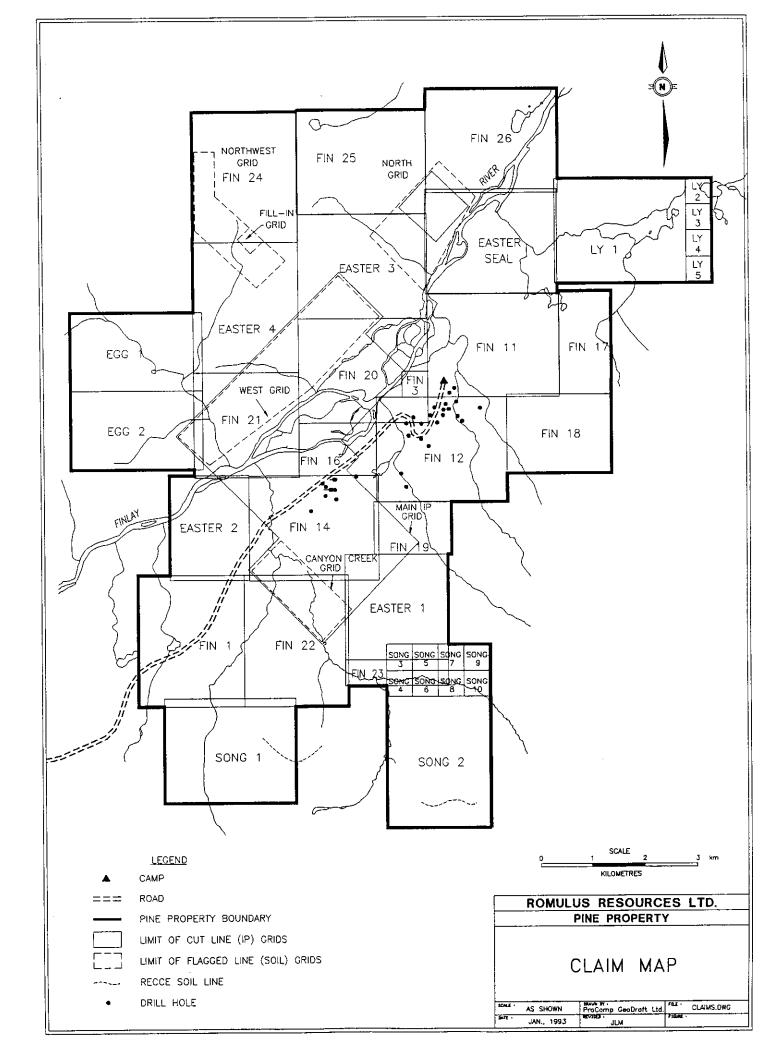
The 100 square kilometre Pine property consists of 12 two post mineral claims and 26 modified grid claims (427 units), totalling 439 units (Figure 2). The claims are subject to an option agreement between Romulus Resources Ltd. and Electrum Resources Ltd. under which Romulus has the right to earn a 70% undivided interest in the property.

Essential claim data are in Table I (following Figure 2).

#### 2.4 <u>Exploration History</u>

The Pine property covers an area that was worked by Kennco Exploration (Western) Ltd. from 1968 to 1973. Kennco's work included soil and silt sample surveys, ground and airborne magnetic surveys, reconnaissance IP, geological mapping and one 25 m x-ray diamond drill hole. Kennco recognized the porphyry coppermolybdenum potential of the area, but due to budget constraints, was forced to abandon the property in April 1973. The property was subsequently restaked by others.

In 1978, Bradford D. Pearson staked and optioned the central portion of the existing claims area to Rio Tinto Canadian Exploration Ltd. (Riocanex). Work by Riocanex in 1979-80 included soil sampling, geological mapping, ground magnetic surveys and 1,354m of BQ diamond drilling in 12 holes. Most of the Riocanex



# **TABLE 1** ROMULUS RESOURCES LTD. PINE PROPERTY **CLAIM DATA**

**Omineca Mining Division** Units Record Claim Tenure Expiry New Name Number Date Date Expiry Date \* Fin 3 238305 1 31-Jul-80 31-Jul-99 31-Jul-2003 20 11-Aug-99 11-Aug-2003 Fin 11 240089 11-Aug-88 Fin 12 20 11-Aug-88 11-Aug-99 11-Aug-2003 240090 11-Aug-88 11-Aug-99 11-Aug-2003 Fin 14 240091 20 Fin 16 240092 6 11-Aug-88 11-Aug-99 11-Aug-2003 Fin 17 240093 8 11-Aug-88 11-Aug-99 11-Aug-2003 Fin 18 240094 12 11-Aug-88 11-Aug-99 11-Aug-2003 Fin 19 11-Aug-88 11-Aug-99 11-Aug-2003 240095 6 13-Feb-93 13-Feb-2003 Fin 20 241595 20 13-Feb-90 13-Feb-93 Fin 21 241596 16 13-Feb-90 13-Feb-2003 Easter 1 241918 16-Apr-90 16-Apr-99 16-Apr-2003 16 16-Apr-90 16-Apr-99 16-Apr-2003 Easter 2 241919 12 Easter 3 241920 20 16-Apr-90 16-Apr-99 16-Apr-2003 Easter 4 241921 20 17-Apr-90 17-Apr-99 17-Apr-2003 Easter Seal 303156 20 08-Aug-91 08-Aug-93 08-Aug-2003 Fin 21 308119 20 14-Mar-92 14-Mar-93 14-Mar-2003 Fin 22 20 14-Mar-93 14-Mar-2003 308120 14-Mar-92 Fin 23 308121 20 14-Mar-92 14-Mar-93 14-Mar-2003 Fin 24 308122 20 14-Mar-92 14-Mar-97 14-Mar-2003 Fin 25 308123 20 14-Mar-92 14-Mar-97 14-Mar-2003 Fin 26 308124 20 14-Mar-92 14-Mar-93 14-Mar-2003 29-May-93 29-May-2000 Song 1 310079 20 29-May-92 Song 2 310064 20 30-May-92 30-May-93 30-May-2000 29-May-92 29-May-93 29-May-99 Egg 1 310065 15 29-May-92 29-May-93 Egg 2 310066 15 29-May-99 1 31-May-92 31-May-93 31-May-99 Song 3 310038 Song 4 310039 1 31-May-92 31-May-93 31-May-99 Song 5 310040 31-May-92 31-May-93 31-May-99 1 31-May-92 31-May-93 31-May-99 Song 6 310041 1 Song 7 310042 1 31-May-92 31-May-93 31-May-99 Song 8 310043 1 31-May-92 31-May-93 31-May-99 Song 9 310044 31-May-92 31-May-93 31-May-99 1 Song 10 31-May-92 31-May-93 31-May-99 310045 1 Ly 1 310081 20 30-May-92 30-May-93 30-May-2000 30-May-93 30-May-99 Ly 2 310060 30-May-92 1 30-May-99 Ly 3 310061 1 30-May-92 30-May-93 Ly 4 30-May-92 30-May-93 30-May-99 310062 1 30-May-92 30-May-93 Ly 5 310080 30-May-99 1

# CLAIM 38 **# UNITS** 

439

\* Upon acceptance of this assessment report

drilling was carried out some 2.5 km to the southwest of the Kennco x-ray hole. The drilling encountered several well-mineralized gold-copper intercepts in a number of shallow holes. Riocanex apparently under-appreciated the gold potential of the geological setting and dropped the option.

In 1982, Brinco Mining Ltd., which held the property under option from Bradford D. Pearson, commissioned J.R. Woodcock Consultants Ltd. to undertake a detailed mapping program in the vicinity of the Kennco x-ray hole. Woodcock's work recognized the porphyry potential of a granodiorite-hosted, copper-molybdenum mineralized system, but Brinco chose not to pursue this target and later relinquished their option.

Electrum Resources Ltd. acquired the property in 1988 and optioned it to Cominco Ltd. in May 1990. In 1990, Cominco carried out road building, rock sampling, induced polarization and magnetic surveys, geological mapping and 1,460m of percussion drilling in 23 holes. The percussion drilling, which mainly tested the copper-molybdenum target, indicated low grade copper mineralization. The IP survey partially defined a large anomaly which remained open to the southwest towards the Riocanex drill area.

#### 2.5 Summary of 1992 Work

In 1992, Romulus Resources Ltd. entered into an option agreement with Electrum Resources Ltd. and proceeded to carry out an integrated program of grid establishment, IP surveying, soil and rock geochemical sampling, detailed geological mapping, air photography, survey control, additional sampling of Riocanex core and 783 m of HQ diamond drilling in four holes.

Grid establishment included 65.5 line kilometres of cut grid for IP survey control, 37 line kilometres of flagged soil sampling lines, 1.5 line kilometres of flagged grid for detailed mapping control and 3.25 kilometres of reconnaissance soil sampling lines. A grid

index map is presented in Figure 3 and a summary of 1992 grid work in Table 2.

Eagle Mapping Ltd. completed a property-wide low-level, coloured aerial photography survey in conjunction with the placement of 24 surveyed air photo targets. Two legal corner posts and all but two drill hole collars were surveyed.

Additional (fill-in) sampling was done on several Riocanex holes which yielded significant gold and copper values in core that was not thoroughly and systematically assayed. A total of 74 fill-in samples were collected.

Focus of the Romulus drilling was the under-explored IP anomaly within which previous drilling by both Riocanex and Cominco had encountered significant concentrations of gold associated with copper. The Romulus drilling demonstrated that the IP anomaly is highly prospective and probably represents the geophysical expression of a large gold-copper porphyry-type sulphide system. With larger drill core and deeper holes, the significance of the results are now better appreciated.

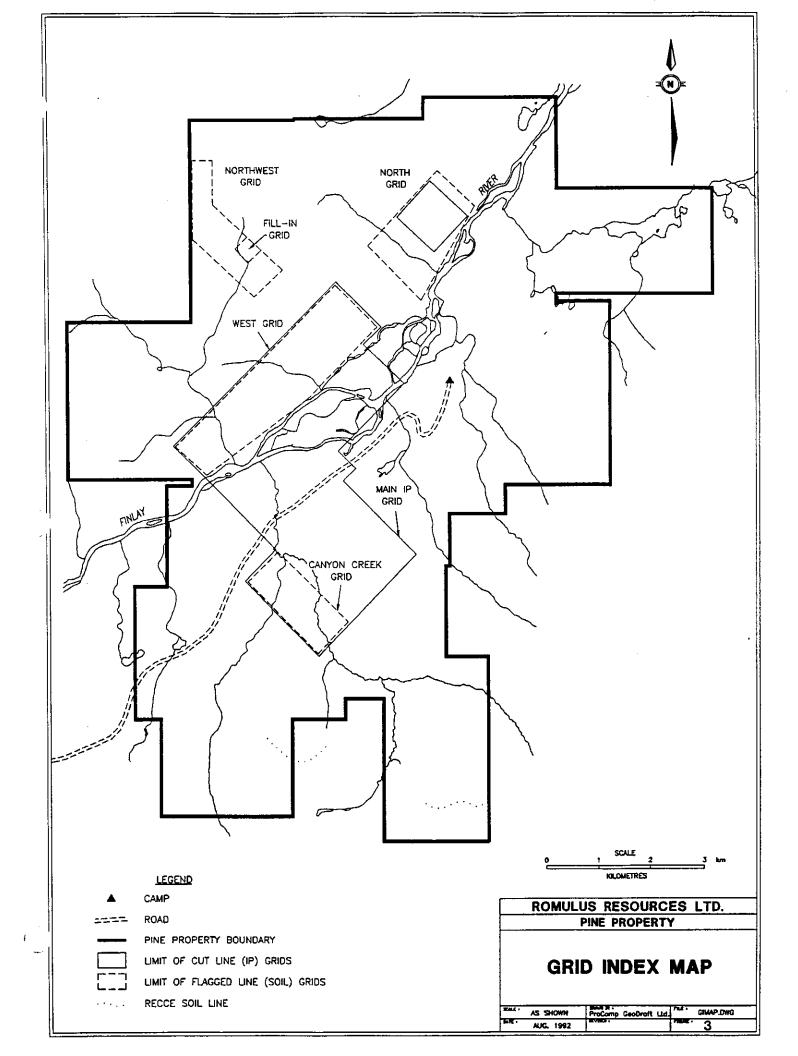
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#### REGIONAL GEOLOGY

#### 3.1 <u>Stratigraphy</u>

The Pine property is located in the northern portion of the Kemess Porphyry Gold-Copper District of north-central British Columbia (Figure 4). The District is underlain by a northwesterly-trending belt of supracrustal rocks which mainly consist of mafic flows and breccias and minor sedimentary rocks of the Upper Triassic to Lower Jurassic Takla Group and fine and coarse pyroclastic and epiblastic sedimentary rocks of the Lower Jurassic Hazelton Group (Toodoggone Formation).

Mapping by Bailey et al, 1991 and earlier workers has recognized a continuous lithological gradation from Takla Group rocks



## TABLE 2 ROMULUS RESOURCES LTD. PINE PROJECT SUMMARY OF 1992 GRID WORK

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GRID	CUT	FLAGGED	RECCE, SOIL	IP SURVEY	SOIL	ROCK	GEOLOGICAL N	APPING
	LINE (km)	LINE (km)	LINE (km)	LINE (km)	SAMPLES	SAMPLES	AREA	SCALE

MAIN IP	65.5*			54	<u> </u>	9	Selected	1:10,000
							Areas	
PINE GOLD-COPPER		1.5#		· · · · ·		7	Entire Flagged	1:1,000
PROSPECT							Grid	
CANYON CREEK				· = · ·	147@	7	Selected	1:10,000
							Areas	
WEST					405 ^	28	Entire	1:5,000
							Grid	
NORTH	4.9'	18.0		4.0	386		Over Cut IP	1:5,000
							Grid Only	
NORTHWEST		15.75&			299		Line 10200 N	1:2,000
							10000E to 15000E	
NORTHWEST		3.2			131	5	Line 10200 N	1:2,000
(Fill-In)							10000E to 15000E	
SONG 1			2.1		43	1	Along Recce.	1:10,000
	•						Soil Lines	
SONG 2			1.15		24	5	Along Recce.	1:10,000
							Soil Lines	

TOTALS	70.4	38.45	3.25	58.0	1435	62	

• Includes 7.5 km of baselines

# For mapping control only

@ Soil samples taken along (cut) IP Lines
^ Soil Samples taken along (cut) IP Lines

'Includes 0.9 km of Baseline

& Includes 1.0 km of Baseline

characterized by subaqueous, low-energy volcanism (with minor periods of quiescence and sedimentation) through to a more turbulent, high energy, proximal volcanic series of polylithic breccias and subaerial units that may in part comprise Hazelton Group rocks.

To the west, the older volcanic strata are unconformably overlain by subaerial sedimentary and volcanic rocks of the Cretaceous/Tertiary Sustut Group.

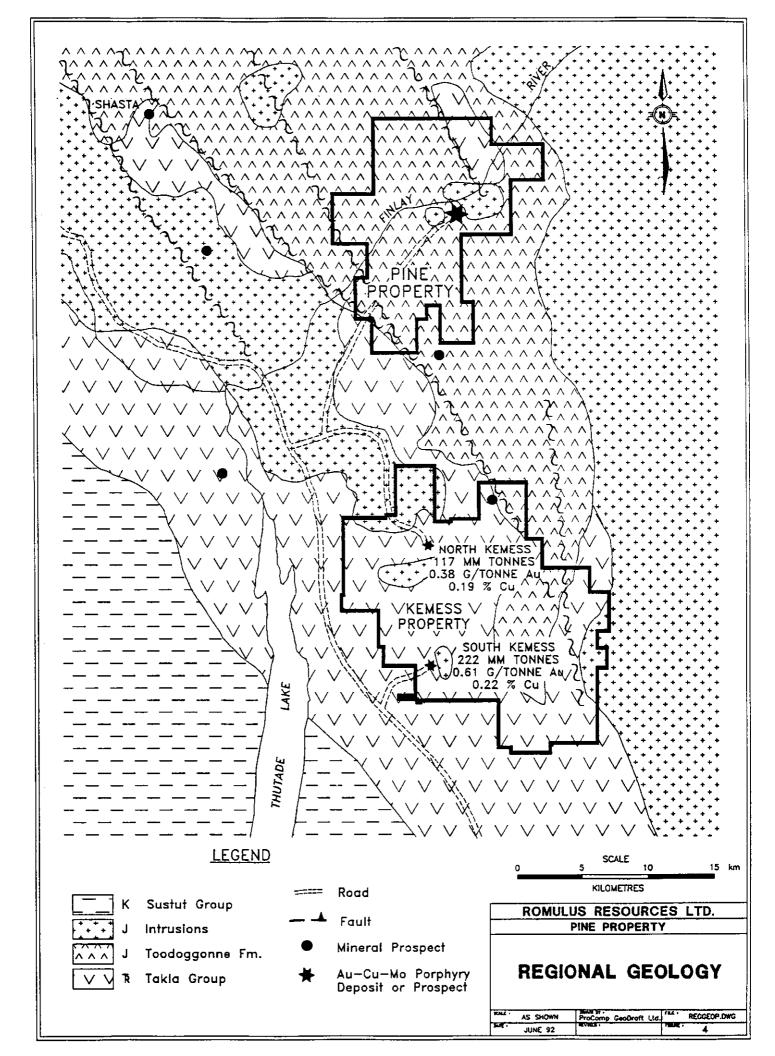
Pleistocene glaciation has intensively scoured the entire district, and deposited variably thick mantles of till and glaciofluvial material over much of the lower benchland topography. Cirque features with rock glaciers and residual morainic debris are present at the higher elevations.

## 3.2 <u>Omineca Intrusions</u>

Lower to Middle Jurassic Omineca Intrusions have intruded older strata in the central and eastern parts of the region. These mainly felsic intrusions have caused the formation of several porphyry systems, a number of skarns and many vein-type mineral occurrences. One of these intrusions, located 3 km north of the Kemess South deposit, has been dated by rubidium-strontium analyses as being in the range of 190 +/- 9 Ma, or Lower Jurassic age (Cann et. al. 1980).

Most of the felsic intrusions form dykes, sills and small stocks, and range in composition from diorite and quartz-diorite through quartz monzonite with minor syenite to granodiorite. Later minor intrusions of a more mafic composition (gabbro-mafic diorite) have been seen to cut these felsic plutons. The plutons are also cut by a suite of late, post-mineral dykes including quartz latite porphyry, trachyte and minor mafic varieties.

Considerably more age dating and whole rock major oxide analyses are required to determine which intrusions are related to the Takla



and Hazelton volcanics respectively.

## 3.3 <u>Structure</u>

Deep-seated, northwesterly trending fault zones have controlled Lower to Middle Jurassic comagmatic intrusive, volcanic and hydrothermal events. Northeasterly-trending faults comprise a subordinate fault system which are often an important control to porphyry-style mineralization.

#### 3.4 <u>Metamorphism</u>

Regional metamorphism of the supracrustal rocks in the Kemess District is of subgreenschist or zeolite facies (Bailey et. al. 1991). However, over large areas of the Pine and Kemess properties, hydrothermal metasomatism has overprinted the effects of this low grade metamorphism.

Adjacent to intrusions, minor thermal metamorphism and recrystallization has taken place.

# 3.5 <u>Mineralization</u>

Porphyry gold-copper deposits in the Kemess District are hosted by both Takla and Toodoggone volcanic rocks and are spatially associated with porphyry dikes and plutons. On the Kemess property, two large gold-copper porphyry deposits have recently been delineated: Kemess South with geological reserves of 222 million tonnes grading 0.61 g/tonne gold and 0.22% copper; and Kemess North with geological reserves of 117 million tonnes grading 0.38 g/tonne gold and 0.19% copper.

Northwest of the Pine and Kemess properties, both the Takla and Toodoggone volcanics host epithermal gold and silver mineralization.

4.0

PROPERTY GEOLOGY

#### 4.1 <u>Introduction</u>

Geology of the mapped portions of the Pine property are shown in Figure 5. Lithology, structure, alteration and mineralization are summarized below. Detailed geological discussions for the various 1992 Romulus grids are given in Section 5.0 which is accompanied by miscellaneous page size and larger maps.

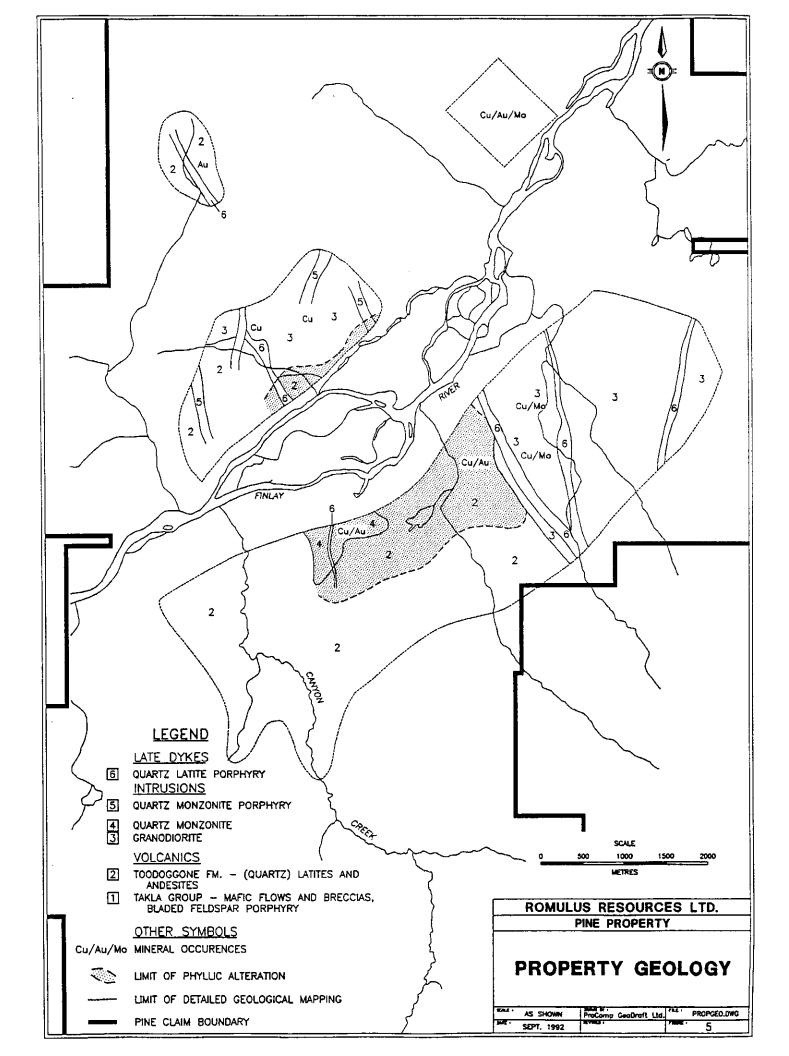
#### 4.2 Lithology

The oldest rocks in the mapped portion of the Pine property are largely Toodoggone Formation crystal tuffs and other fine pyroclastic of the Lower Jurassic Hazelton Group. These rocks are mainly latitic to andesitic in composition, commonly quartz bearing and/or feldspar porphyritic and occupy the south-western portion of the property.

The volcanic rocks are intruded by mainly granodioritic rocks in the northeastern portion of the property. Locally, granite and quartz monzonite are present. These intrusive rocks outcrop at three separate localities and may represent one large stock or possibly several smaller bodies.

West of Fin Lake, in the central portion of the property, a body of quartz monzonite has been mapped on surface and intersected in a number of drill holes. The rock is characterized by up to 20 percent two to four millimetre quartz phenocrysts or grains set in a dark greenish-grey to pinkish groundmass of primary potash feldspar and lesser plagioclase. Mafics hornblende and lesser biotite comprise 10 to 15 percent of the rock. The unit is variably altered, locally contains abundant magnetite and is an important host to gold-copper mineralization on the Pine property.

Copper-mineralized, feldspar porphyritic monzonite and syenite



dykes outcrop in the central and northern portions of West Grid map area. These dykes, and the plutonic suite described above, are part of the Lower to Middle Jurassic Omineca intrusions.

A suite of late and post mineral dykes, including quartz latite porphyry, trachyte and minor mafic varieties, crosscuts mineralization and all other rock types throughout the property. The dykes generally range up to a few tens of metres wide, strike northerly and dip moderately to steeply to the east.

#### 4.3 <u>Structure</u>

A series of moderate to high angle fault and fracture systems, striking between 330° and due north, has been identified at several localities on the Pine property. These structures appear to have controlled the emplacement of many of the late dykes and in some diamond drill holes, are seen to be the abrupt contact between well mineralized and less mineralized rock.

Several areas of intense fracturing are exposed along northwest trending creek canyons. A prominent gossan marks one such zone along Canyon Creek. These structures are probably related to deepseated, northwesterly trending fault zones which are regionally dominant in the Kemess Porphyry Gold-Copper District and the nearby Toodoggone Epithermal Precious Metals District.

# 4.4 <u>Alteration and Mineralization</u>

#### 4.4.1 <u>Introduction</u>

The Pine property is centred on a large hydrothermal sulphide system which covers over four square kilometres and contains three porphyry prospects: the Pine, a gold-copper mineralized system hosted by quartz monzonite; the Tree, a second gold-copper mineralized system hosted by quartz latite volcanic rocks; and the

Fin, a granodiorite-hosted copper-molybdenum system.

Elsewhere on the property are a number of vein-type mineral occurrences and other prospective geological, geochemical and geophysical features indicative of additional porphyry-style gold-copper-molybdenum mineralization.

The alteration and mineralization of the Pine, Tree and Fin prospects are described in detail below. Other areas of alteration and mineralization are summarized in Section 4.4.5 and described in more detail in Sections 5.3 to 5.7.

## 4.4.2 <u>Pine Gold-Copper Prospect</u>

Porphyry-style gold-copper and lesser accessory silver and molybdenum mineralization occurs in quartz monzonite intrusive rocks in the central portion of the map area depicted in Figure 5.

In the Pine prospect area, Romulus carried out detailed 1:1000 geological mapping in order to better understand the geological setting (Figure 6). The Romulus work identified several key features which are summarized in point form below:

- (i) The mineralized host is quartz monzonite, not granodiorite as mapped by Riocanex. Where intensely potassium feldspar altered, the intrusive rocks take on the appearance of quartz syenite.
- (ii) A northerly-trending swarm of trachyte and quartz latite dykes cut through the mineralized area. The dykes dip moderately to steeply to the east. They are clearly post-mineral and cut across what appears to be a continuous zone of quartz monzonite-hosted mineralization in the core of the Riocanex drill area. Reinterpretation by Romulus personnel indicates this zone, which remains open, is much larger in size than previously thought.
- (iii) Within the quartz monzonite, hydrothermal alteration is

predominantly sericitic near or at its contact, giving way to predominantly silicic and potassium feldspar alteration elsewhere. Toodoggone volcanic rocks adjacent to the quartz monzonite body are intensely phyllically altered.

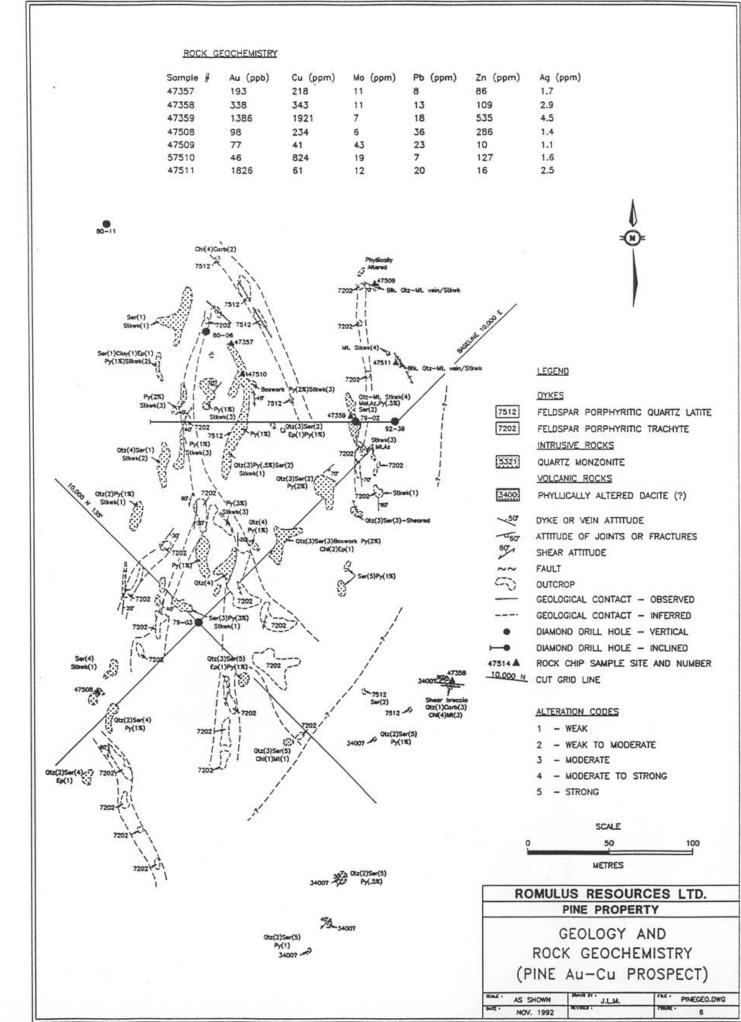
(iv) Quartz stockworks are confined to and variably developed within the quartz monzonite.

Within the quartz monzonite intrusion, past and present drilling has outlined a northerly-trending mineralized zone, measuring about 200 metres wide, which is open to the north, east and to depth (Figures 12.1, 13.1 to 13.7 and 14.1 to 14.7). To the west, it is bounded by Holes 80-10 and 80-11 which intersected low grade, intrusive-hosted mineralization. The zone may also be open to the south. Significant mineralization was intersected in the top 8.4 metres of Hole 80-5 and the bottom 8.2 metres of 80-13.

At the explored northern limit of the zone, high grade porphyry gold-copper mineralization was intersected in the top portions of Holes 80-7, 92-38 and 92-40 (Figures 13.6 and 14.6). The highgrade mineralization dips gently to the east (sub-parallel to a post-mineral dyke within the zone), is at least 50 metres in thickness and is open to the north and east. Its average grade is 1.11 g/tonne gold and 0.19% copper. It occurs within intensely shattered, probably faulted, quartz monzonite.

Quartz monzonite-hosted mineralization consists of pyrite, chalcopyrite, minor bornite and lesser molybdenite which occur as disseminated grains and fracture fillings and within quartz veins. Very minor sphalerite is present locally. Total sulphide content is about 2-4%. The average grade of the mineralization is in the 0.6 to 0.7 g/tonne gold and 0.1% to 0.2% copper range. The molybdenum content averages 19 ppm and the silver content, about 0.8 ppm.

Typical calc-alkaline alteration suites are developed in the quartz



monzonite intrusion. Higher concentrations of gold and copper correlate with zones of intense quartz stockwork development accompanied by intense potassium feldspar selvages, locally intense quartz-magnetite flooding and the persistent presence of magnetite stringers and disseminations. Lower grade intrusive-hosted mineralization is characterized by alteration suites which contain intense ground-mass sericite and generally weaker quartz stockwork development.

#### 4.4.3 <u>Tree Gold-Copper Prospect</u>

Volcanic hosted gold-copper mineralization at the Tree prospect has been intersected in holes 90-16, 90-17 and 92-37 which span a north-south distance of about 250 metres (Figures 12.2, 13.8 and 14.8). The Tree prospect is located about two kilometres northeast of the Pine prospect. The intervening area, which is largely overburden covered, contains several scattered outcrops of phyllically altered Toodoggone volcanic rocks which carry anomalous concentrations of gold and copper.

Mineralization is open to depth and laterally to the north and west (towards the core of the Zone 1 chargeability anomaly) and to the It terminates to the east at the granodiorite-volcanic south. contact. Diamond drill hole 92-37, which twinned and was drilled deeper than percussion drill hole 90-17, intersected 123.01 metres grading 0.20 g/tonne gold and 0.119% copper. The same interval in Hole 92-37 averages less than 10 ppm molybdenum and 1.37 ppm silver. The bottom 30.5 metres of percussion drill hole 90-16 assayed 0.17 g/tonne gold and 0.09% copper. The percussion holes were not analyzed for silver and contain less than 10 ppm These holes demonstrate that the volcanic host rocks molybdenum. in this area are significantly enriched in gold and copper, a feature commonly seen elsewhere in the Kemess Porphyry District.

Hypogene sulphides comprising pyrite and chalcopyrite occur as disseminated grains and fracture fillings and within quartzmagnetite veins. Total sulphide content is about 3%. Alteration

is typified by development of a weak to moderate quartz-magnetite stockwork accompanied by locally intense silica flooding, moderate to intense pervasive sericite and weak potassium feldspar vein selvages.

The Pine and Tree prospects are enclosed by a large area of phyllic alteration (Figure 5) which laterally grades outwards into a propylitic assemblage characterized by the ubiquitous presence of epidote and lesser chlorite.

#### 4.4.4 Fin Copper-Molybdenum Prospect

Porphyry-style copper-molybdenum mineralization occurs in altered hornblende granodiorite in the northeast portion of the map area (Figures 5 and 12.2). Drilling by Kennco and Cominco has outlined a zone measuring about 200m by 300m which returned assays greater than 0.1% copper.

Hypogene sulphides comprising pyrite, chalcopyrite and minor molybdenite occur as disseminations, fracture fillings and within quartz veins. Gold content of this copper-molybdenum mineralized zone is of a background nature.

Alteration is typified by the development of epidote as coatings along fractures and as disseminated replacements of mafic minerals and some plagioclase phenocrysts. Quartz stockwork development is generally weak and pervasive sericite, where present, is mainly structurally controlled.

## 4.4.5 <u>Surface Rock Geochemistry - Pine & Fin Prospects</u>

Three surface rock chip samples were collected near the collars of mineralized drill holes at the Pine gold-copper prospect (Figure 6). An additional three samples were collected at Trench No.'s 1 to 3 at the Fin copper-molybdenum prospect (Figure 7). Analytical results for six elements are compared in Table 3.

For gold, copper and molybdenum, the results further emphasize the distinct nature of the two mineralized zones. The Pine prospect is a gold-copper mineralized system with little or no molybdenum and the Fin, a copper-molybdenum system with little or no gold. The Fin prospect appears to contain elevated lead and silver concentrations relative to Pine and other porphyry deposits in the district. Both prospects appear to contain similar concentrations of zinc (Table 3).

# 4.4.6 Other Mineral Occurrences

Other mineral occurrences on the Pine property include: minor disseminated chalcopyrite and malachite in monzonite and syenite dykes in the central portion of West Grid; a multi-element soil geochemical anomaly, which is of considerable size and intensity, in the North Grid area; an intensely kaolinized, gold and molybdenum enriched and possibly copper-depleted (leached) breccia (?) unit in the Northwest Grid area; and minor base and precious metal vein and shear hosted occurrences elsewhere on the property. All of these occurrences are described in more detail in Section 5.0.

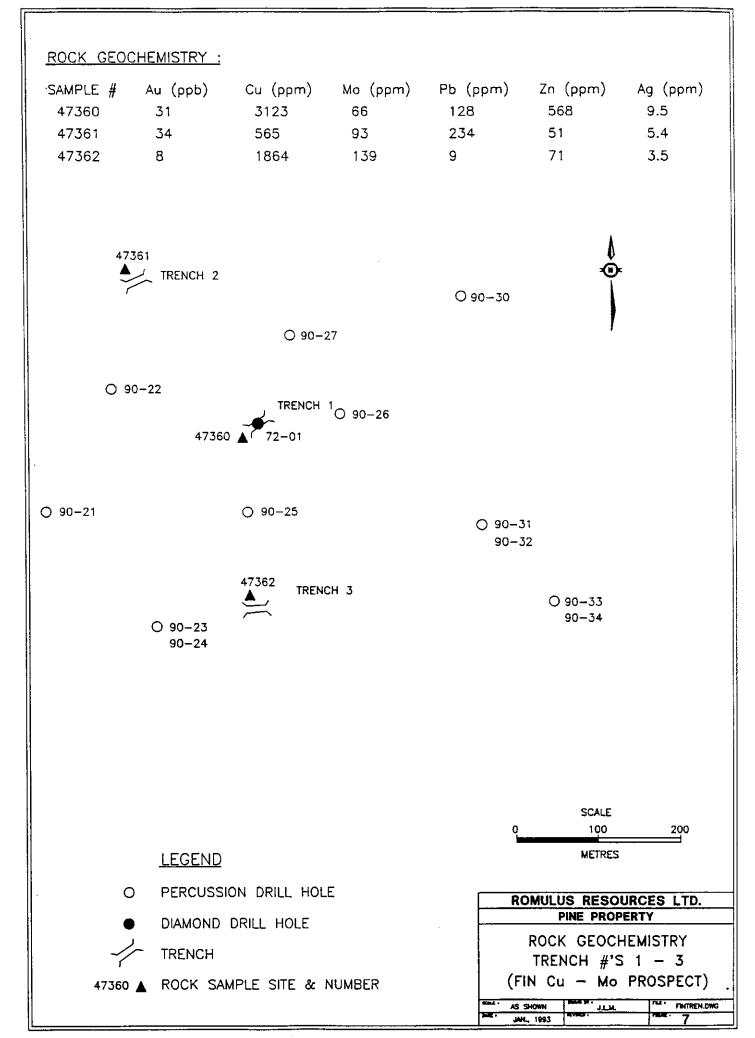
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#### GRID WORK

## 5.1 Introduction

This section of the report describes the geology and soil and rock geochemistry that was completed on several of the grids depicted in Figure 3. For descriptive clarity, geology and geochemistry are described together for each grid. Where pertinent, IP survey results are briefly mentioned. They are discussed in detail in Section 6.2. The reader is asked to refer to the list of figures in the table of contents in order to cross reference the discussions that follow with the respective maps and figures.

A total of 1,435 "B Horizon" soil samples were collected from the property, using a maddock and stored in kraft double gusseted soil



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# TABLE 3

# Comparison of Surface Rock Geochemistry: Pine and Fin Prospects

# Pine Au-Cu Prospect

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<u>Sample #</u>	<u>Au(ppb)</u>	<u>Cu(ppm)</u>	<u>Mo(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>	<u>Aq(ppm)</u>
47357 47358 47358	193 338	218 343	11 11 7	8 13 18	86 109 535	1.7 2.9 4.5
47359 Average Values	1,386 639	1,921 827	10	13	243	3.0

# Fin Cu-Mo Prospect

<u>Sample #</u>	<u>Au(ppb)</u>	<u>Cu(ppm)</u>	<u>Mo(ppm)</u>	<u>Pb(ppm)</u>	<u>Zn(ppm)</u>	(mqq)pA
47360 47361 47362	31 34 8	3,123 565 1,864	66 93 139	128 234 9	568 51 71	9.5 5.4 3.5
Average Values	24	1,851	99	124	230	6.1

bags. All samples were shipped to Acme Analytical Labs in Vancouver for drying and analysis. 152 samples from the Canyon grid were analyzed for Mo and Cu by ICP methods and Au by Acid Leach Atomic Absorption. 417 samples from the West Grid were only analyzed for Au by Acid Leach Atomic Absorption. The remaining 866 samples were analyzed for 32 elements by ICP methods with Au analysis by Acid Leach Atomic absorption.

A total of 62 rock samples were collected from the property and sent to Acme Analytical Labs in Vancouver for analysis by 32 element ICP method and Au analysis by Acid Leach Atomic Absorption.

Soil and rock geochemical data are assembled in Appendices D and E respectively. These appendices also include a description of analytical methods and, for soil sample results, sets of histograms from which threshold and anomalous values were derived. These values are summarized in Table 4. Computer lithological codes are presented in Table 5.

## 5.2 <u>Main IP Grid</u>

#### 5.2.1 Introduction

Selected areas within and adjacent to the Main IP Grid on the southeast side of the Finlay River were mapped at 1:10,000 scale. Romulus' 1992 cut grid and Cominco's 1990 flagged grid were used for mapping control. Purpose of the work was to provide updated geological coverage within and adjacent to the Zone 1 chargeability anomaly (refer to Section 6.2 and Figure 10.2). Canyon Creek grid results are discussed separately in Section 5.3.

#### 5.2.2 <u>Geology and Rock Geochemistry</u>

Geological traverses were completed along the axis of the Zone 1 chargeability anomaly, from Fin Creek to the core of the Riocanex drill area, and along the southeastern flank of the anomaly, from Fin Lake to an area a few hundred metres to the southeast of the

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# TABLE 4

# Summary of Threshold and Anomalous

Soil Sample Values - 1992 Romulus Grids

	<u>Northwest</u>	<u>North</u>	<u>West</u>	<u>Canyon Creek</u>
	<u>Grid</u>	<u>Grid</u>	<u>Grid</u>	<u>Grid</u>
Cu-T <sup>1</sup>	50	100	-	50
Cu-A <sup>2</sup>	100	300		100
Mo-T	10	10	-	10
Mo-A	15	15		15
Au-T	20	20	20	20
Au-A	50	50	50	50
Pb-T Pb-A	150 300	50 100	-	-
Zn-T Zn-A	150 300	400 800	-	-
Ag-T Ag-A	1.5 2.5	0.5 1.5	-	-

(<sup>1</sup>) T denotes threshold value
 (<sup>2</sup>) A denotes anomalous value

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# TABLE 5 COMPUTER LITHOLOGICAL CODES

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## ROMULUS RESOURCES LTD. PINE PROJECT

Code	Subcodes	Lithology
0000	0100 0200 0300 0400	<b>Overburden</b> No core-triconed (bedrock suspected) No core - 0% recovery Ferricrete Talus
9000	9xx0	Fault Fault protolith indicated by 2nd & 3rd digit
8000	8100 8200 8300 8400	<b>Tertiary Sediments - Volcanics</b> Sandstone-Greywacke Conglomerate Basalt Siltstone
7000	7100 7200 7300 7400 7500 7600 7700	Late Dyke Suite Rhyolite Trachyte Rhyodacite Dacite Latite Andesite Basalt
6000	6100 6200 6300 6400	Intrusions with >20% primary quartz Granite Granodiorite Tonalite Others
5000	5100 5200 5300 5400 5500	Intrusions with <20% primary quartz Diorite-Gabbro Monzodiorite Monzonite Syenite Others
4000	4100 4200	<b>Modified Intrusive Products</b> Intrusive - Volcanic Hybrid (assimilative product) Lag horizon (consisting of intrusive fragments)
(3rd	digit)	0 = not applicable 1 = 0 to 10% primary quartz 2 = 10 to 20% primary quartz
(4th	digit)	0 = not applicable 1 = non-porphyritic 2 = porphyritic

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# TABLE 5 (Cont'd) COMPUTER LITHOLOGICAL CODES

## ROMULUS RESOURCES LTD. PINE PROJECT

Code	Subcodes	Lithology
3000	3100 3200 3300 3400 3500 3600 3700	Hazelton Volcanics (Toodoggone Formation) Rhyolite Trachyte Rhyodacite Dacite Latite Andesite Basalt
2000	2100 2200 2300 2400 2500 2600	Takla sediments Chert Mudstone Greywacke Siltstone/sandstone Shale/argillite Limestone
1000	1100 1200 1300 1400 1500 1600 1700	Takla volcanics Rhyolite Trachyte Rhyodacite Dacite Latite Andesite Basalt
(3rd	digit)	0 = not applicable 1 = pyroclastic 2 = flow
(4th	digit)	0 = not applicable 1 = heterolithic 2 = monolithic 3 = feldspar porphyritic 4 = pyroxene porphyritic

## COMPUTER ALTERATION CODES

0	absent
1	Weak
2	Weak to Moderate
3	Moderate
4	Moderate to Strong
5	Strong
NS	Not Sampled
NC	Not Calculated

Riocanex drill area.

Along the axis of the anomaly, the area is mainly overburden covered. Scattered outcrops of altered Toodoggone volcanic rocks are present locally. They exhibit intense shattering, are variably clay and/or sericite altered, locally contain quartz veinlets or stockworks, appear leached and contain 1-3% pyrite. Three rock chip samples of altered volcanic rock returned anomalous gold and copper values up to 122 ppb and 131 ppm respectively.

The above altered volcanic rocks are cut by several feldspar porphyritic late dykes which are quartz latitic to trachytic in composition. The dykes generally trend northerly, are relatively massive and outcrop more frequently than the recessive, altered country rock. They contain a propylitic alteration assemblage of epidote and lesser chlorite and give the illusion of a larger barren intrusion.

Along the southeast flank of the chargeability anomaly, southwest of Fin Lake, plagioclase porphyritic dacite is variably claysericite altered, bleached in appearance and contains minor amounts of pyrite. Two rock chip samples from this area did not yield anomalous gold or copper values.

Southeast of the Riocanex drill area, clay-sericite alteration in the volcanic rocks gives away to a well-developed propylitic assemblage consisting of epidote and lesser chlorite. The boundary between phyllically and propylitically altered rocks corresponds roughly with the southeastern limit of the Zone 1 chargeability anomaly.

## 5.3 Canyon Creek Grid

# 5.3.1 Introduction

The Canyon Creek grid bounds an area extending from Line 7600N to

8500N, from baseline 10000E to 12000E. The grid is actually a portion of the main (cut) IP grid, within which soil sampling and limited 1:10000 scale geological mapping and rock geochemical sampling were carried out.

The work was directed towards one gossan zone exposed along the walls of Canyon Creek and a second gossan zone outcropping in Bogie Creek. The latter may be associated with the Zone 5 chargeability anomaly (Figure 10.2) described in Section 6.2.

## 5.3.2 Soil Geochemistry

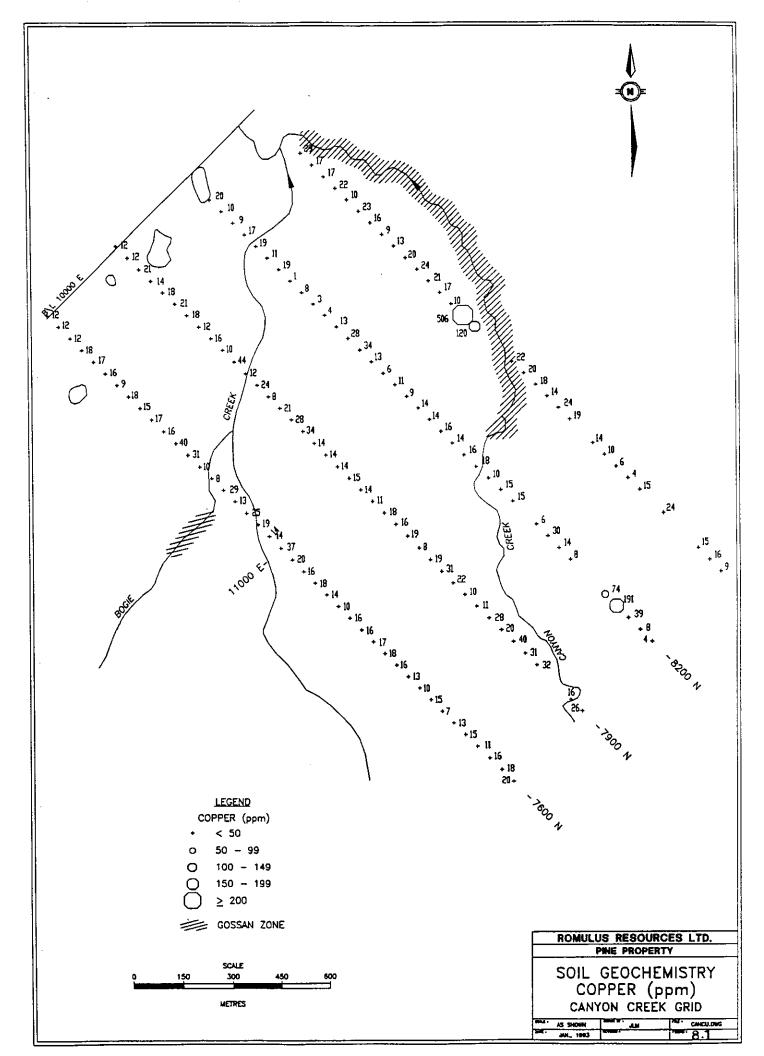
A total of 147 soil samples were collected at 50 metre intervals along the 300 metre-spaced (cut) IP lines. The samples were analyzed for gold, copper and molybdenum. The main purpose of the soil sampling was to determine if there were any anomalous values associated with the two gossans and the Zone 5 chargeability anomaly.

Very few anomalous values were generated by the soil sampling work. Two anomalous copper values of 120 and 506 ppm on Line 8500N near Canyon Creek may be reflecting elevated copper content of the gossanous rocks within the canyon. Scattered, single station gold anomalies up to 289 ppb, two of which fall within the Zone 5 chargeability anomaly, are also present. Deep overburden (gravel terraces) over portions of the chargeability anomaly may be masking the anomalous soil geochemical response of potential mineralization.

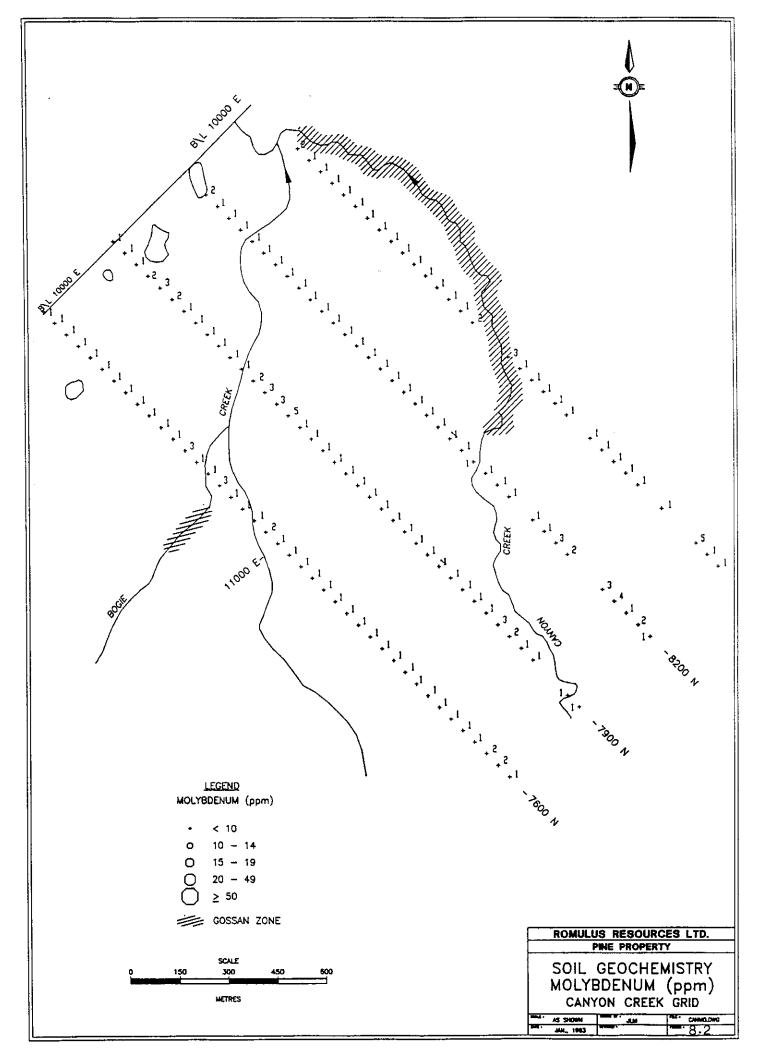
## 5.3.3 <u>Geology and Rock Geochemistry</u>

The Canyon Creek grid area is underlain mainly by intermediate, feldspar-porphyritic Toodoggone volcanic rocks which are well exposed along Canyon and Bogie Creeks.

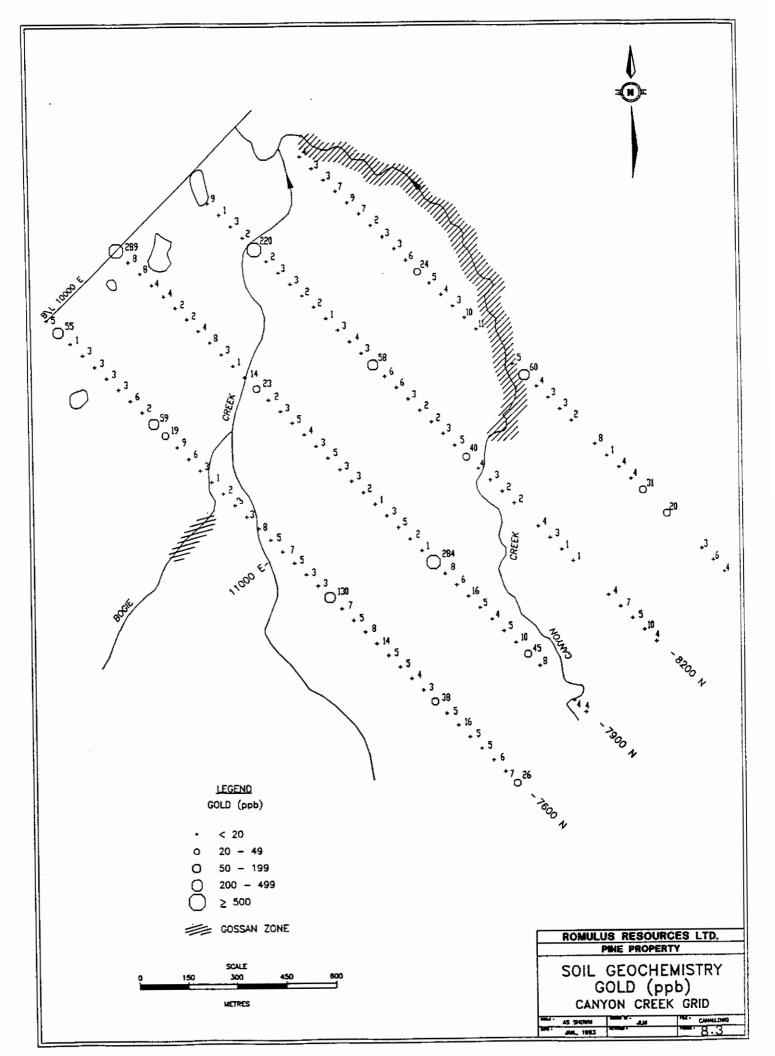
Along Canyon Creek, a prominent gossan marks a northwesterly trending zone of intense fracturing which probably represents a



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deep-seated regionally dominant fault zone. The gossan, characterized by pervasive clay-sericite alteration, contains carbonate-zeolite veining and moderate amounts of disseminated pyrite.

A pyritic, feldspar-porphyritic siliceous dyke outcrops along Canyon Creek about one kilometre upstream from the Bogie-Canyon Creek junction. Below the junction, trachytic post-mineral dykes are present. Most dykes trend northwesterly along the fracture zone. Three rock samples and two pan tests (of alluvial material from the active portion of the Canyon Creek) yielded negative analytical results or gold colours.

A moderately to intensely gossanous zone outcrops for about 200 metres along Bogie Creek, about 1.5 kilometres upstream from its confluence with Canyon Creek. The gossan zone, which occurs in feldspar porphyritic volcanic rocks, exhibits moderate clay and lesser epidote alteration and contains strong iron carbonate veining and weak disseminated pyrite. A rock chip sample of the gossanous material returned anomalous gold and copper values of 54 ppb and 187 ppm respectively. A pan test taken below the gossan returned no colours.

The two gossan zones are separated by variably propylitized (epidote, chlorite) volcanic country rock which outcrops along Bogie creek and the southwest side of Canyon creek, immediately below its junction with Bogie Creek.

#### 5.4 <u>West Grid</u>

# 5.4.1 Introduction

The West Grid bounds an area extending from line 8500N to 13000N, from baseline 7200E to the northwest side of the Finlay River. The grid is actually a portion of the Main (cut) IP grid, within which soil sampling and 1;5000 scale geological mapping and rock geochemical sampling were carried out.

Purpose of the mapping was to obtain geological information in an area where earlier soil sampling surveys carried out by Kennco had outlined a number of copper-molybdenum anomalies. Kennco's soil samples were not analyzed for gold. The soil sampling work was carried out in order to determine if there were anomalous gold concentrations associated with the copper-molybdenum anomalies.

#### 5.4.2 Soil Geochemistry

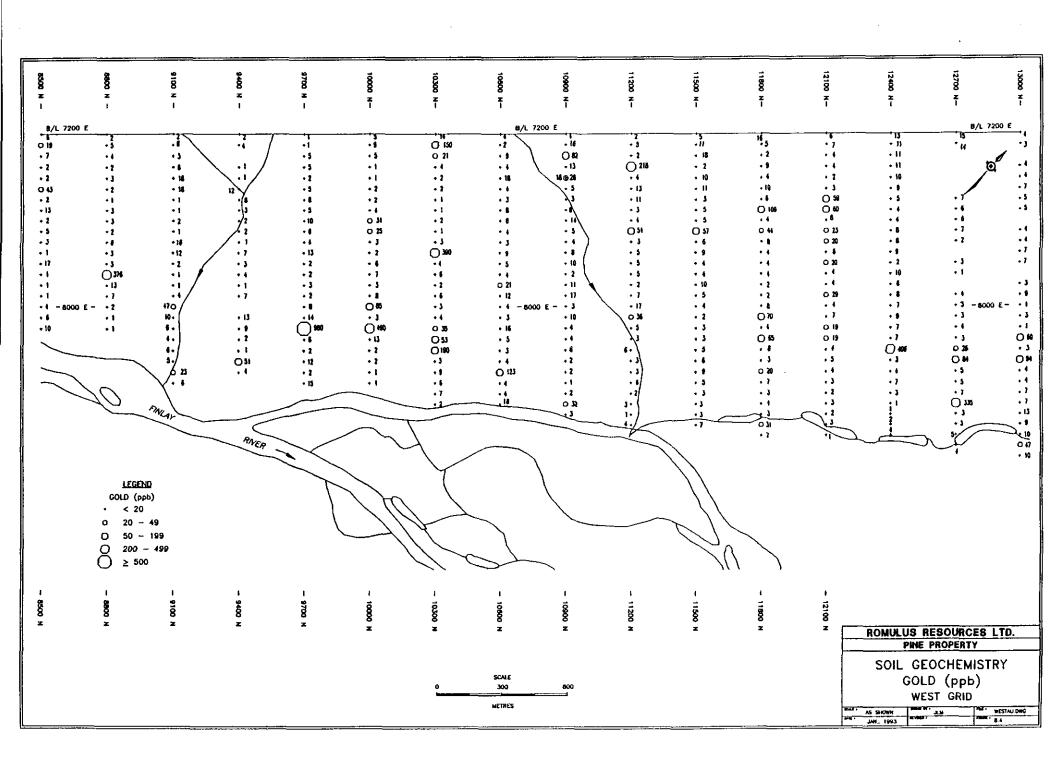
A total of 405 soil samples were collected at 50 metre intervals along the 300 metre-spaced (cut) IP lines. The samples were analyzed for gold only.

The 1992 survey outlined a linear to slightly arcuate gold anomaly extending from Line 9700N to 10600N, in the vicinity of 8100E to 8300E. A peak value of 980 ppb occurs at the southwest end of the anomaly. The anomaly, which is at least 900 metres long, is not associated with anomalous copper or molybdenum values. Mapping in the area did not locate any significant mineralization.

In the vicinity of the Kennco's main copper-molybdenum anomaly centred at approximately 12300N and 7800E, there are some threshold to anomalous gold values, generally in the 20 to 60 ppb range, that are coincident with the western portion of the copper-molybdenum anomaly. One possible source for the metal concentrations in this area are vuggy hematite-bearing quartz veins which carry up to 1102 ppm copper, 417 ppm molybdenum and 26 ppb gold.

## 5.4.3 <u>Geology and Rock Geochemistry</u>

The northern portion of West grid is underlain mainly by an intrusive body, granitic to granodioritic in composition, which may be an extension of the granodiorite stock which outcrops in the Fin Cu-Mo prospect area. The southwestern two-thirds of the grid area is underlain mainly by andesitic and latitic Toodoggone volcanic rocks.



Numerous dykes, both mineralized and barren, crosscut the intrusive and volcanic rocks. Copper mineralized dykes include feldspar porphyritic quartz monzonite and syenite. Post mineral dykes include quartz latite and rare andesite. Dominant dyke trends are northerly and northeasterly.

In the intrusive rocks, chlorite and epidote are the most common alteration minerals present. Locally, in areas of higher IP chargeability response (in the 15 to 20 milli-second range), intrusive rocks exhibit weak to moderate phyllic alteration associated with the local development of a weak quartz stockwork. Phyllically altered rocks contain up to one percent disseminated pyrite.

Alteration styles in the Toodoggone volcanic rocks are similar to those in intrusive rocks, except that phyllically altered volcanic rocks are more commonly localized near mineralized dyke contacts. Within the mineralized dykes themselves, quartz and potassium feldspar flooding is a common alteration feature.

Highlights of the rock geochemical sampling in West Grid are summarized in Table 6. Of note are the vuggy hematite-bearing quartz veins, in the northern portion of the grid area, which contain anomalous concentrations of copper, molybdenum, silver and lesser lead and zinc. The veins occur within and adjacent to monzonite dykes which crosscut granodiorite.

In the central portion of the grid area, near Line 10900N, minor disseminated chalcopyrite and malachite occur in feldspar porphyritic monzonite and syenite dykes. The dykes contain zones of quartz-potassium feldspar flooding and returned copper values up to 871 ppm. There are no associated gold and molybdenum anomalous values.

Anomalous lead and silver values are present at two localities. In the vicinity of 9240N and 7840E, a minor shear containing rusty clay gouge returned values of 4128 ppm lead and 3.6 ppm silver.

## TABLE 6

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# Summary of Anomalous Rock Geochemical Results - West Grid

Sample	Au	Cu	Mo	Pb	Zn	Ag	Demender
10	(ppb)	(mqq)	(mag)	(mqq)	(mqq)	(mqq)	Remarks
28501	4	1102	90	31	17	2.3	Monzonite hosted shear containing Qtz, Hem, Py 0.5 M Chip
28508	7	74	13	4128	110	3.6	Shear hosting rusty clay gouge
28551	2	417	3	9	80	0.2	Monzonite with Mal. & Azurite
28554	9	1011	417	28	11	16.9	2M wide Qtz vein stkwk, up to 25% spec. Hem, 1-3% Py
28559	12	37	8	1989	72	1.7	Strong phyllic; Qtz stkwk & flood, 1% diss. Py, Mt.
28562	4	658	3	12	101	1.5	Silicified monzonite with wk diss Py, Cpy. Also Mal.
28563	4	871	3	16	87	2.0	Silicified & Kspar flooded monz. with 1% Cpy <u>+</u> Py Select Chip across IM
28565	3	483	3	9	86	1.2	Similar to 28563 Chip across 2M
28566	3	251	2	9	144	0.2	Volcanic xenoclast, Qtz. Kspar-Calcite flood; Tr. Cpy. & Mal.
28568	4	35	5	51	90	5.7	Qtz. Kspar, Ep, Ser. flooded, brecciated fine- med. green rock
28570	3	132	1	5	109	0.1	Granodiorite with wk Py and Tr. Cpy. Chlorite & Hem. stain.

Near 12400N and 8350E, a sample of phyllically altered quartz monzonite returned values of 1989 ppm lead and 1.7 ppm silver.

## 5.5 North Grid

## 5.5.1 <u>Introduction</u>

Silt sampling surveys carried out by Kennco in the late 1960's identified a southwesterly flowing drainage in the northeastern portion of the Pine property that returned anomalous copper and gold values up to 1440 ppm and 70 ppb respectively. The drainage traverses an area of higher aeromagnetic response which is considered prospective for locating gold and copper mineralization on the Pine property.

Grid work by Romulus consisted of 18 line kilometres of flagged soil lines and 4.9 line kilometres of cut IP grid. The soil lines were done as loop traverses from air photo control points along the Finlay River. Line spacing was designed to be 100 or 200 metres, with 50 metre sample intervals along the lines. Later, a cut grid at 300 m line spacing was installed in the most geochemically anomalous area in order to provide ease of access for an IP survey and also to provide tie control to the soil lines.

## 5.5.2 Soil Geochemistry

A total of 386 soil samples were collected in the North Grid area. The samples were analyzed for gold by AA methods and also for an additional 30 elements by ICP methods. Only the results for Cu, Mo, Au, Pb, Zn and Ag are discussed here.

Anomalous copper values ( $\geq$  300 ppm Cu) extend from Line 14600N to 15800N and outline an area measuring about 300 to 500 metres wide by 1200 metres long, elongate in a northeasterly direction. A second zone of anomalous copper, detected on lines 16200N and 16400N, remains open to the northeast. Approximately coincident with the areas of anomalous copper are areas of anomalous

molybdenum ( $\geq$  15 ppm) and silver ( $\geq$  1.5 ppm).

Anomalous lead values ( $\geq$  100 ppm), which extend from Line 14600N to 15300N, define an anomaly measuring about 400 metres by 500 metres which is coincident with the southwestern half of the main coppermolybdenum-silver anomaly. A zinc anomaly, with anomalous values exceeding 800 ppm, is coincident with the lead anomaly. Scattered anomalous zinc values extend to the southwest limit of the grid.

Anomalous gold values ( $\geq$  50 ppb) occur throughout the grid area but do not appear to correlate well with any of the above anomalies. Some of the higher gold values near or adjacent to the Finlay River may be alluvial in origin.

## 5.5.3 Geology and Rock Geochemistry

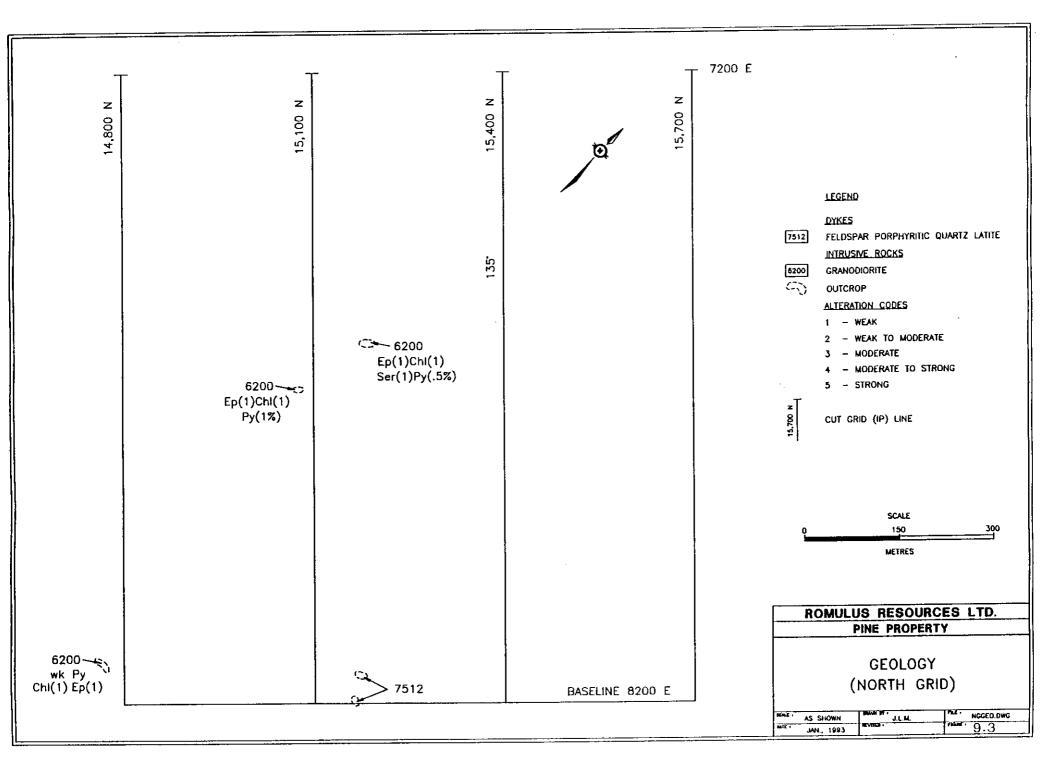
Geological mapping and prospecting was carried out in the cut IP grid area, but little information was obtained due to the lack of bedrock exposure. The few outcrops present are granodioritic in composition, weakly propylitized and contain less than one percent pyrite. No rock geochemical samples were collected in the North Grid area.

# 5.5.4 Induced Polarization Survey

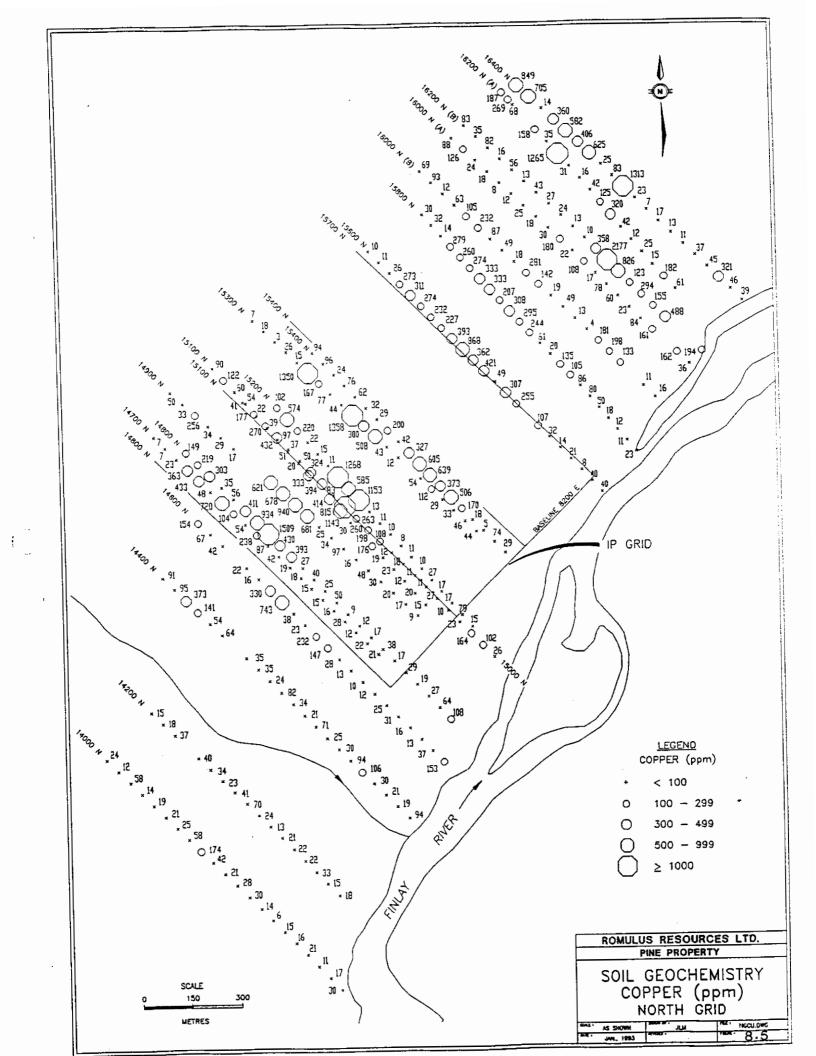
Four line kilometres of IP Survey were completed from 14800N to 15700N, in the area of the strongest multi-element soil geochemical response. The surveyed area is typified by generally low chargeability in the 5 to 10 milli-second range and high resistivity in the 2000 to 4000 ohm-metre range.

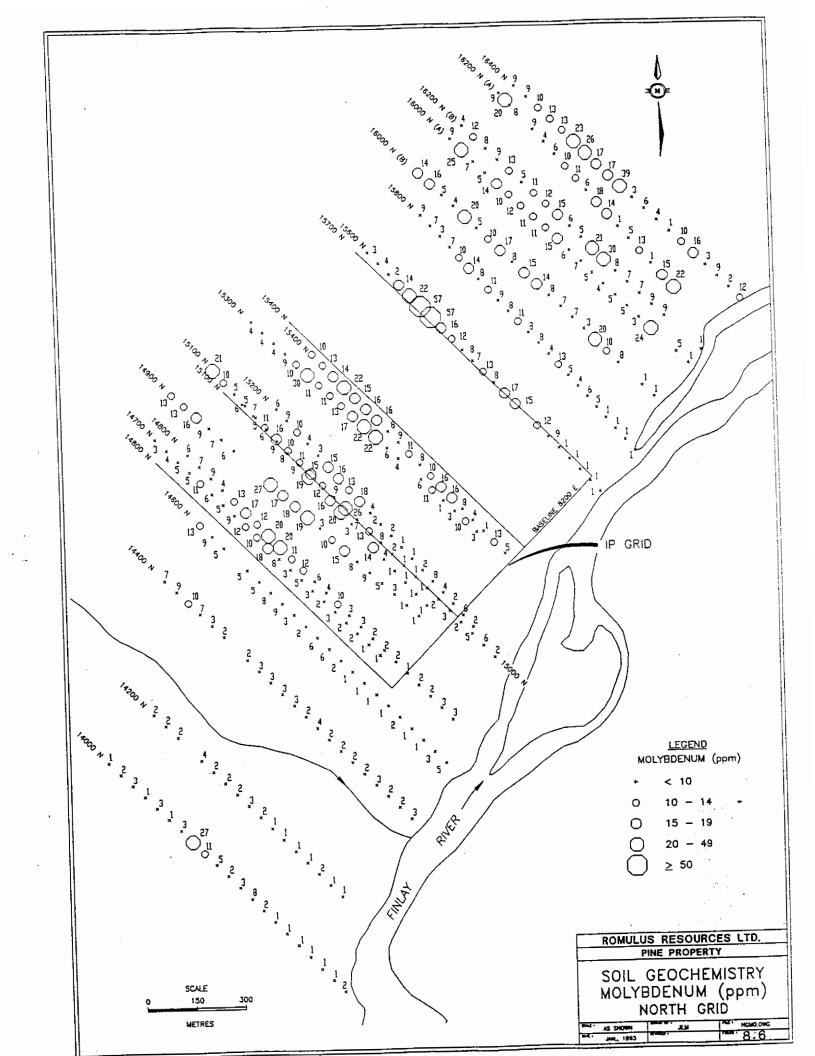
## 5.5.5 Discussion

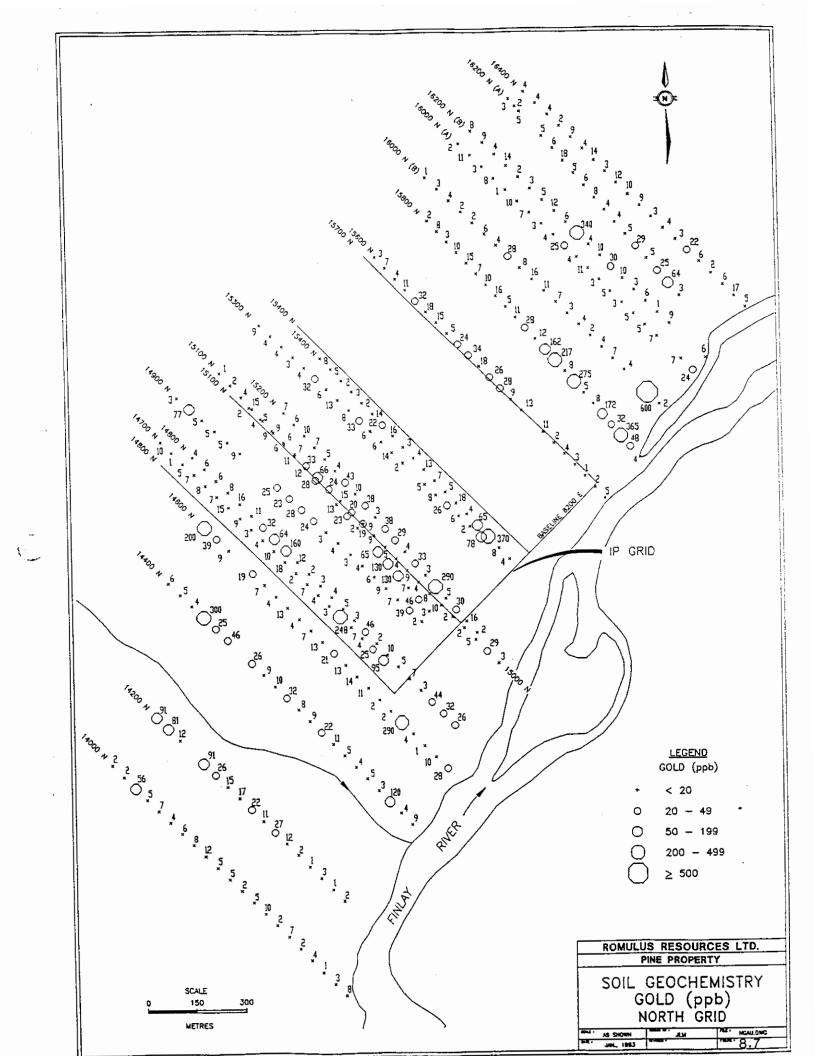
The multi-element soil geochemical anomaly in the North Grid area, which is of considerable size and intensity, represents a very attractive exploration target. The geology and IP survey results suggest that a porphyry mineralized system is not present in the

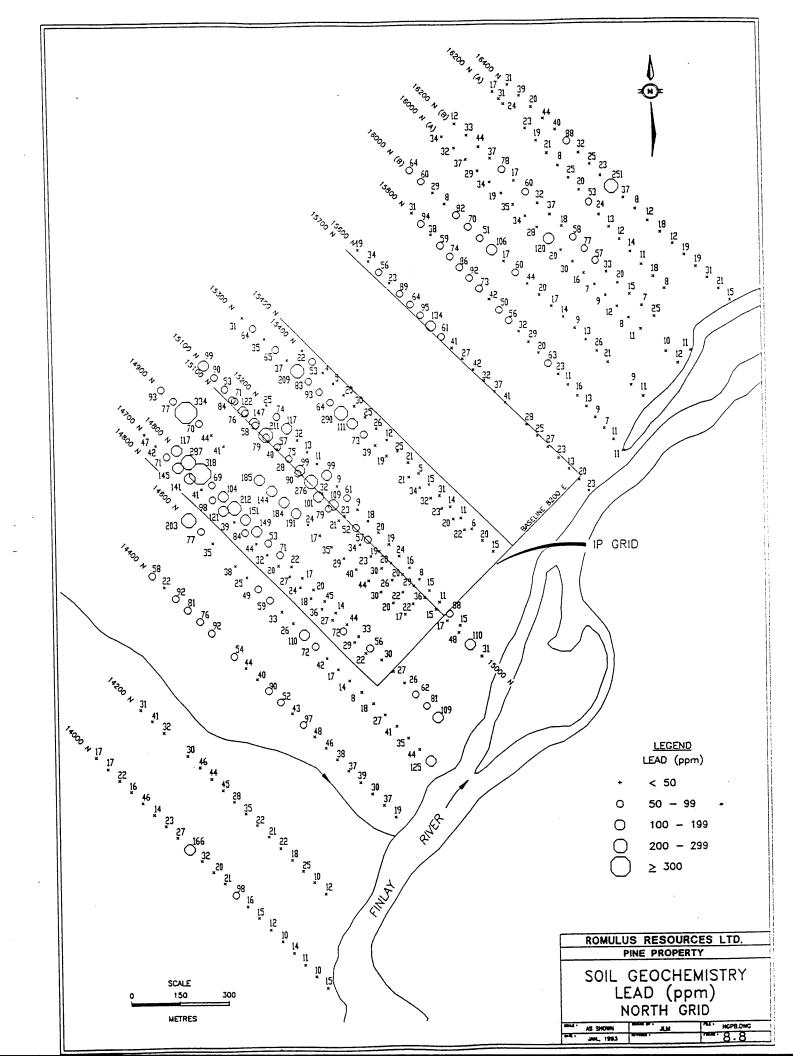


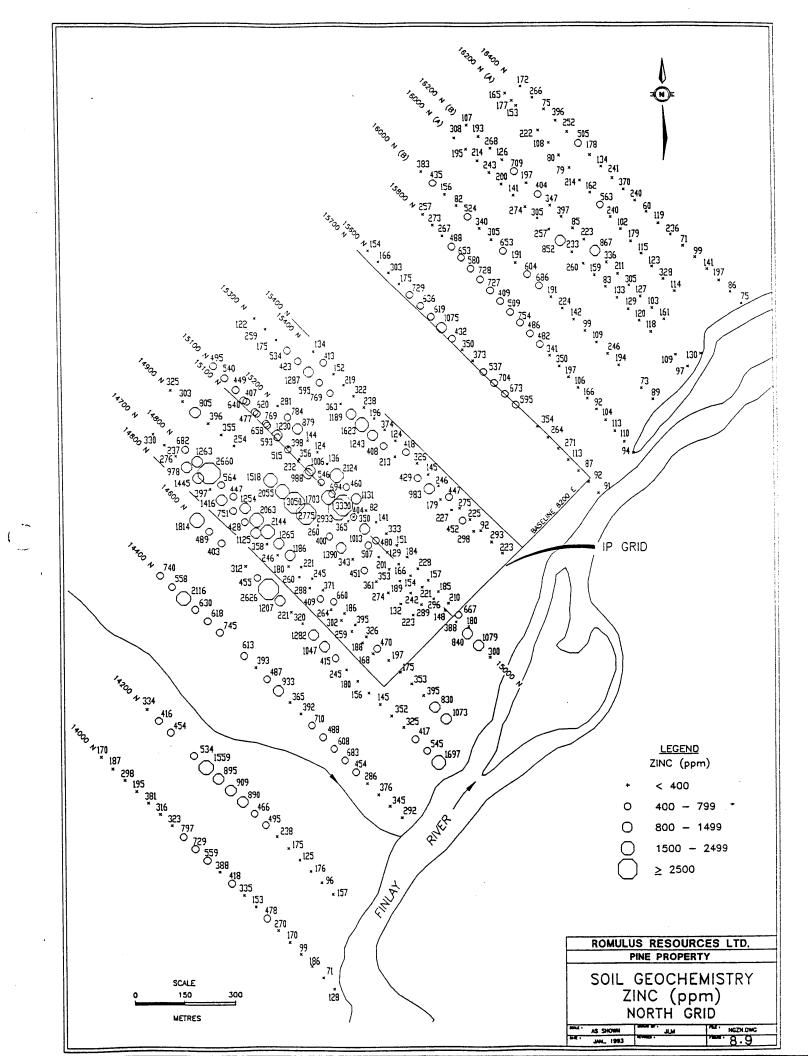
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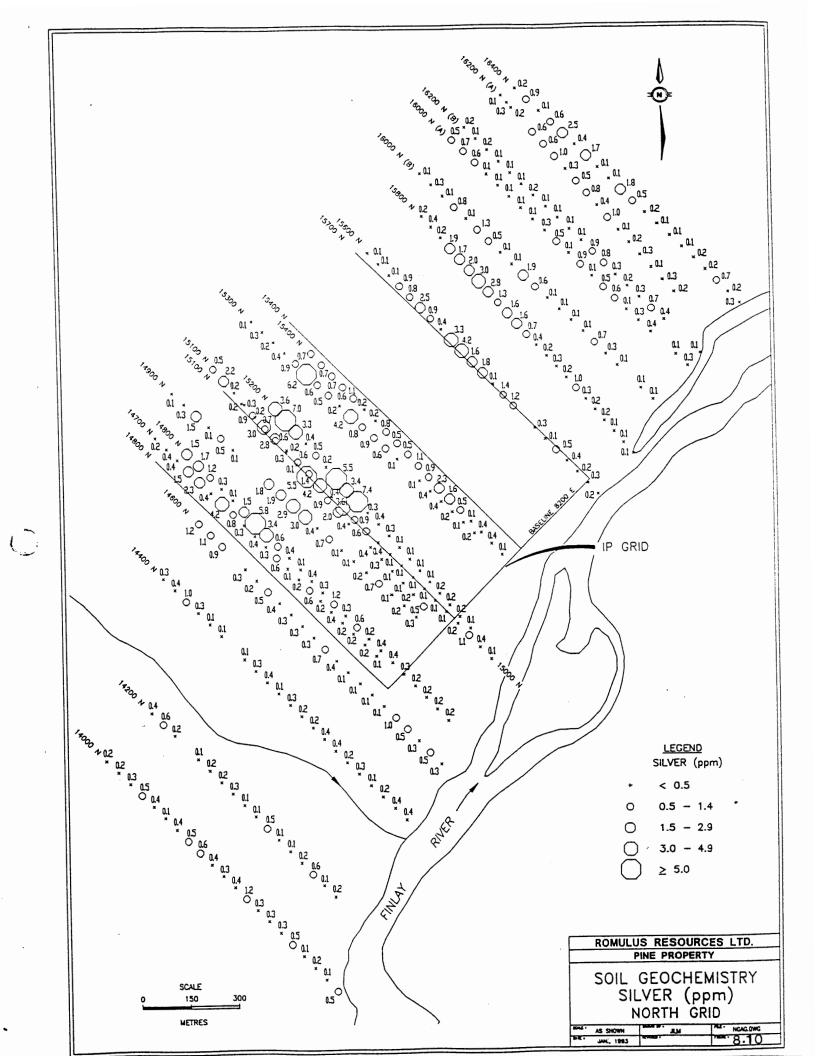












immediate area of the cut grid. If there is a local source to the anomalies, it may be a skarn or vein-type occurrence. Another possibility is that the anomalies have been transported and their source, which may be a porphyry-type, is located up-ice to the southwest.

## 5.6 Northwest Grid

#### 5.6.1 Introduction

A large, well-exposed gossan is present in the northwest corner of the Pine property. In order to assess its mineral potential, Romulus established about 16 line kilometres of flagged line grid at about 140 metre and 200 metre line spacing, with 50 metre sample intervals along the lines. A small fill-in grid was later established. It consisted of about three line kilometres of flagged lines at 50 metre spacing, with 25 metre sample intervals along the lines.

## 5.6.2 Soil Geochemistry

A total of 299 soil samples were collected on the initial widerspaced grid and an additional 131 soil samples on the fill-in grid. The soil samples were analyzed for gold by AA methods and also for an additional 30 elements by ICP methods. Only the results for Cu, Mo, Au, Pb, Zn and Ag are discussed here.

Anomalous copper values ( $\geq$  100 ppm) up to 281 ppm are present on Lines 10200N and 10400N west of baseline 10000E. In the same general area, lead displays a strong, localized response up to 2098 ppm, as does zinc, up to 1454 ppm.

On Lines 9600N to 10400N, from about 10700E to 11100E, anomalous gold values ( $\geq$  50 ppb) up to 680 ppb are coincident with anomalous molybdenum values ( $\geq$  15 ppm) up to 74 ppm. Anomalous molybdenum and gold values are also present in the Cu-Pb-Zn anomalous soils area.

The fill-in grid, which centred on the most intense portion of the gold-molybdenum anomaly, delineated a highly anomalous area, as defined by the limit of  $\geq$  100 ppb gold, measuring about 150 metres by 250 metres and elongate along an axis of about 110°. Uniformly low copper values suggest that leaching of copper from the surface rocks may have occurred here. The area definitely warrants further investigation.

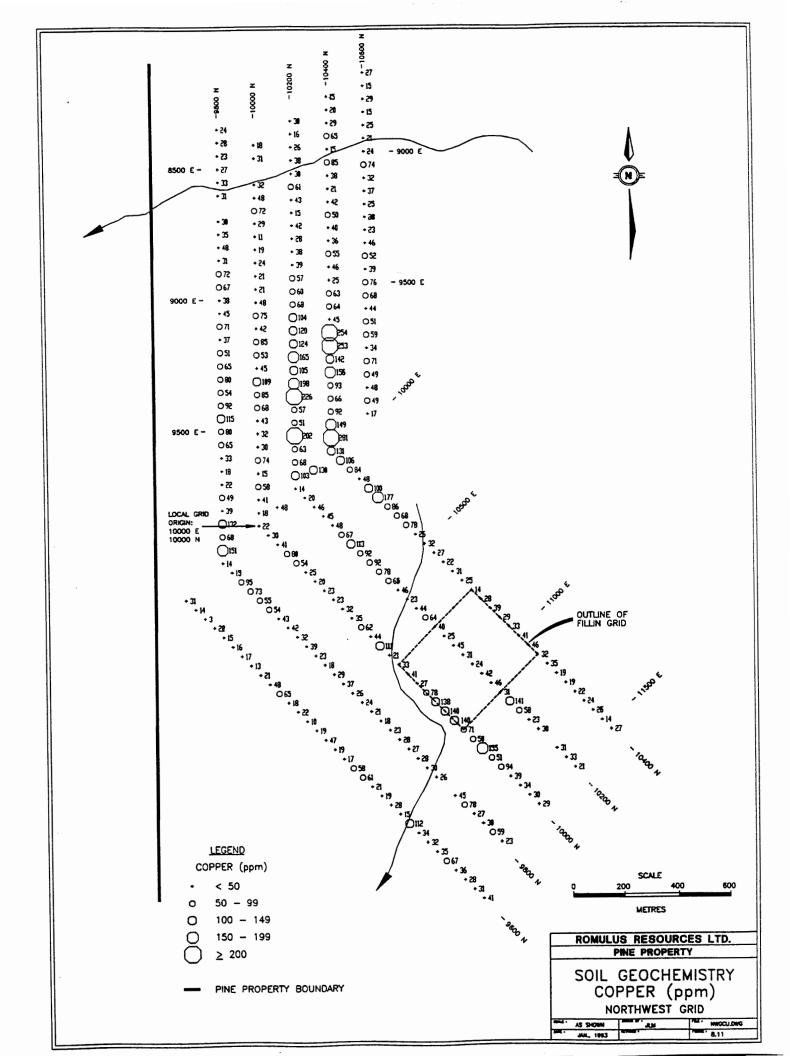
Silver displays no obvious patterns. A number of anomalous values up to 10.9 ppm are present.

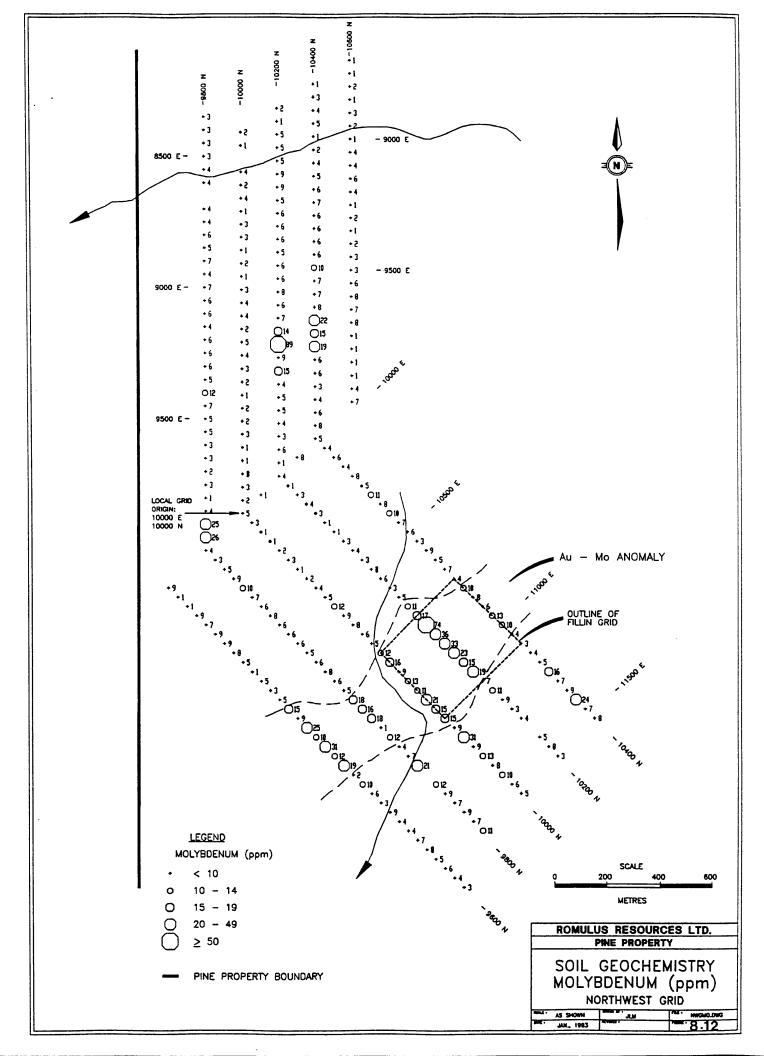
#### 5.6.3 Geology and Rock Geochemistry

Geological mapping was limited to Line 10200N, from base line 10000E to 11500E. The mapping work was carried out in conjunction with detailed prospecting in and adjacent to the gold-molybdenum anomaly. Purpose of the work was to obtain a better understanding of the geological setting of the gossan and its included goldmolybdenum soil anomaly.

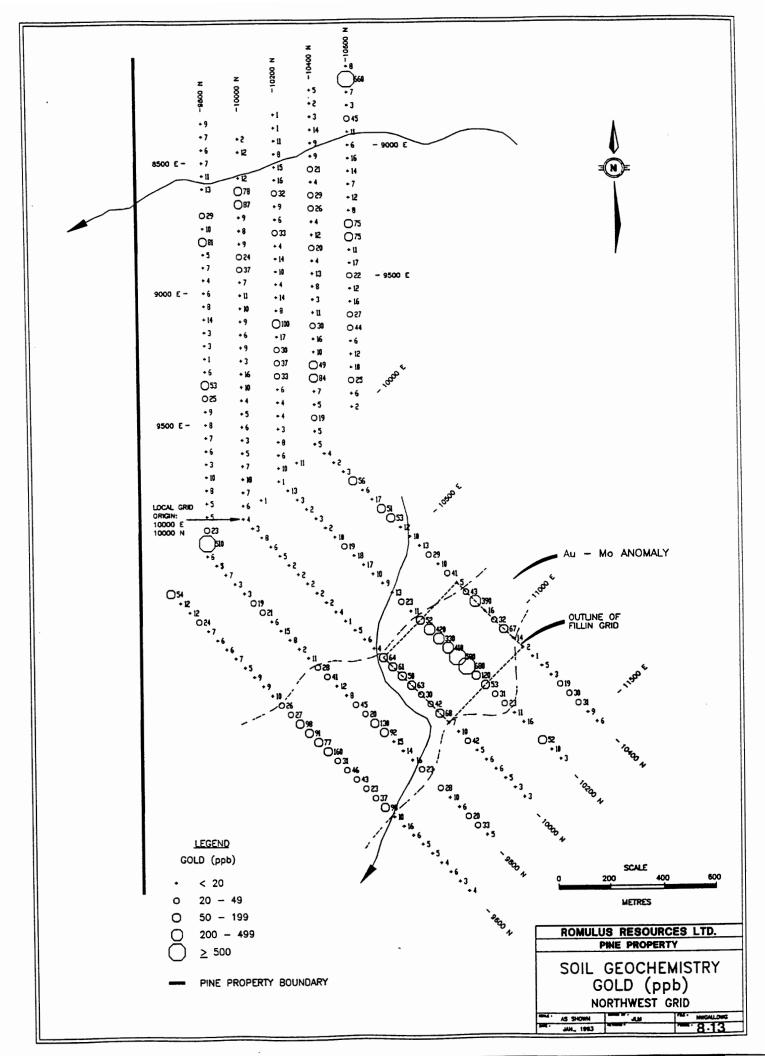
The source rock for the gold-molybdenum anomaly is an intensely kaolinized and somewhat porous unit that exhibits some evidence of brecciation. The unit contains no sulphides, is moderately to intensely limonitic and has probably undergone some surface leaching. The protolith is unknown. Two rock chip samples returned gold values of 111 and 553 ppb which are of a similar magnitude to values obtained in the residual soils.

Outward from the kaolinized unit, outcrops to the northwest exhibit evidence of possible porphyry-style alteration zoning. Up to a distance of about 400 metres from the outer limit of the kaolinized zone, the country rock is intensely phyllically altered and contains 5 to 8 percent pyrite. Further to the northwest, dacitic volcanic rocks are propylitically altered, contain minor pyrite and at one locality contain a trace of disseminated galena. Still further to the northwest, where no mapping was carried out, is the

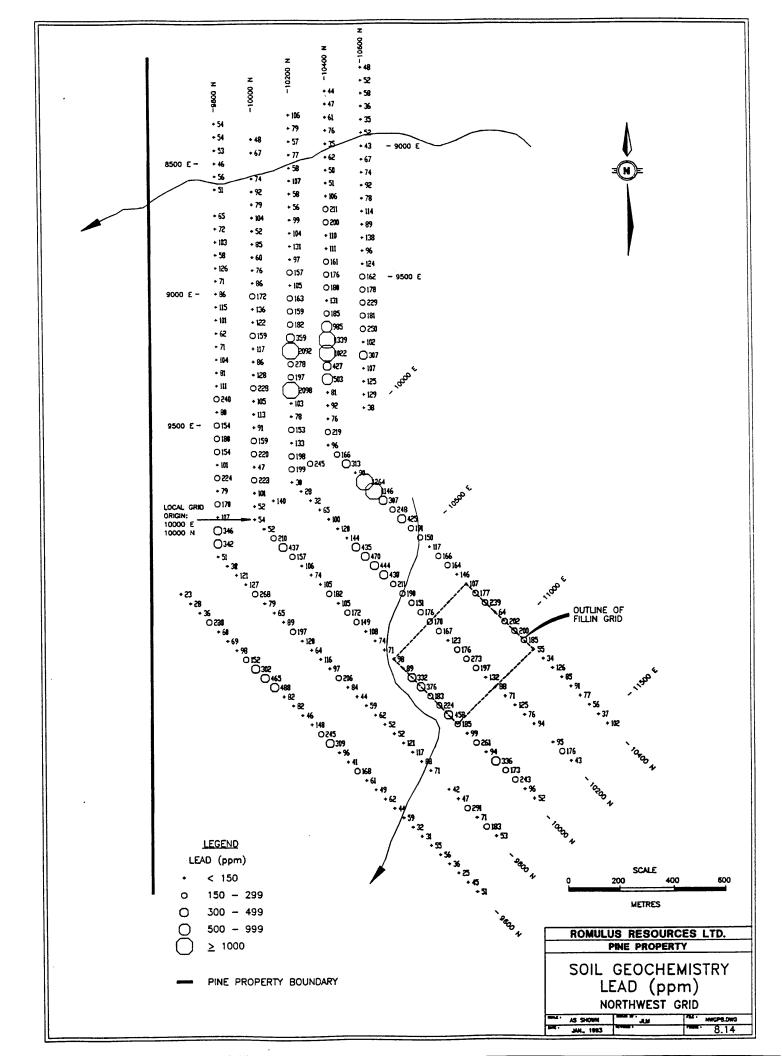


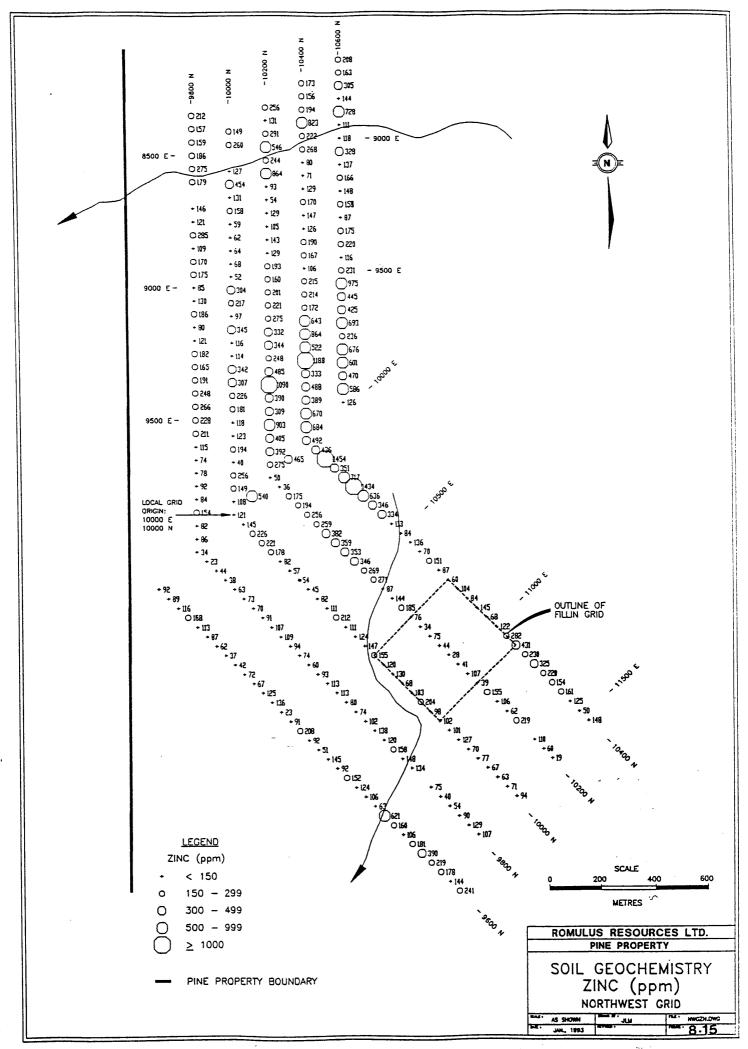


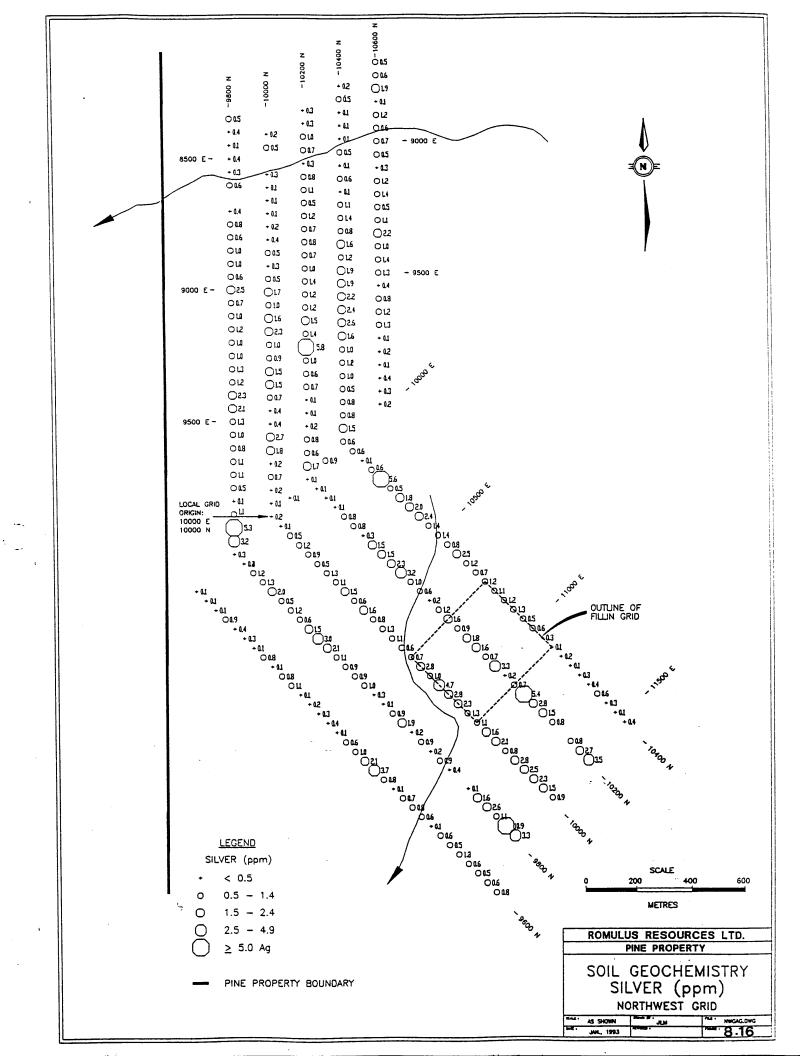
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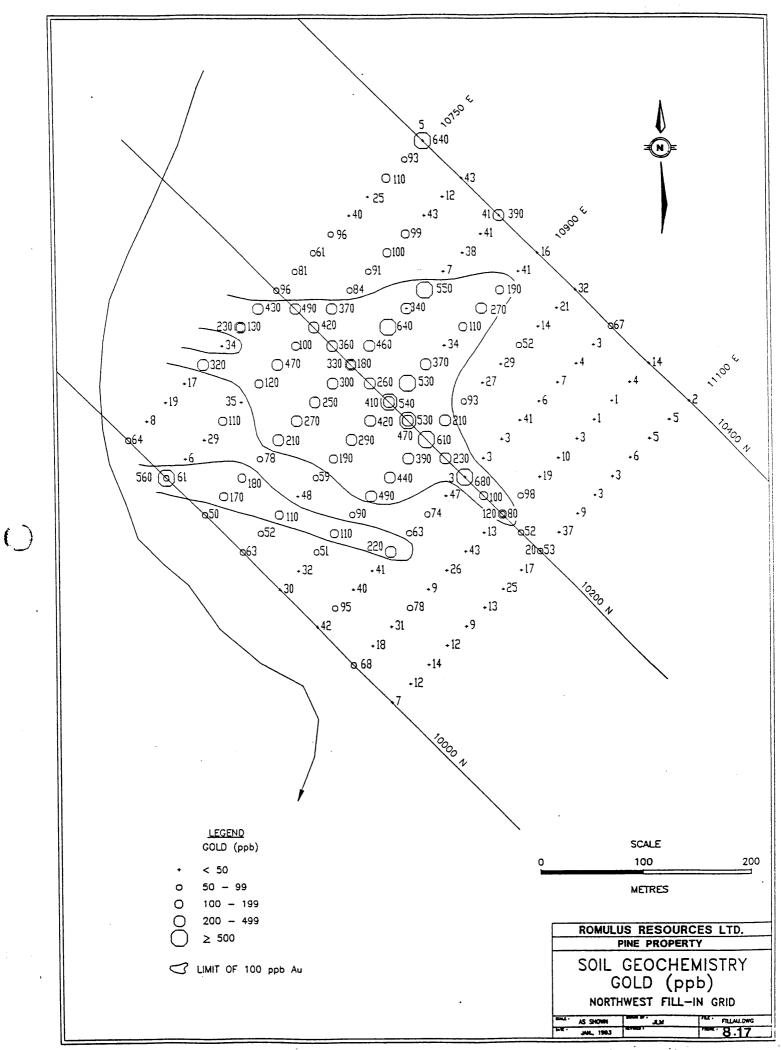


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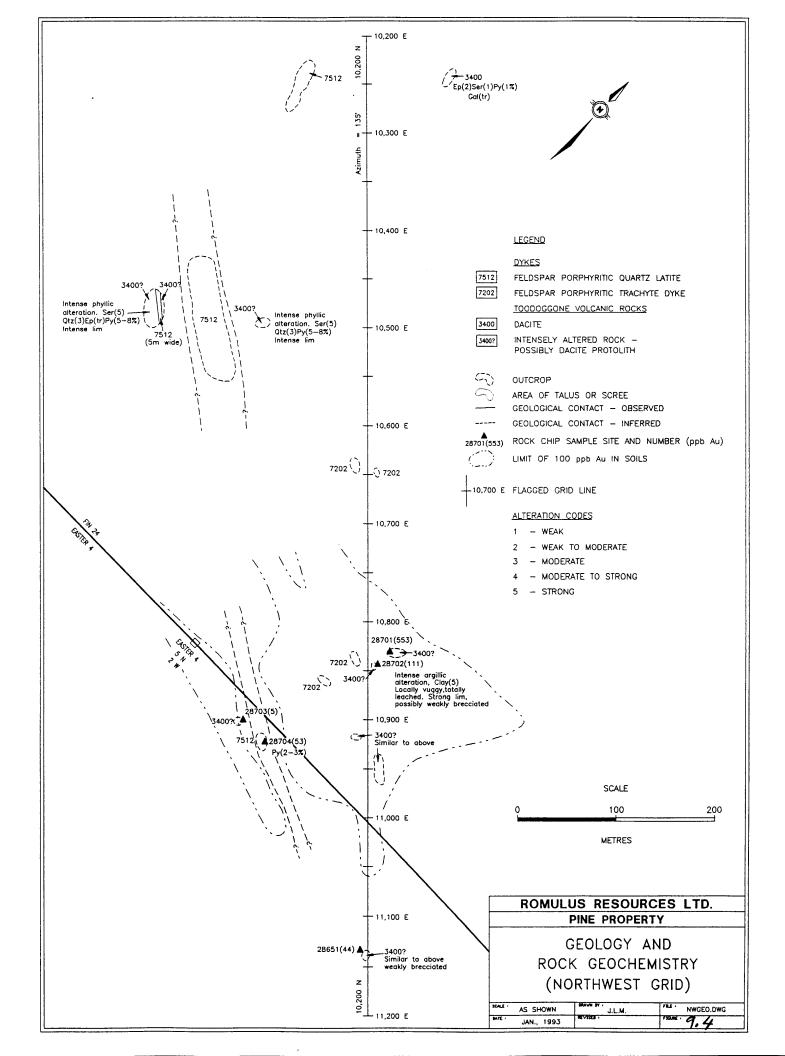








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Cu-Pb-Zn anomalous soils area which may be reflecting peripheral base metal vein mineralization. Trachytic and quartz latitic postmineral dykes cut all rock units.

## 5.6.4 **Discussion**

The intensely kaolinized, gold and molybdenum-enriched and possibly copper-depleted breccia (?) unit may represent a high-level pipelike body which emanates from a buried porphyry-type Au-Cu-Mo mineralized system. Although specific drill targets have yet to be defined, conceptually the Northwest Gossan represents an intriguing target area that warrants more work. A similar geologicalgeochemical feature occurs on the Brenda property located approximately 5 km to the west.

## 5.7 Song 1 and Song 2 Claims

## 5.7.1 Introduction

Reconnaissance mapping, prospecting and soil and rock geochemical sampling were carried out on 2.1 km and 1.15 km traverses on the Song 1 and Song 2 claims respectively. Purpose of the work was to obtain some general reconnaissance coverage on these claims which were staked in May 1992.

## 5.7.2 <u>Song 1 Claim</u>

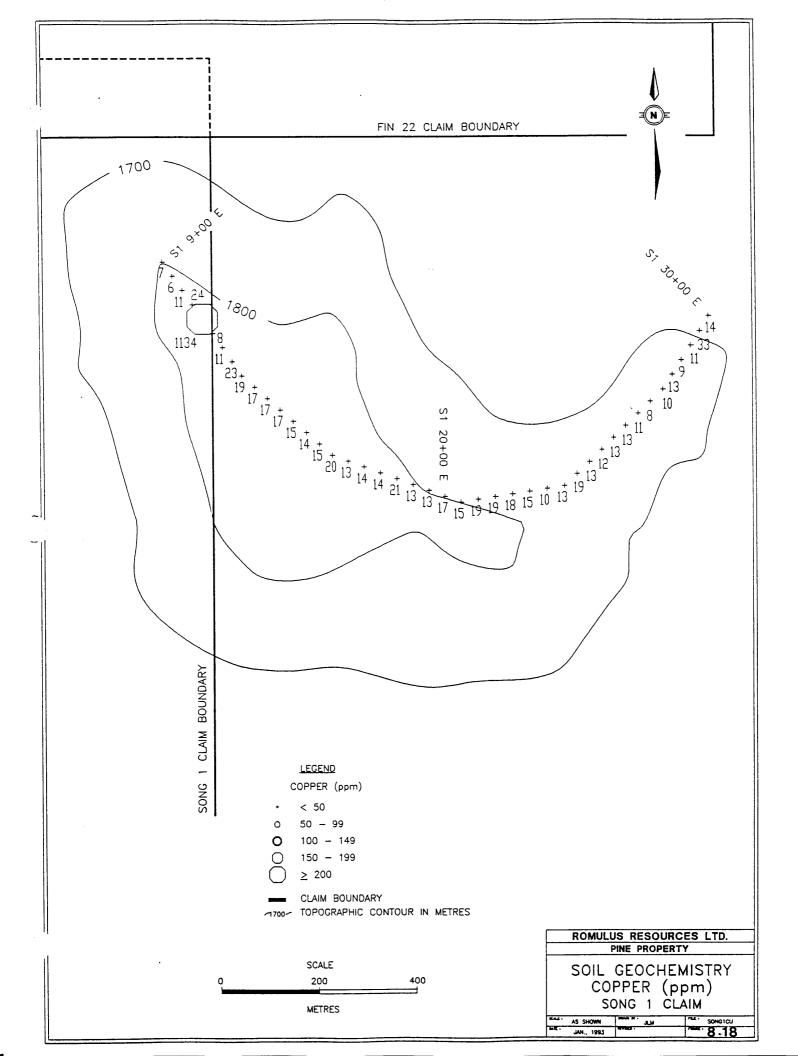
#### 5.7.2.1 Soil Geochemistry

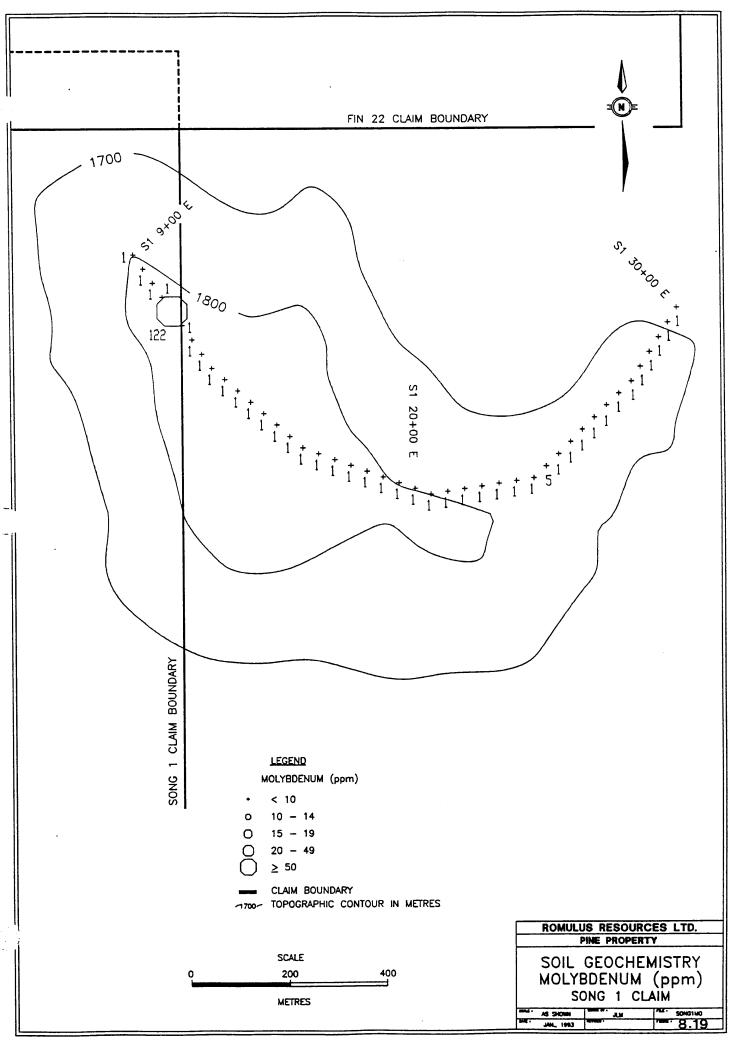
A total of 43 soil samples were collected at 50 metre intervals. Near the western end of the recce soil line, sample number S1 11+00E returned anomalous values of 122 ppm Mo, 1134 ppm Cu, 10680 ppm Pb, 2046 ppm Zn, 4.9 ppm Ag and 690 ppb Au. The soil sample did not return anomalous As or Sb values. It was taken in an area where no outcrop was mapped. The nearest outcrops, some 40 metres away, are chloritized Toodoggone volcanics which are locally cut by sericite and chlorite altered shear zones.

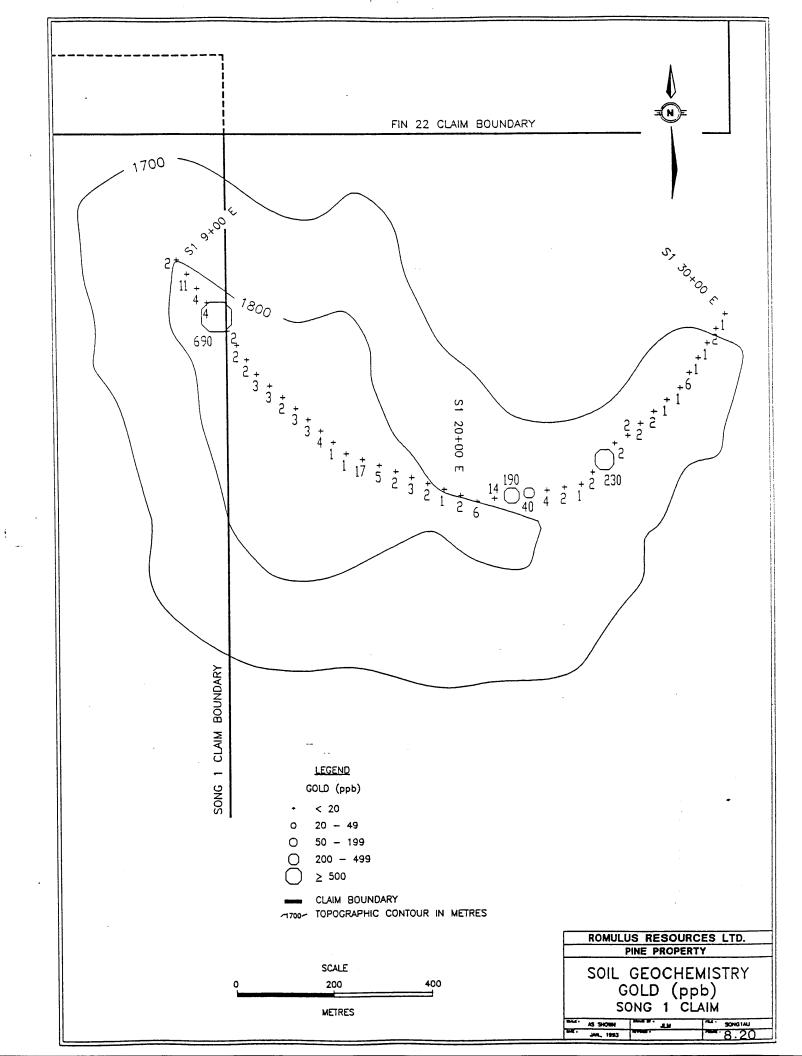
In the eastern half of the soil line, sample numbers S1 21+50E and S1 24+50E returned anomalous gold values of 190 ppb and 230 ppb respectively. There are no other anomalous metal values associated with the gold anomalies. At S1 21+50E, nearby outcrops are Toodoggone volcanics cut by minor rusty shears. At 24+50E no outcrop was mapped.

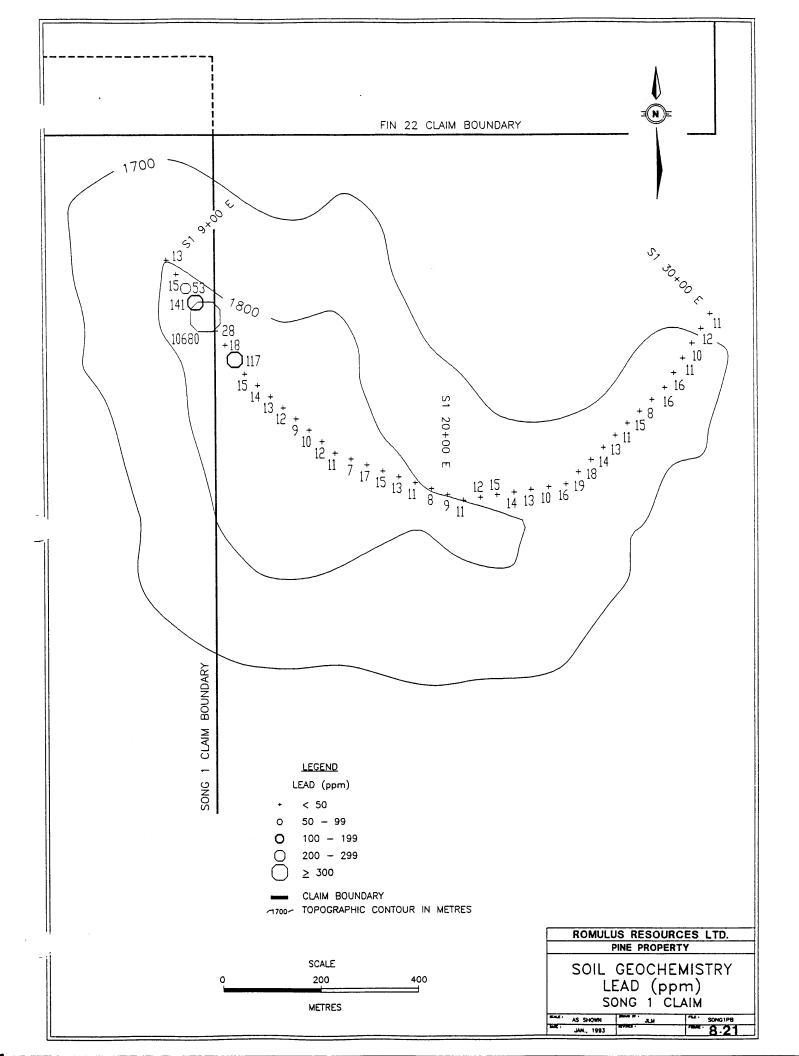
## 5.7.2.2 <u>Geology and Rock Geochemistry</u>

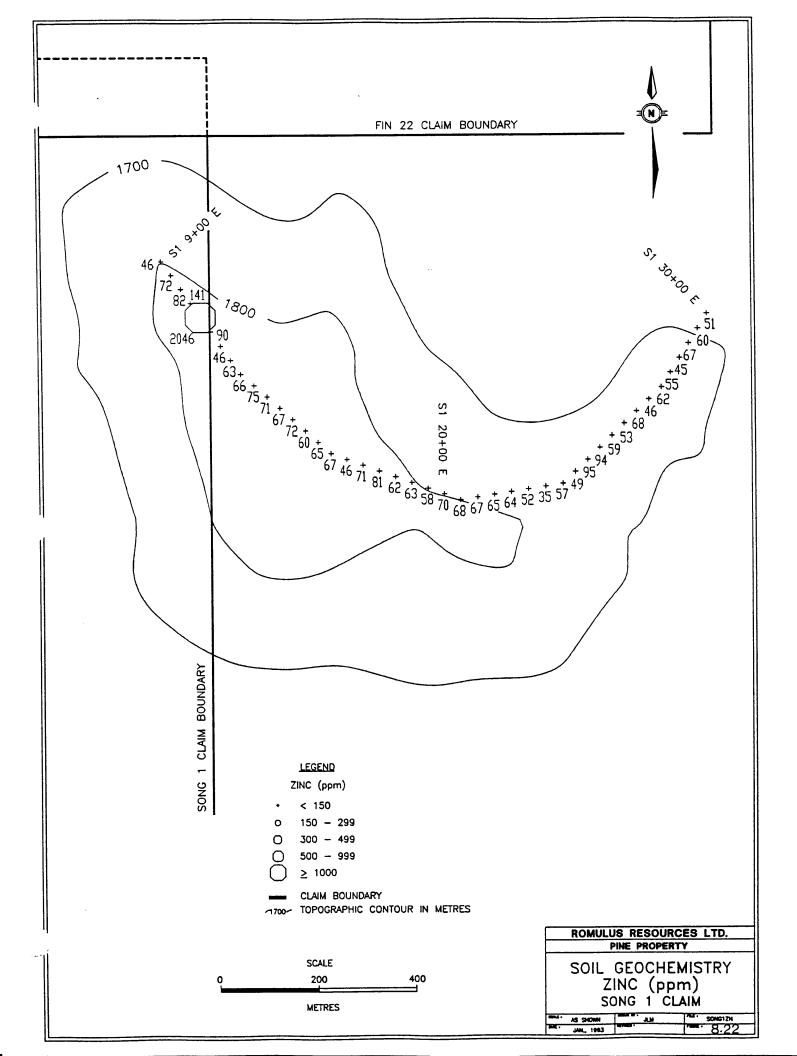
Outcrops along the recce soil line are mainly chloritized quartz latite flows and pyroclastic which are locally sheared or faulted. A rock chip sample of chlorite-sericite altered fault breccia returned no anomalous values. Porphyritic late dykes were noted at a few localities.

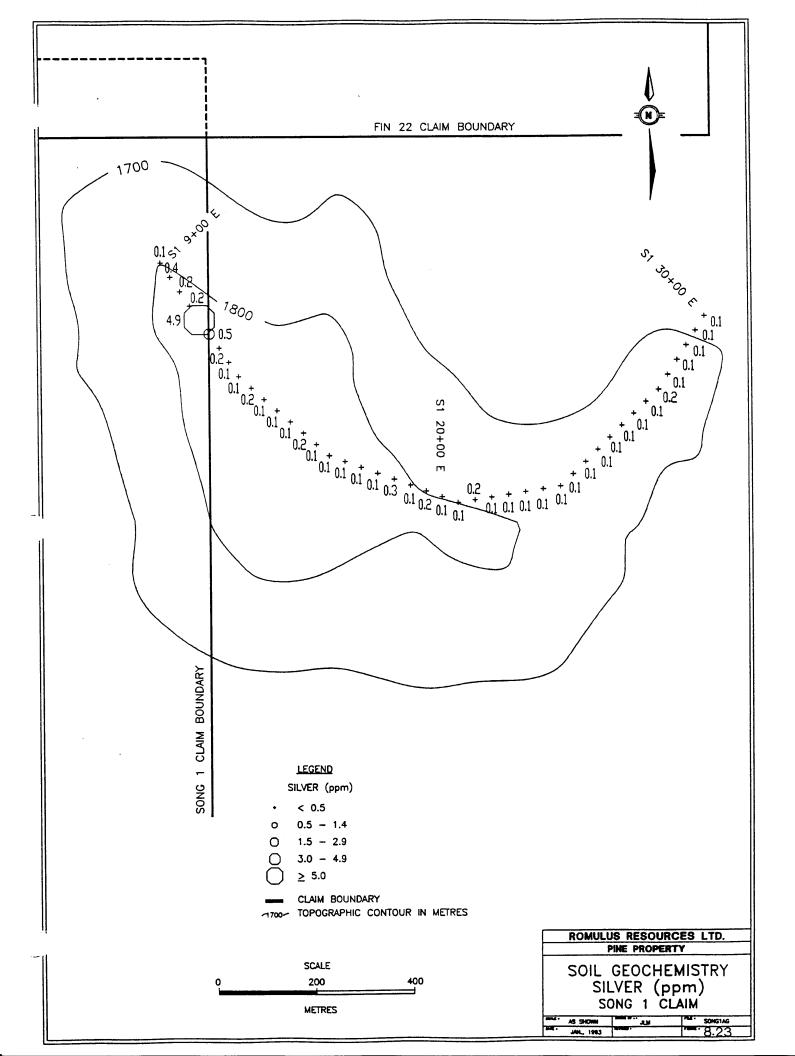


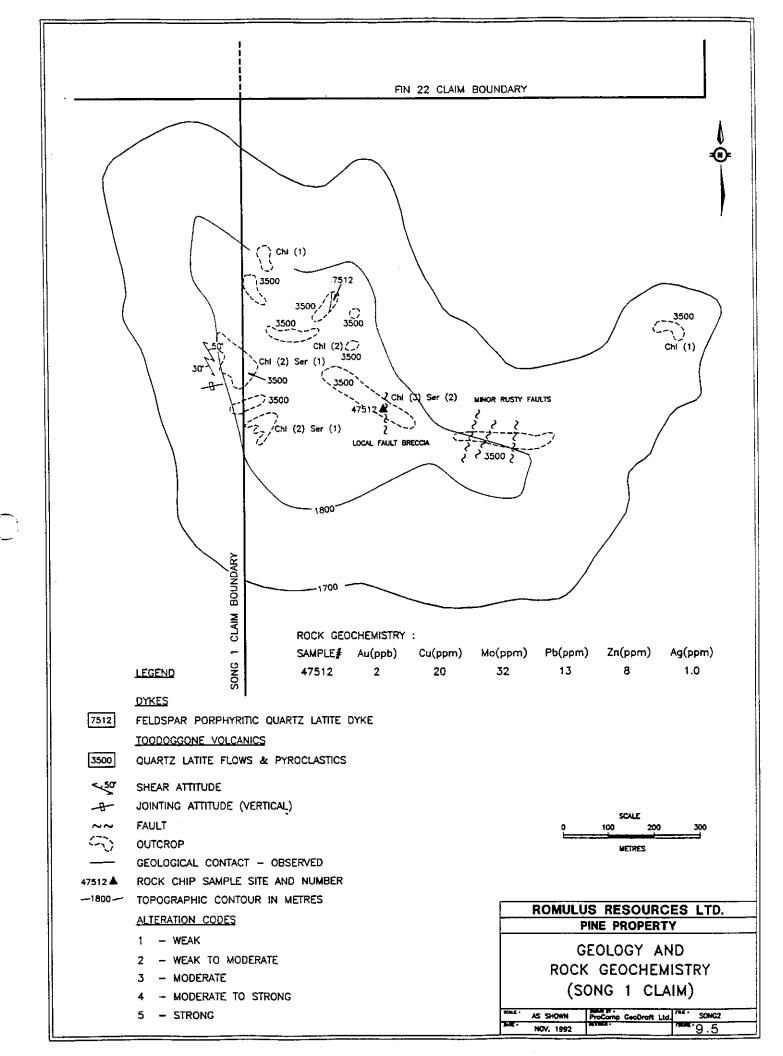












#### 5.7.3 <u>Song 2 Claim</u>

### 5.7.3.1 Soil Geochemistry

A total of 24 soil samples were collected at 50 metre intervals. At station S2 15+50E, a sample returned a gold value of 360 ppb. A nearby outcrop is brecciated and contains a calcite stockwork and one rusty shear. None of the other soil samples returned any significant results.

#### 5.7.3.2 Geology and Rock Geochemistry

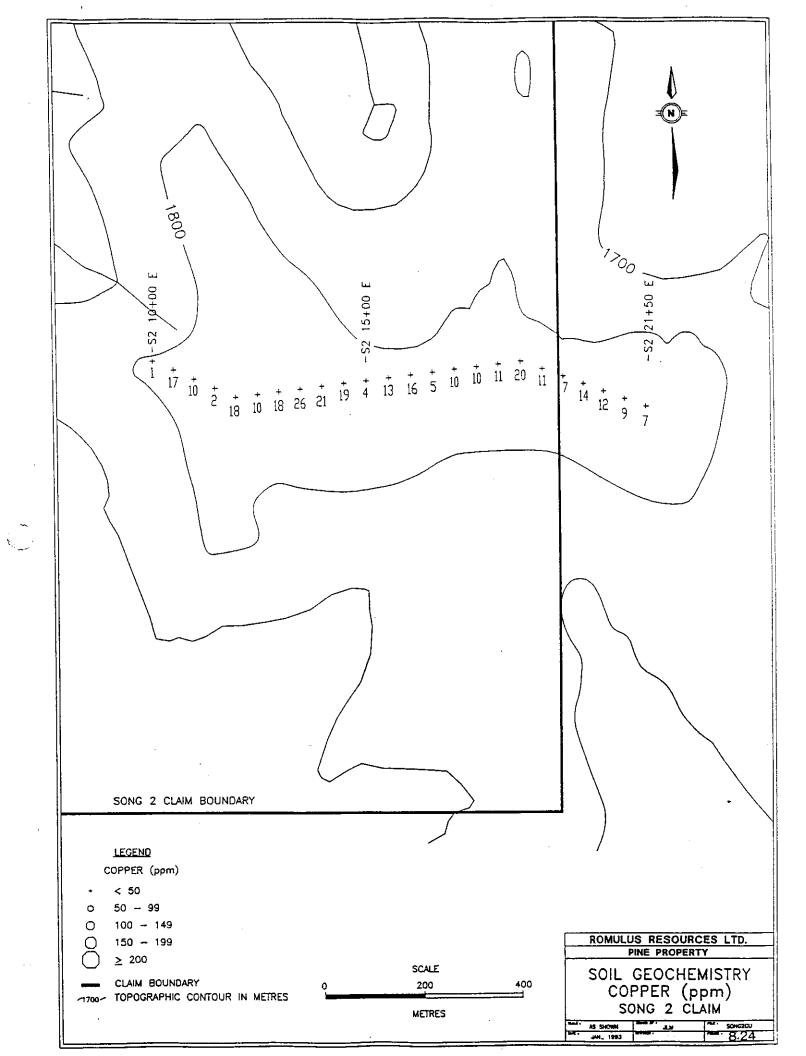
The geological setting of the Song 2 claims is similar to that of Song 1. Features common to Song 2 but not Song 1 include the local presence of calcite stockwork development and hematite staining of the volcanic country rock.

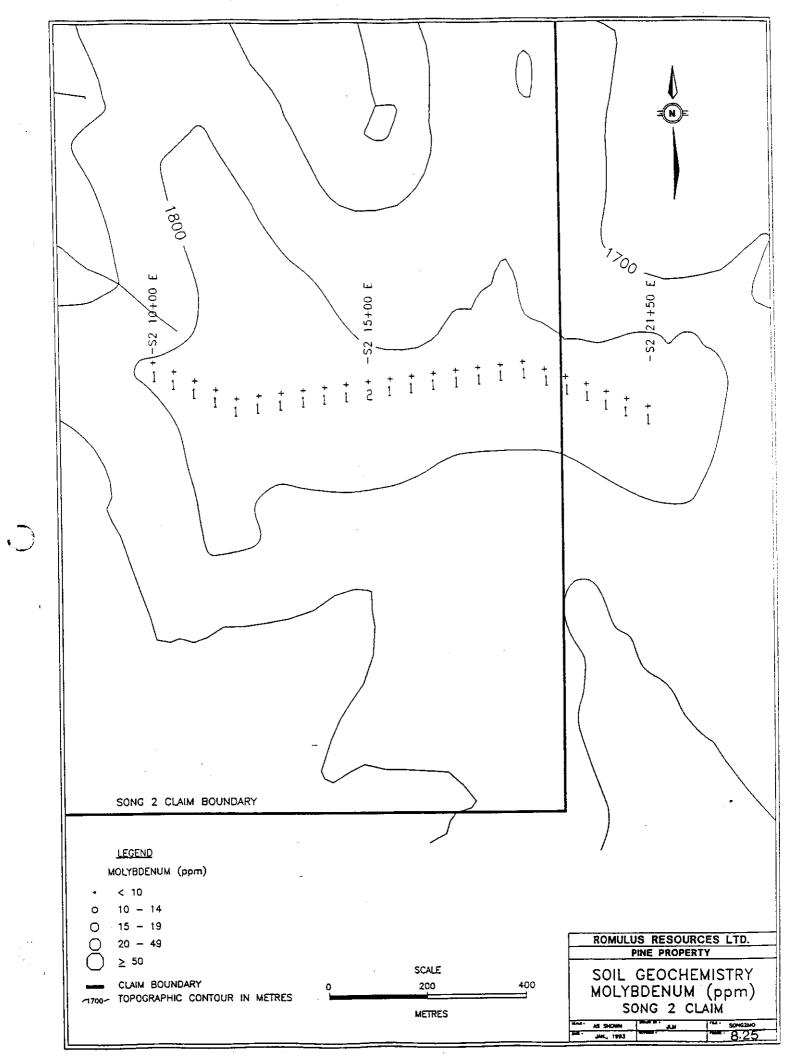
Five rock samples were collected. A sample containing malachite in massive sericite returned anomalous values of 528 ppm copper and 2.5 ppm silver. A value of 4.4 ppm silver was obtained from quartz-carbonate gangue in a chloritic fault. Otherwise, there were no significant results.

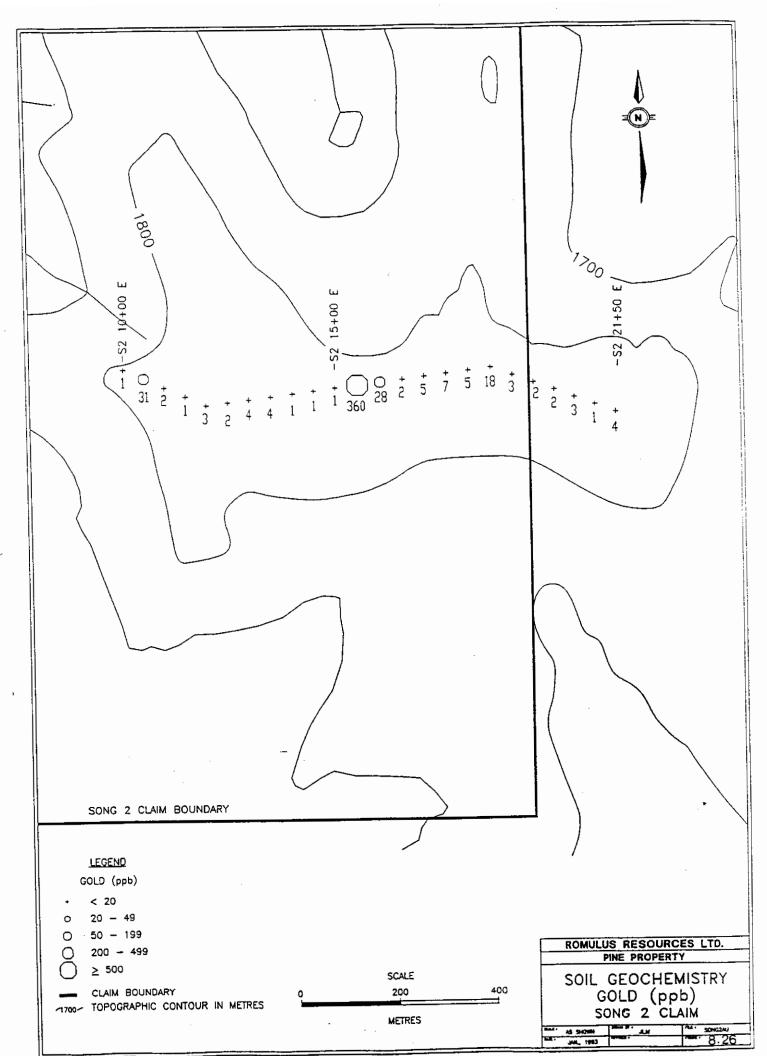
# 5.7.4 Discussion

The multi-element anomaly at station S1 11+00E on the Song 1 claim is probably reflecting a mineralized vein or shear containing base and precious metals mineralization. Mineralization of this type occurs on the Fine claim group adjacent to the northwestern claim boundary of the Pine property.

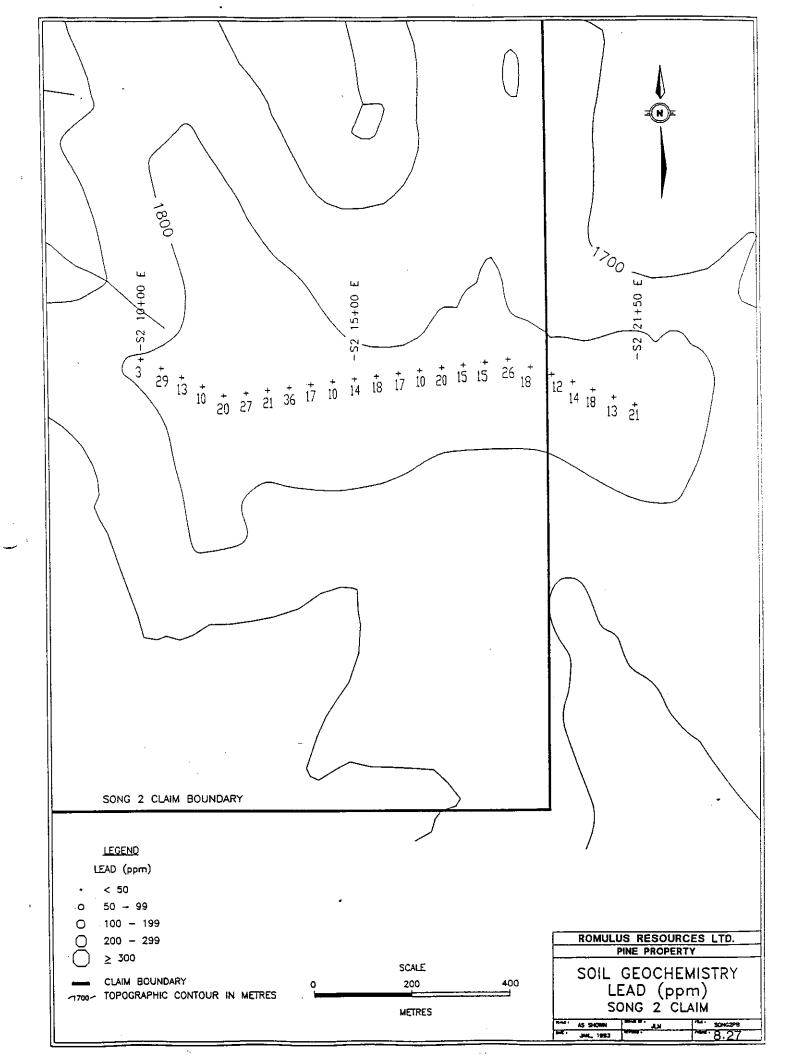
Although results to date on the Song 1 and Song 2 claims have yet to locate a significant exploration target, only a small portion of the claims have been explored.

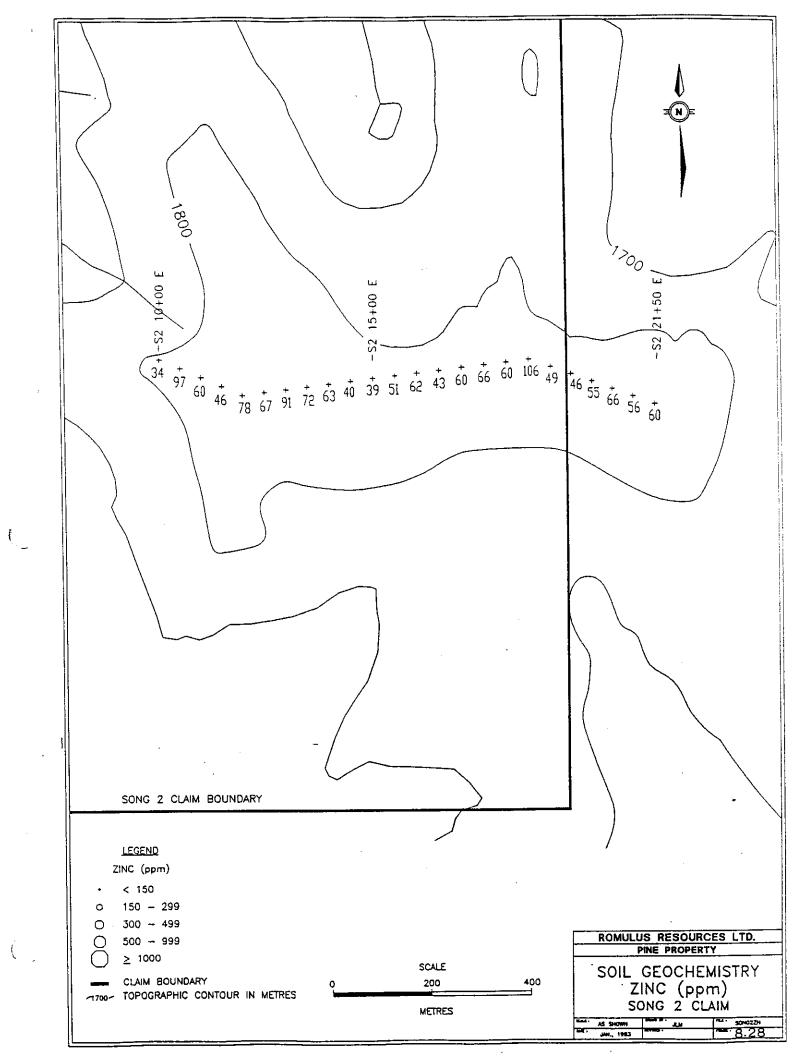


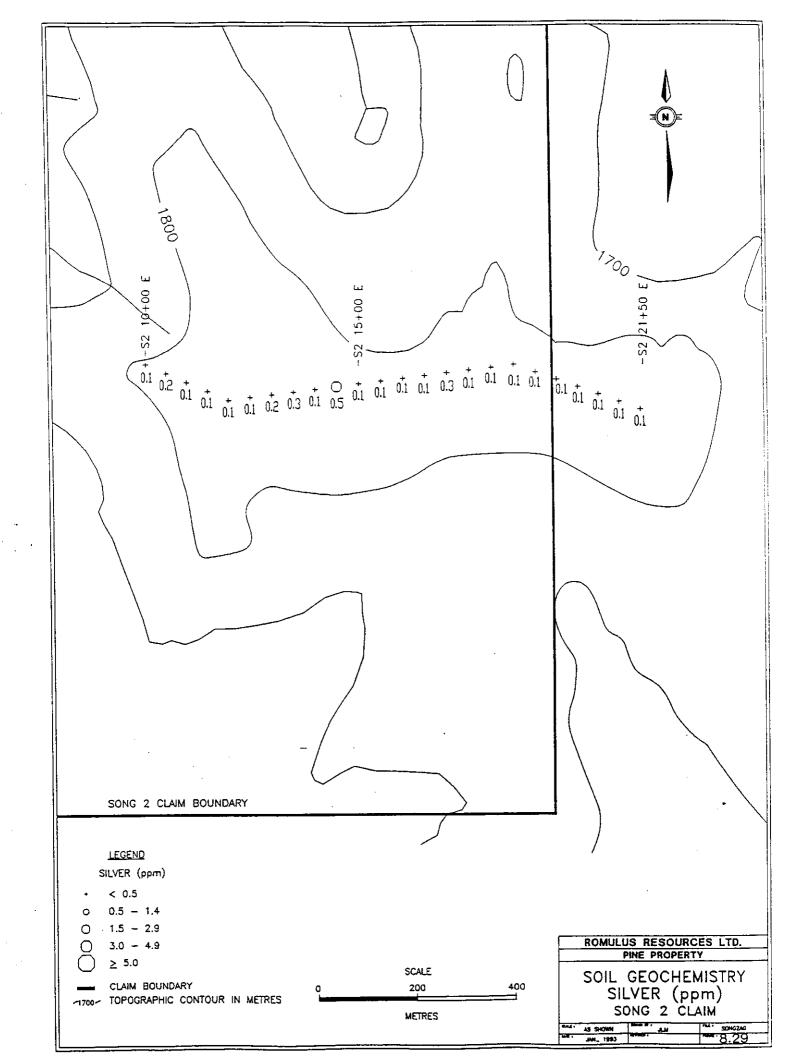


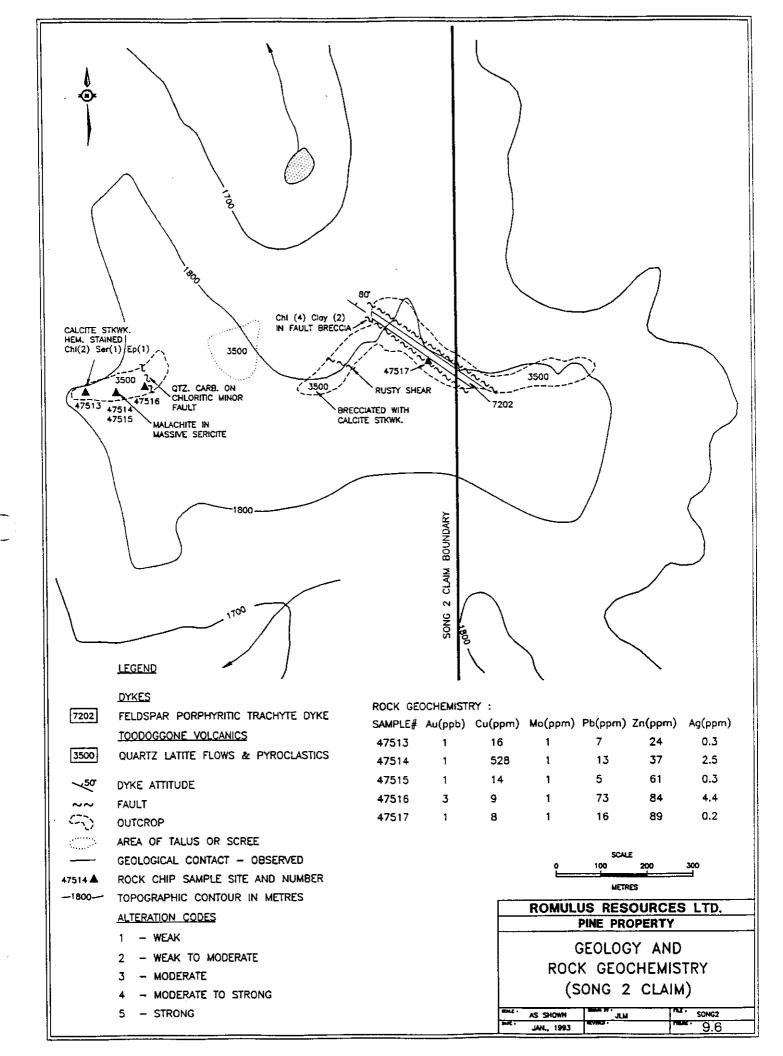


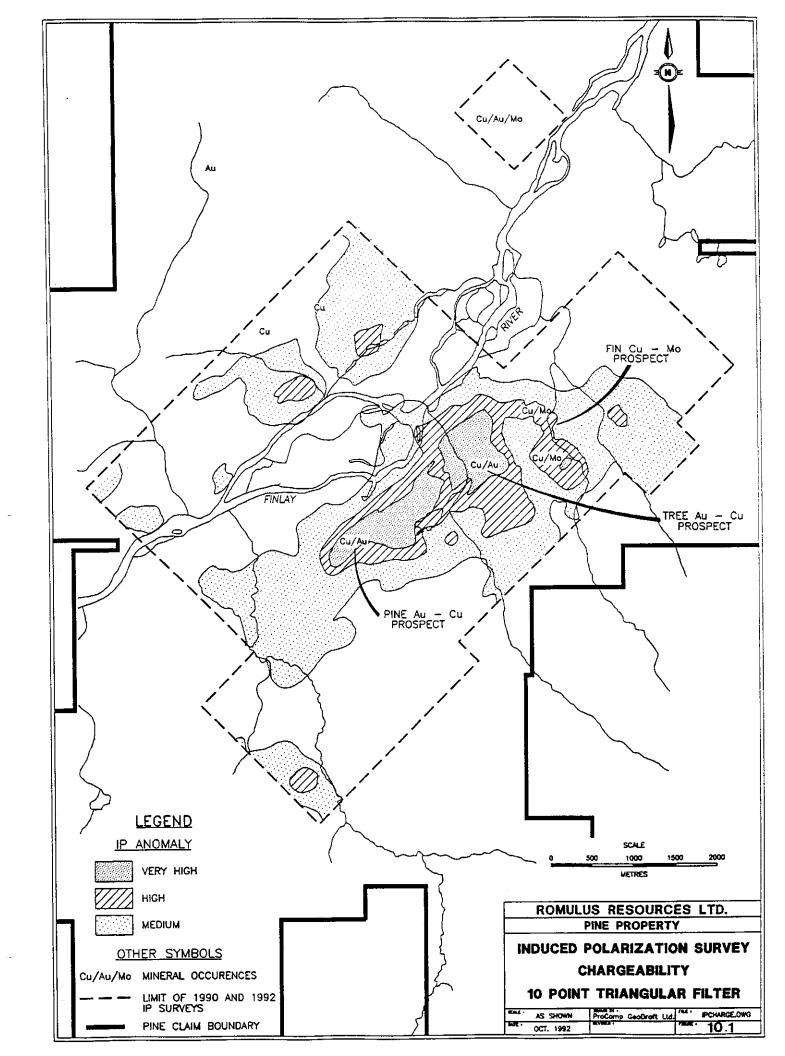
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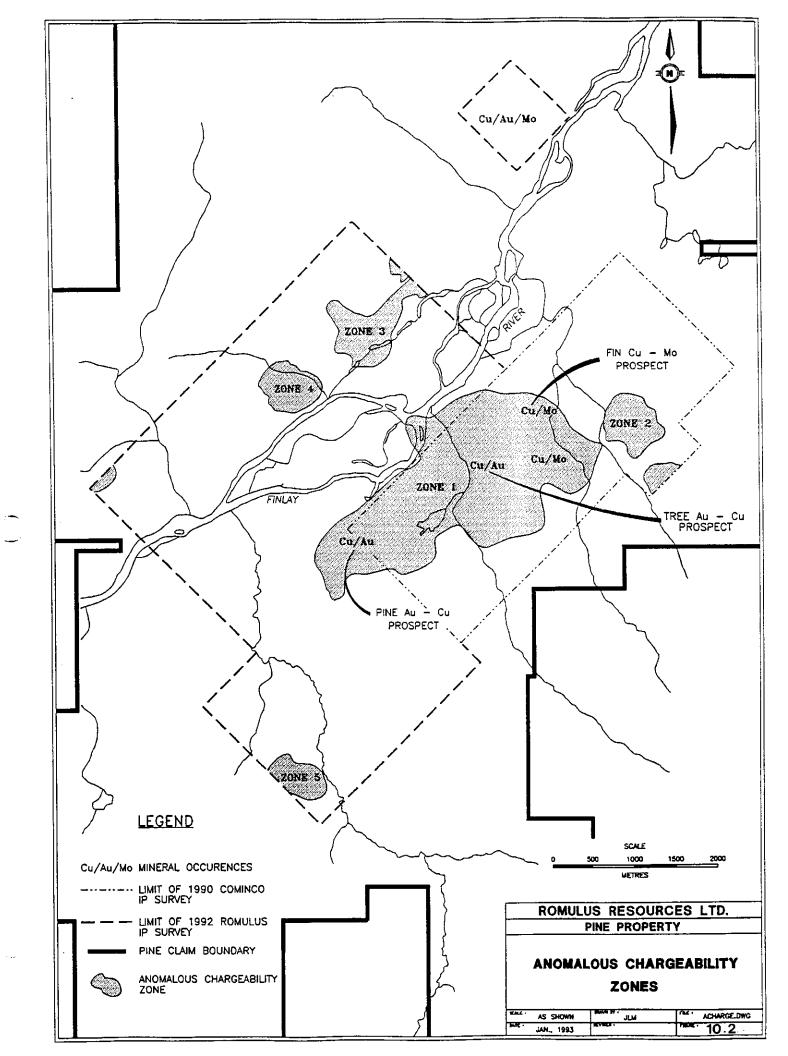












#### 6.0 INDUCED POLARIZATION SURVEY

# 6.1 Introduction

In 1992, Lloyd Geophysics Inc. carried out a 54 line kilometre induced polarization - resistivity survey which was designed as an extension to a 38 line kilometre induced polarization-resistivity magnetics survey carried out by Lloyd Geophysics on behalf of Cominco Ltd. in 1990. Purpose of the 1992 survey was to further delineate the large sulphide system which had been partially outlined in 1990.

Survey lines were oriented at 135° azimuth with line spacing at 300 m in 1992 versus 200 m in 1990. Dipole length (x) of the survey was 50 metres and electrode separation (nx) was at n=1,2,3,4 and in some areas, where deeper overburden was anticipated, at n=5 and 6. Full details of the survey are contained in the Lloyd Geophysics Inc. report: A Geophysical Report on an Induced Polarization Survey

on the Pine Property Omineca Mining Division - British Columbia For Romulus Resources Ltd. November 1992

This is included as Volume III of this assessment report.

#### 6.2 <u>Discussion of Results</u>

The survey outlined several large sulphide systems which have been divided by Lloyd Geophysics into 5 distinct zones (see Figures 10.1 and 10.2). Zone 1, the largest, is approximately 3000 m long by 1200 metres wide and has chargeability values ranging from 15 milliseconds to over 40 milliseconds with background values in the 6 to 11 millisecond range. Corresponding resistivity values are generally low to moderate.

Diamond drilling of the Zone 1 IP anomaly has demonstrated that it is highly prospective and probably represents the geophysical

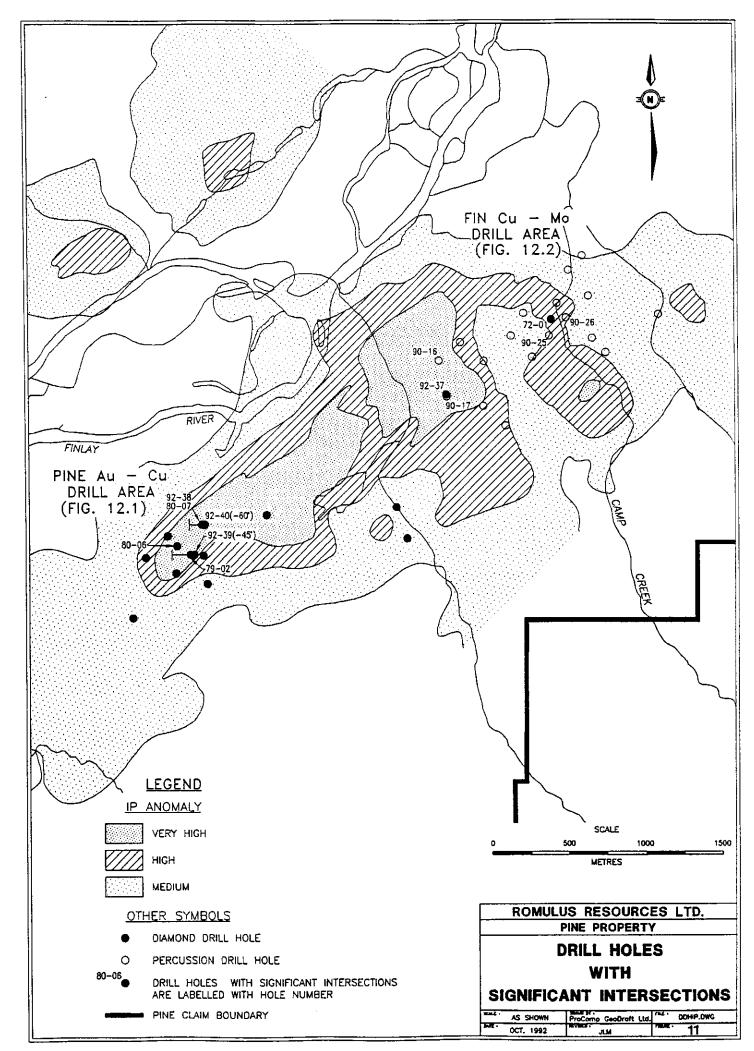
expression of a large gold-copper porphyry-type sulphide system. The southeastern boundary of the anomaly is coincident with the mapped limit of the large phyllic alteration zone which encloses the two known areas of gold-copper mineralization.

The IP response over a post-mineral dyke swarm which cuts the northeastern end of the Zone 1 chargeability anomaly shows low chargeability and high resistivity values. As similar dykes may underlie the overburden covered area in the southwestern portion of the anomaly, detailed IP on 100 metre lines may be useful in delineating other late dykes.

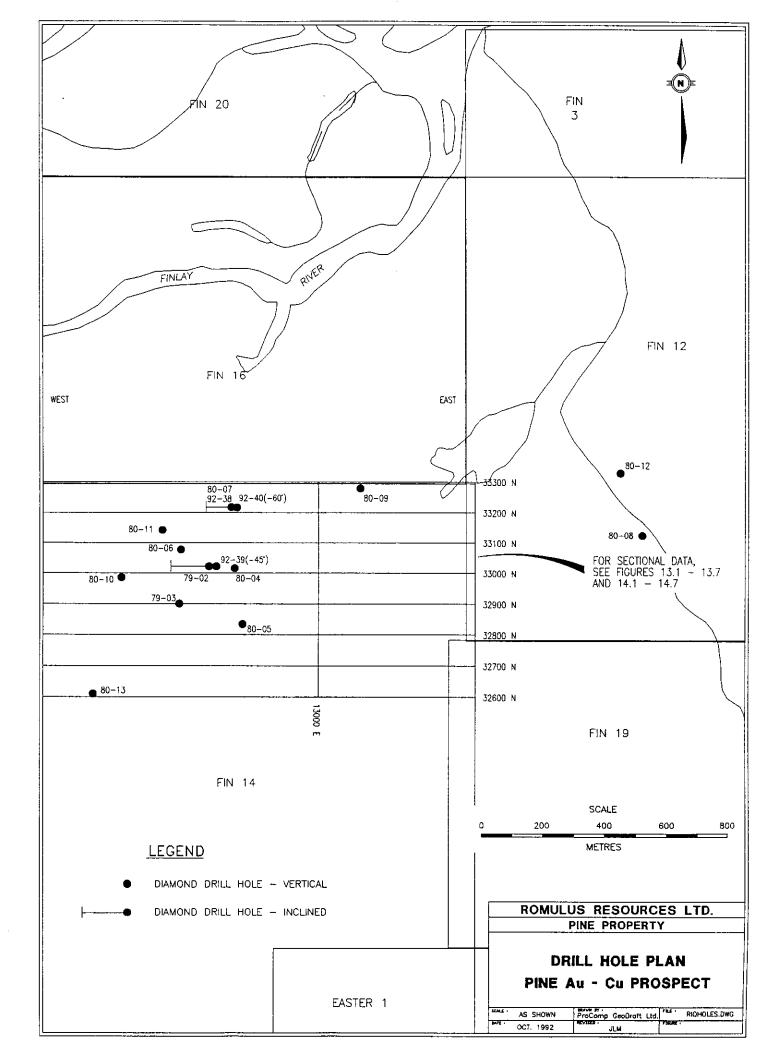
Zone 2 has some chargeability/resistivity characteristics that are similar to Zone 1. However, ground checking by Romulus personnel has determined that the alteration/mineralization characteristics of this anomaly do not make it a high priority target.

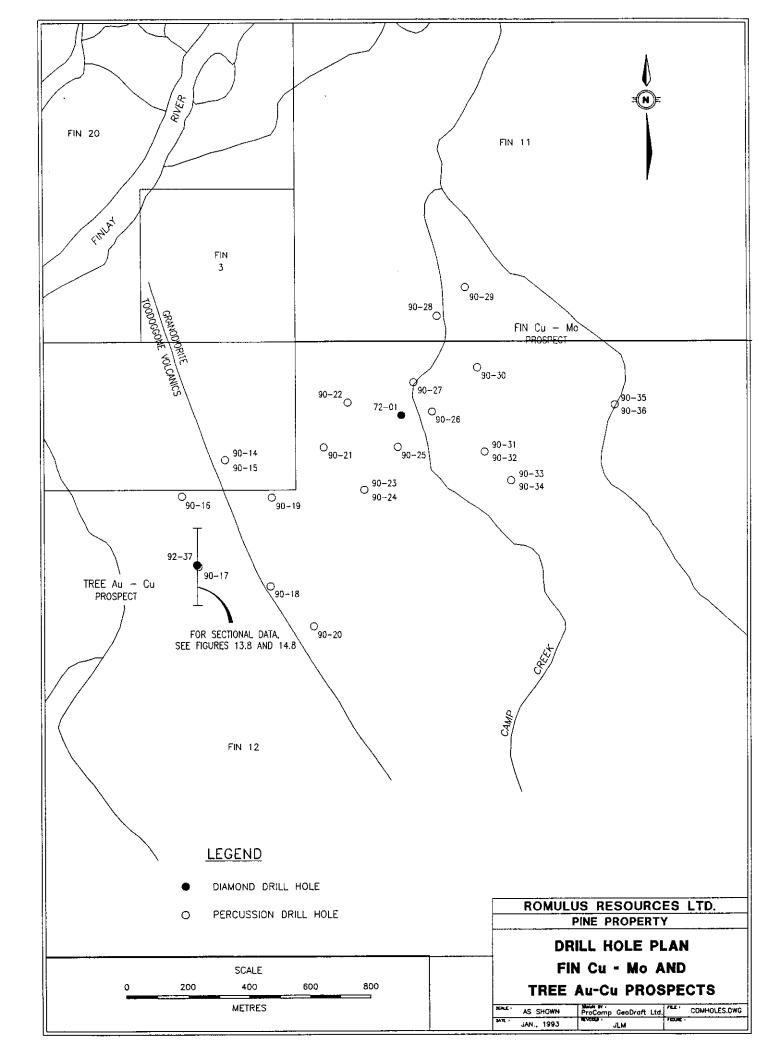
The overall response of Zone 3 is not as defined as that of Zone 1. Nevertheless, it remains open to the northeast and may in part be the up-ice source area for the multi-element soil geochemical response in the North Grid area. Additional IP survey lines are definitely warranted to the northeast of Zone 3. Zone 4, which is separated from Zone 3 by a post mineral dyke, is probably an extension of Zone 3.

Zone 5 has a near surface chargeability response at 11550E/7900N. In this area, Zone 5 is overburden covered. To the west, the anomaly is open and trends towards a 200 metre wide gossan zone exposed along Bogie Creek. The gossan zone is variably claysericite altered and contains anomalous gold and copper values in rock up to 54 ppb and 187 ppm respectively. Westwards from the gossan is a large, flat-lying overburden-covered area that definitely warrants additional IP survey work.



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## TABLE 7 SIGNIFICANT INTERSECTIONS

Company	Hole Number	From (m)	To (m)	Interval (m)	Gold g/t	Copper %	Cu Equiv. %
Kennco	DDH 72-01	1.5	24.7	23.2	•	0.25	*
Riocannex	DDH 79-02	1.8	51.0	49.2	0.67	0.28	0.95
		51.0	102.0	51.0	Not Sampled		
		102.0	127.5	25.5	0.70	0.34	1.04
	DDH 80-06	5.5	102.0	96.5	0.36	0.11	0.47
	DDH 80-07	10.8	99.1	88.3	0.93	0.17	1.10
Cominco	PH 90-16	9.1	85.3	76.2	0.15	0.07	0.22
	PH 90-17	21.3	91.5	70.2	0.15	0.04	0.19
	PH 90-25	3.0	79.3	76.3	< 0.01	0.14	0.14
	PH 90-26	3.0	67.1	64.1	<0.01	0.12	0.12
ROMULUS	DDH 92-37	55.6	178.6	123.0	0.20	0.12	0.32
	DDH 92-38	14.0	192.2	178.2	0.51	0.11	0.62
	DDH 92-39	12.2	47.7	35.5	0.43	0.21	0.64
		62.0	142.0	80.0	0.37	0.23	0.60
	DDH 92-40	14.0	140.0	126.0	0.92	0.16	1.08
		163.0	182.7	19.7	0.35	0.08	0.43

# ROMULUS RESOURCES LTD. PINE PROJECT

•NO GOLD ANALYSIS TAKEN

.

# TABLE 8 ROMULUS RESOURCES LTD. PINE PROJECT DRILL HOLE SURVEY DATA - LOCAL COORDINATES

file:c:\pine\pncoord.wq1										
HOLE			NORTHING		LENGTH	DISTANCE		DIP		
	HOLE #	·····			***************************************					
112	INTO ALLES W	(m)	<u>(m)</u>	<u>(m)</u>	<u>(m)</u>	<u>(m)</u>	(deg.)	(deg.)		
72-1	72-1	14839.86	34540.18	1132.16	24.70	0.00	0.0	-90.0		
79-2	79-1	12638.56	33021.59	1081.38	211.20	0.00	0.0	-90.0		
79-3	79-2	12543.05	32900.64	1083.20	177.50	0.00	0.0	-90.0		
80-4	80-1	12722.82	33015.82	1092.27	98.20	0.00	0.0	-90.0		
80-5	80-2	12747.80	32834.04	1082.17	99.60	0.00	0.0	-90.0		
80-6	80-3	12548.15	33076.16	1060.85	102.70	0.00	0.0	-90.0		
80-7	80-4	12717.95	33214.15	1071.69	99.60	0.00	0.0	-90.0		
80-8	80-5*	13123.38	33061.34	1156.00	115.30	0.00	0.0	-90.0		
80-9	80-6	13137.00	33277.44	1086.86	92.10	0.00	0.0	-90.0		
80-10	80-7	12347.76	33001.12	1054.74	97.90	0.00	0.0	-90.0		
80-11	80-8	12488.48	33141.40	1052.15	90.50	0.00	0.0	-90.0		
80-12	80-9*	14025.59	33320.71	1121.00	92.10	0.00	0.0	-90.0		
80-13	80-10	12263.71	32610.16	1100.81	94.20	0.00	0.0	-90.0		
90-14	90-1	14259.11	34394.21	1104.95	27.45	0.00	0.0	-90.0		
90-15	90-2	14259.11	34394.21	1104.95	91.50	0.00	0.0	-90.0		
90-16	90-3	14118.78	34275.83	1103.03	85.40	0.00	0.0	-90.0		
90-17	90-4	14169.43	34048.11	1111.77	91.50	0.00	0.0	-90.0		
90-18	90-5	14406.89	33982.66	1123.75	91.50	0.00	0.0	-90.0		
90-19	90-6	14411.98	34272.10	1109.98	91.50	0.00	0.0	-90.0		
90-20	90-7	14549.89	33851.51	1148.57	91.50	0.00	0.0	-90.0		
90-21	90-8	14584.21	34434.74	1116.90	91.50	0.00	0.0	-90.0		
90-22	90-9	14664.78	34582.70	1125.91	91.50	0.00	0.0	-90.0		
90-23	90-10	14718.68	34296.60	1135.04	21.35	0.00	0.0	-90.0		
90-24	90-11	14718.68	34296.60	1135.04	64.05	0.00	0.0	-90.0		
90-25	90-12	14828.21	34435.42	1140.13	79.60	0.00	0.0	-90.0		
90-26	90-13	14942.12	34552.60	1142.97	70.15	0.00	0.0	-90.0		
90-27	90-14	14880.86	34648.45	1135.71	91.50	0.00	0.0	-90.0		
90-28	90-15	14959.04	34863.95	1124.12	91.50	0.00	0.0	-90.0		
90-29	90-16	15051.53	34957.76	1124.94	79.30	0.00	0.0	-90.0		
90-30	90-17	15090.11	34696.04	1138.80	79.30	0.00	0.0	-90.0		
90-31	90-18	15112.93	34420.11	1150.65	15.25	0.00	0.0	-90.0		
90-32	90-19	15113.39	34419.33	1150.75	48.80	0.00	0.0	-90.0		
90-33	90-20	15199.85	34326.50	1157.22	18.30	0.00	0.0	-90.0		
90-34	90-21	15199.85	34326.50	1157.22	30.50	0.00	0.0	-90.0		
90-35	90-22	15537.02	34575.42	1182.56	1.00	0.00	0.0	-90.0		
90-36	90-23	15537.02	34575.42	1182.56	1.00	0.00	0.0	-90.0		
92-37	92-1	14166.68	34051.46	1111.27	180.75	0.00	0.0	-90.0		
92-38	92-2	12712.67	33216.36	1067.98	198 <b>.73</b>	0.00	0.0	-90.0		
92-39	92-3	12663.12	33021.74	1078.81	201.78	0.00	270.0	-45.0		
92-39	92-3					201.78	270.0	-42.0		
92-40	92-4	12730.59	33216.59	1072.15	200.26	0.00	270.0	-60.0		
92-40	92-4					198.73	270.0	-60.0		

\* Hole not surveyed - coordinates approximate

7.0

### DRILLING

### 7.1 Introduction

Past and present drilling results are summarized below. Drill holes with significant intersections are shown on Figure 11 and summarized in Table 7 (following Figure 11). Drill hole plans are shown on Figures 12.1 and 12.2. Drill hole survey data and a comparison of drilling methods are presented in Tables 8 and 9 respectively. The 1992 Romulus drilling is presented in crosssectional view in Figures 13 and 14.

### 7.2 Drilling by Past Operators

Prior to the 1992 Romulus program, 1,379m of diamond drilling in 13 holes and 1,460m of percussion drilling in 23 holes had been carried out by past operators Kennco, Riocanex and Cominco. Drilling done by Kennco and Cominco mainly tested the Fin prospect, the granodiorite-hosted, copper-molybdenum target located at the northeast end of the Zone 1 IP chargeability anomaly. All holes are vertical and were drilled to depths not exceeding 100 metres. The drilling outlined a zone around Holes 72-01, 90-25 and 90-26, measuring about 200 metres by 300 metres, which returned assays of >0.1% copper, <0.01% molybdenum and <0.01 g/tonne gold.

Volcanic hosted gold-copper mineralization at the Tree prospect was intersected in Cominco percussion drill holes 90-16 and 90-17. Both holes intersected low grade, but significant gold and copper values and showed a downhole increase in grade.

Most of the Riocanex drilling was carried out at the Pine prospect, some 2.5 km to the southwest of the Fin prospect drill area. Drilling encountered several well-mineralized gold-copper intercepts hosted by quartz monzonite, including 49.2 metres grading 0.67 g/tonne gold and 0.28% copper in Hole 79-02.

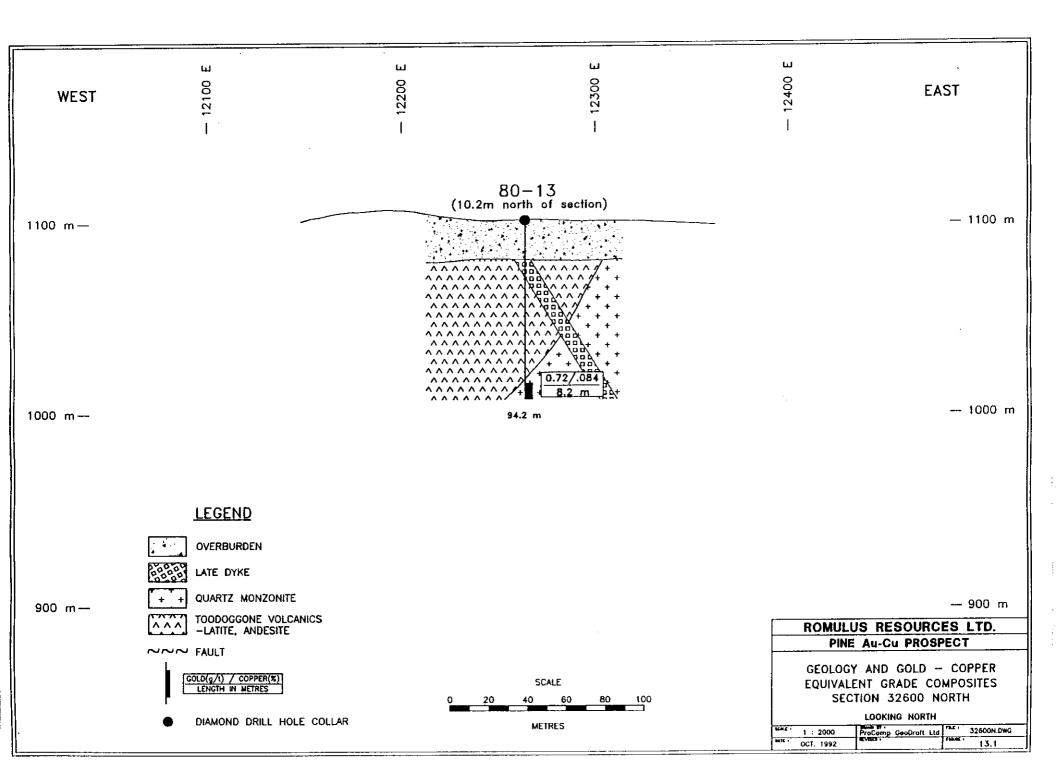
## 7.3 <u>Relogging and Fill-in Sampling of Riocanex Core</u>

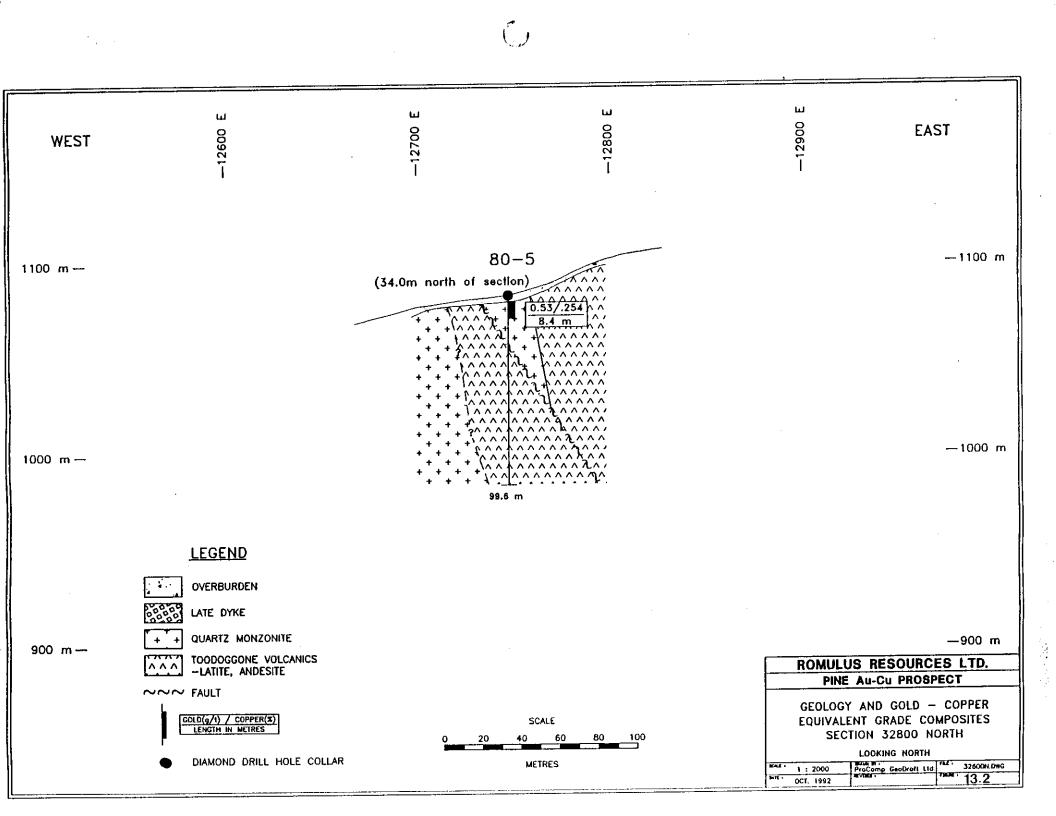
Diamond drill core from Riocanex's Holes 80-4 to 80-10 and 80-13 were relogged by Romulus and the field logs were then converted into computer-coded lithology and alteration, copies of which are presented in Appendix C. The revised Riocanex data has been merged with the 1992 Romulus drill hole information to produce the cross sections presented in Figures 13 and 14.

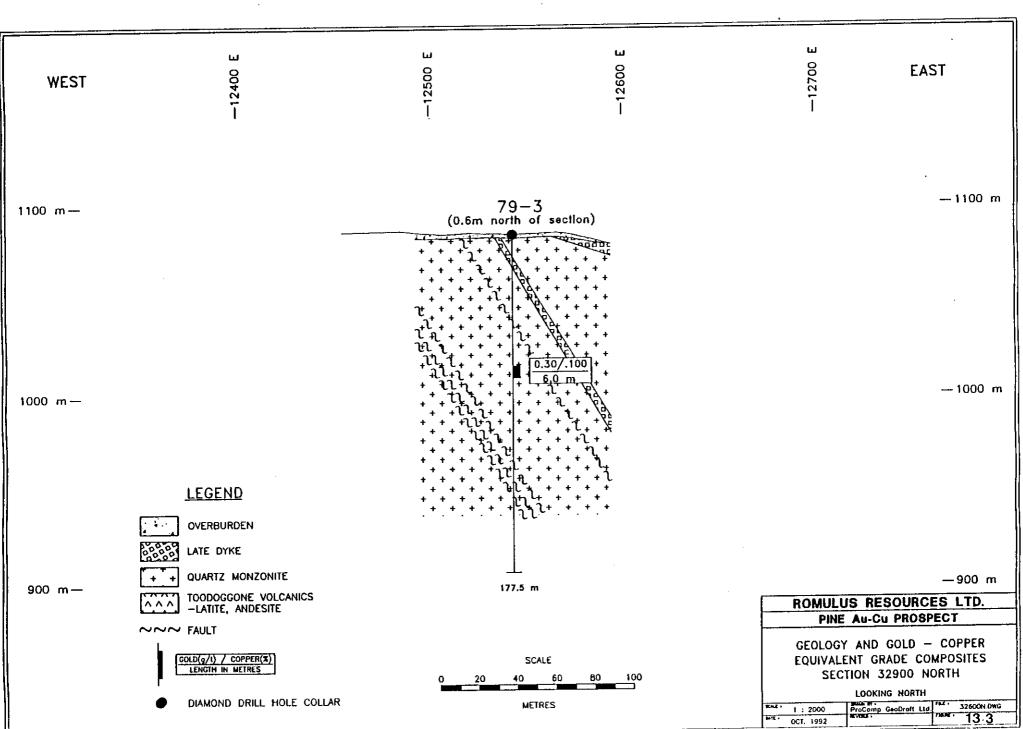
Riocanex did not thoroughly and systematically assay all their core for gold and copper. Additional sampling was carried out by Romulus on the better gold-copper mineralized intervals in Holes 80-4, 80-5, 80-7, 80-9 and 80-13. In general, gold-copper values determined from the 1992 work were consistent with the Riocanex assays, except in Hole 80-05, where a number of high gold values (> 1 g/tonne) reported by Riocanex could not be duplicated. The gold mineralization here is volcanic-hosted and has little or no copper associated with it.

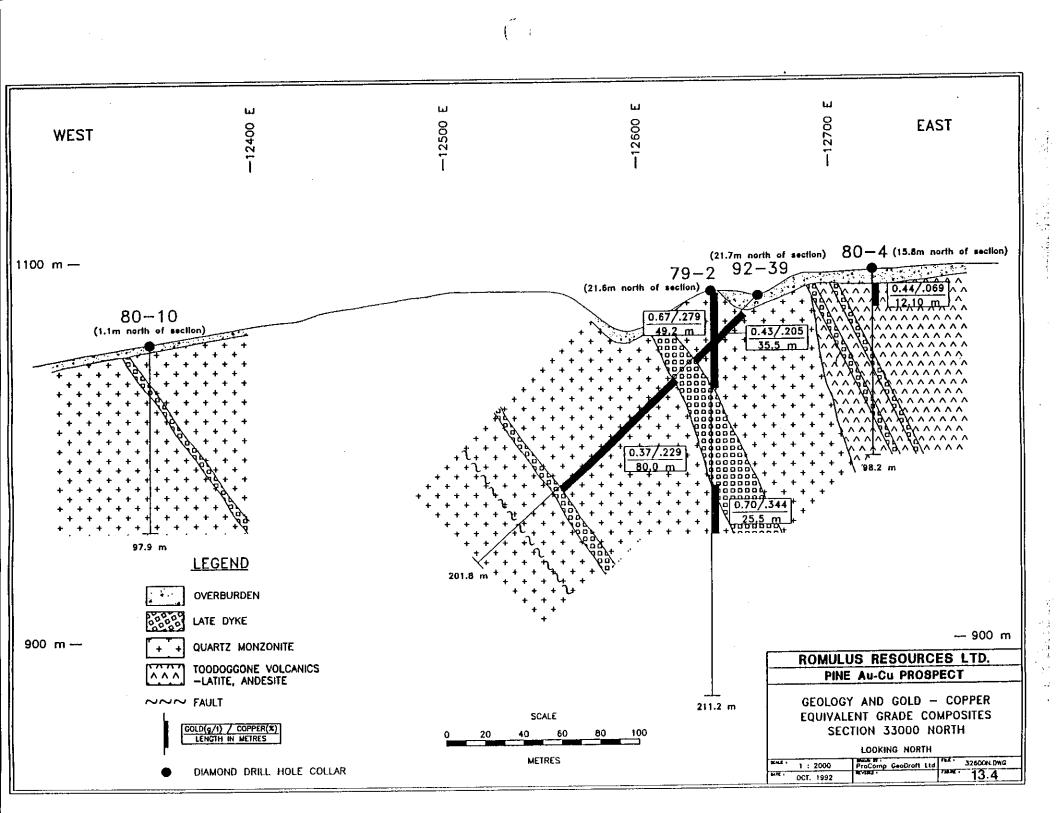
Fill-in sampling on Hole 80-7 determined that it grades 0.93 g/tonne gold and 0.17% copper over its entire length. Riocanex's intermittent sampling failed to identify the well-mineralized tenor of this hole.

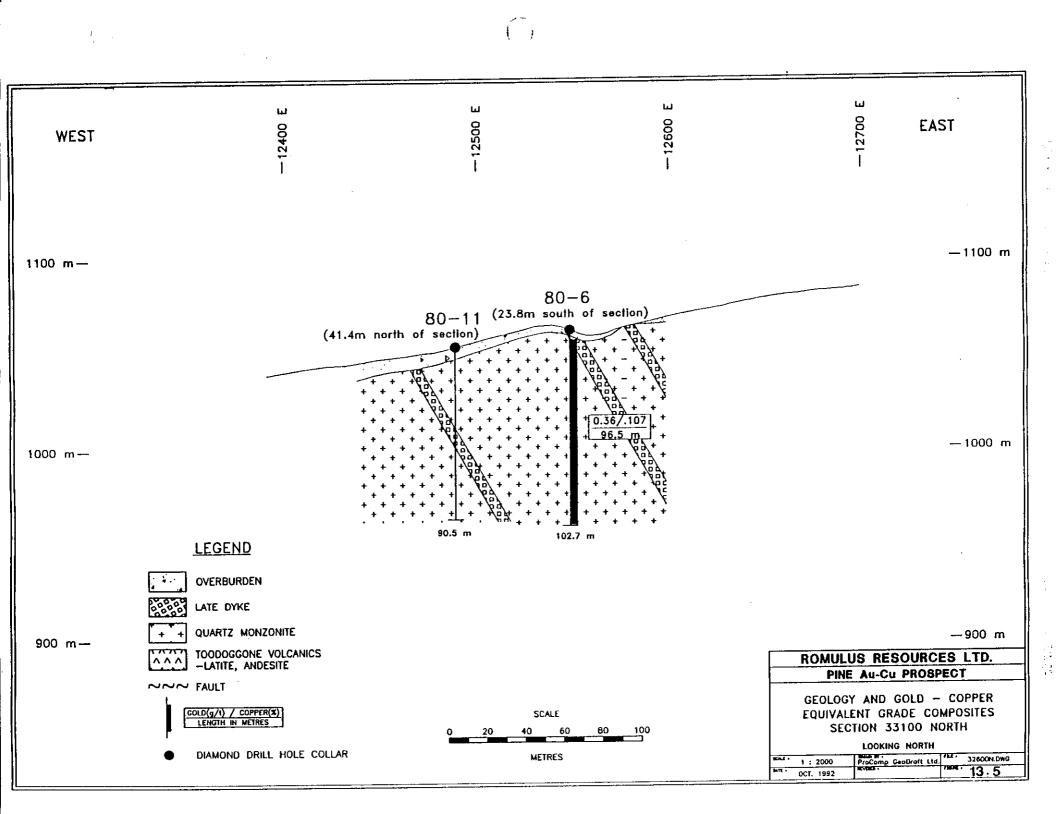
In Hole 80-7 and in particular, Hole 80-13, Riocanex's silver values are inconsistent with the Romulus data. In the latter hole, Riocanex consistently obtained silver values in the 4.0 to 8.0 g/tonne range, whereas Romulus values fell generally in the 1.0 to 2.0 g/tonne range. In determining the silver credits of the goldcopper mineralization at the Pine prospect, the 1979-80 Riocanex silver data has been ignored.

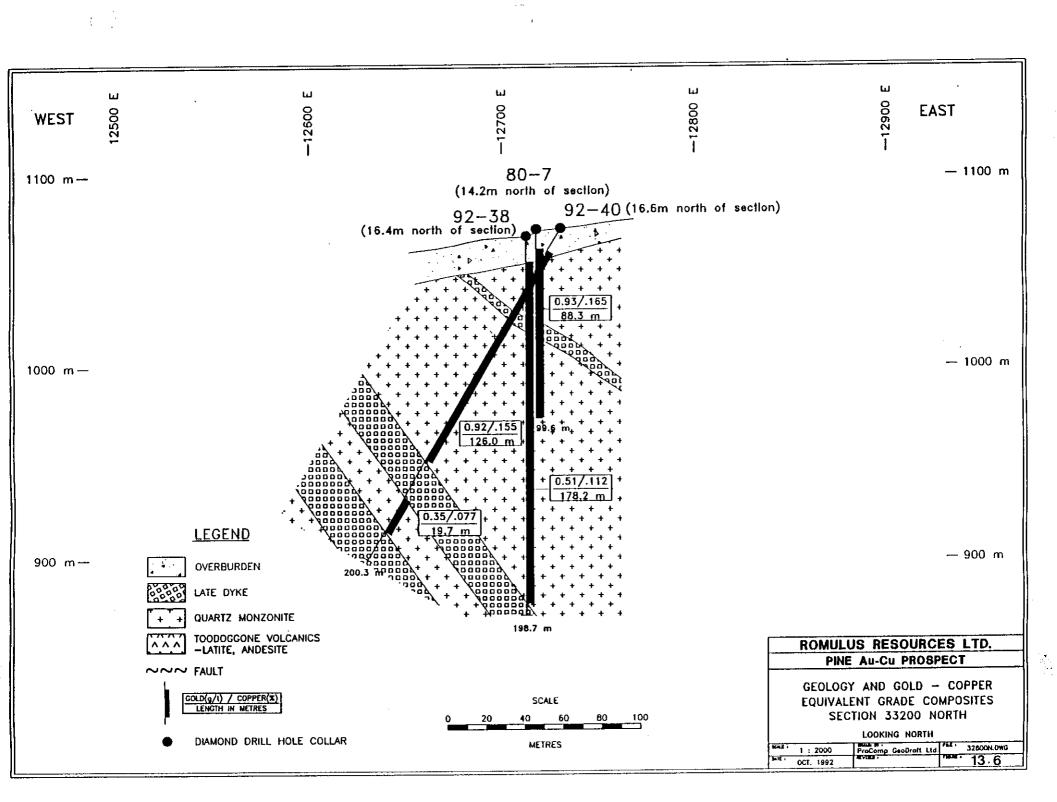


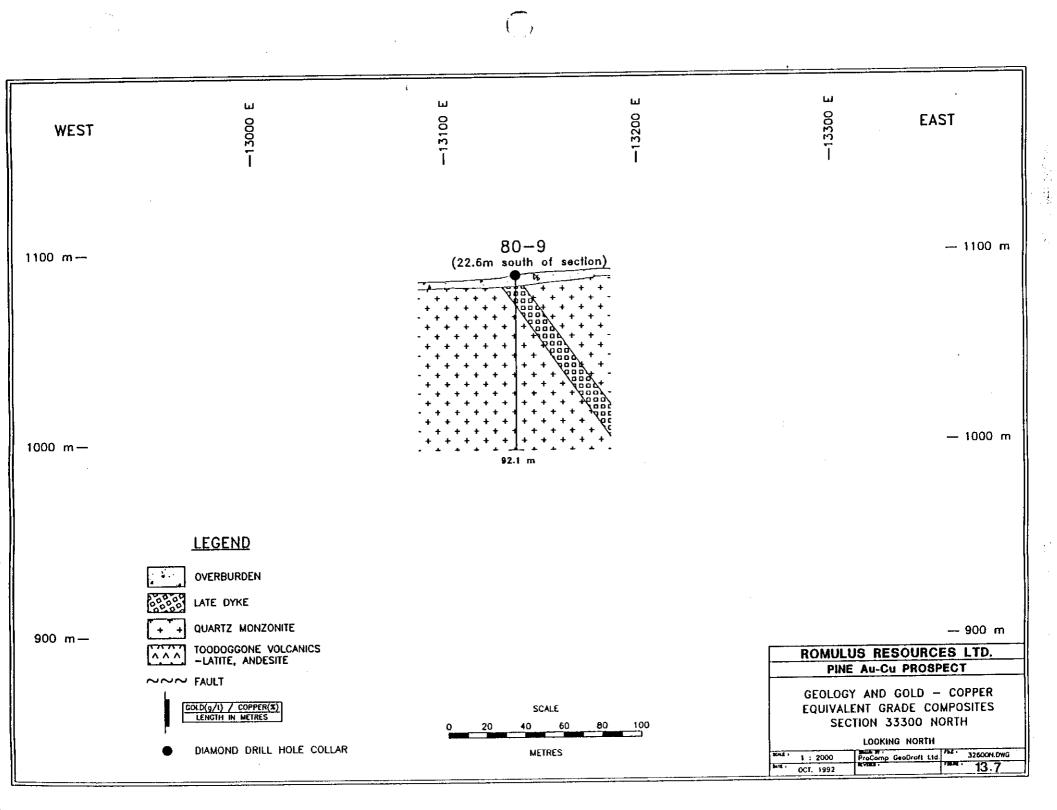


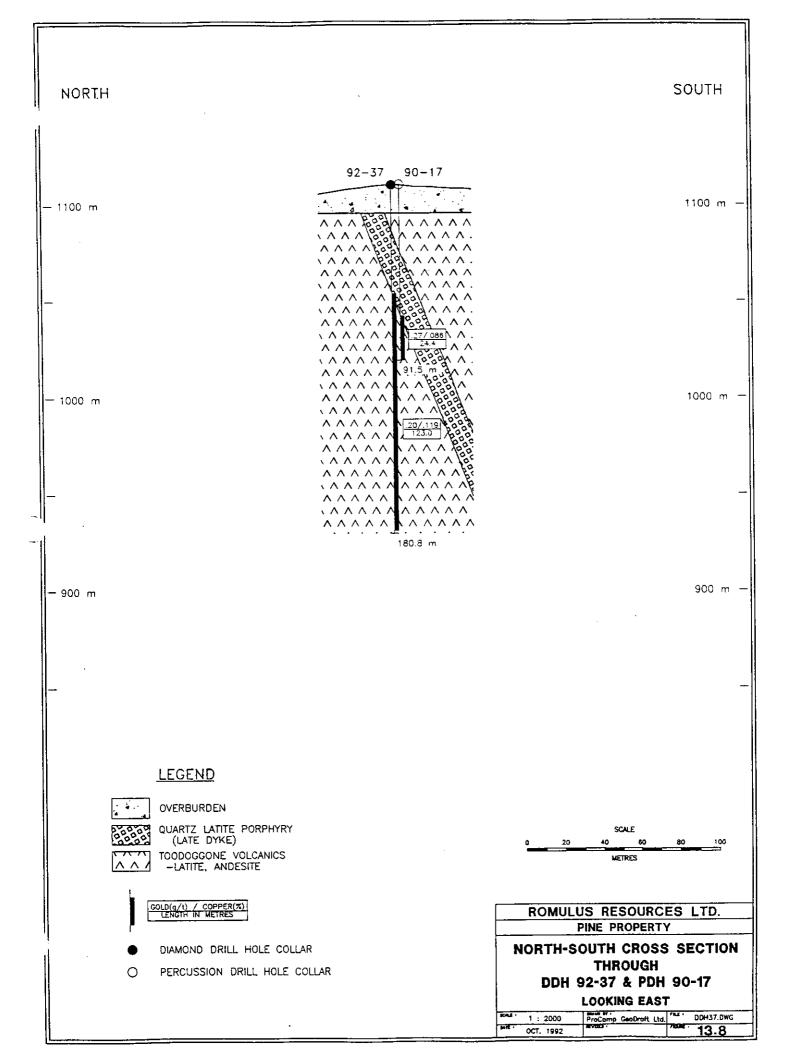


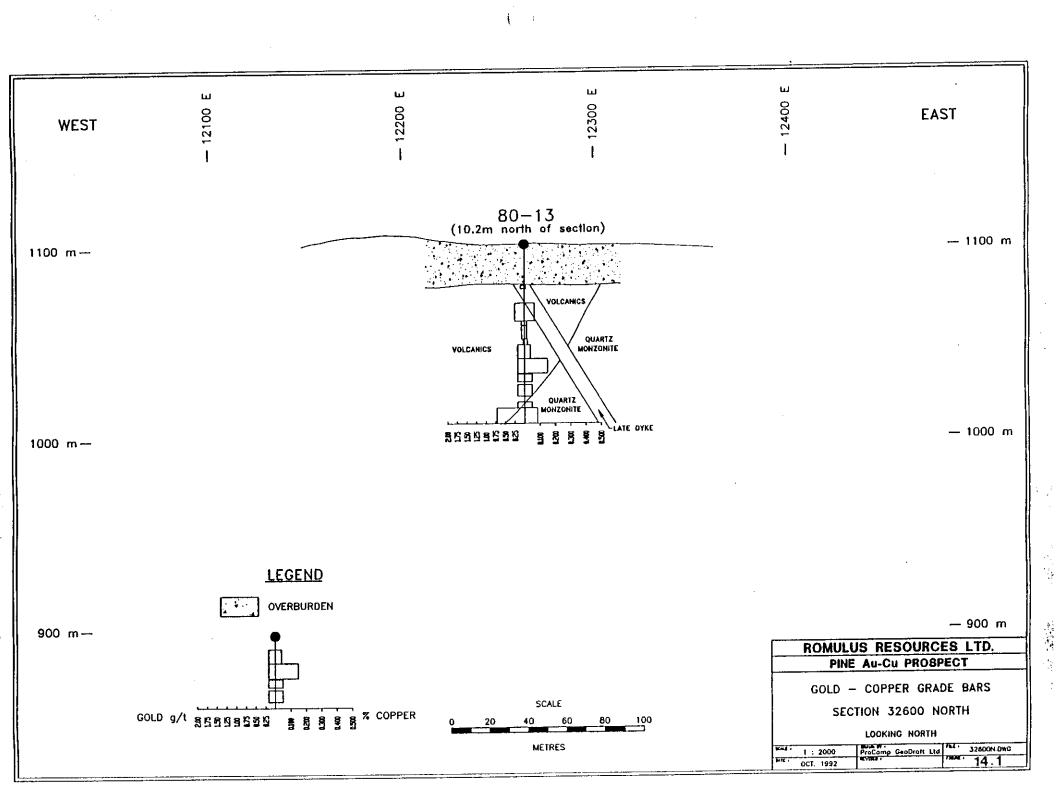


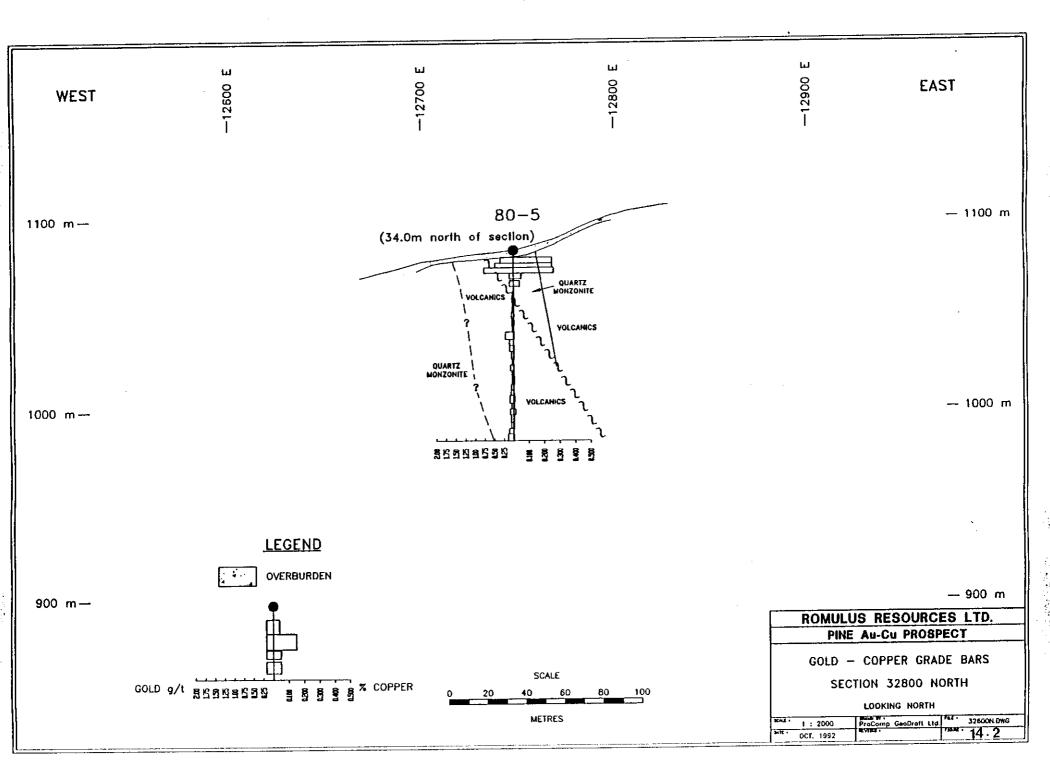




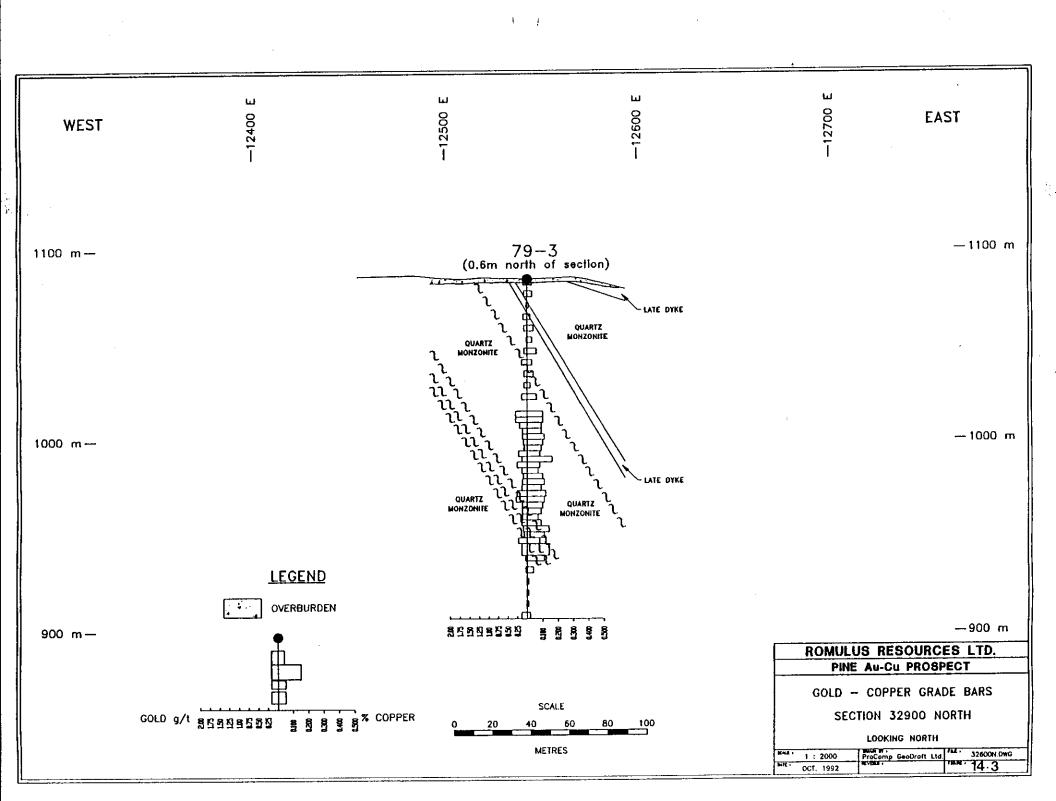


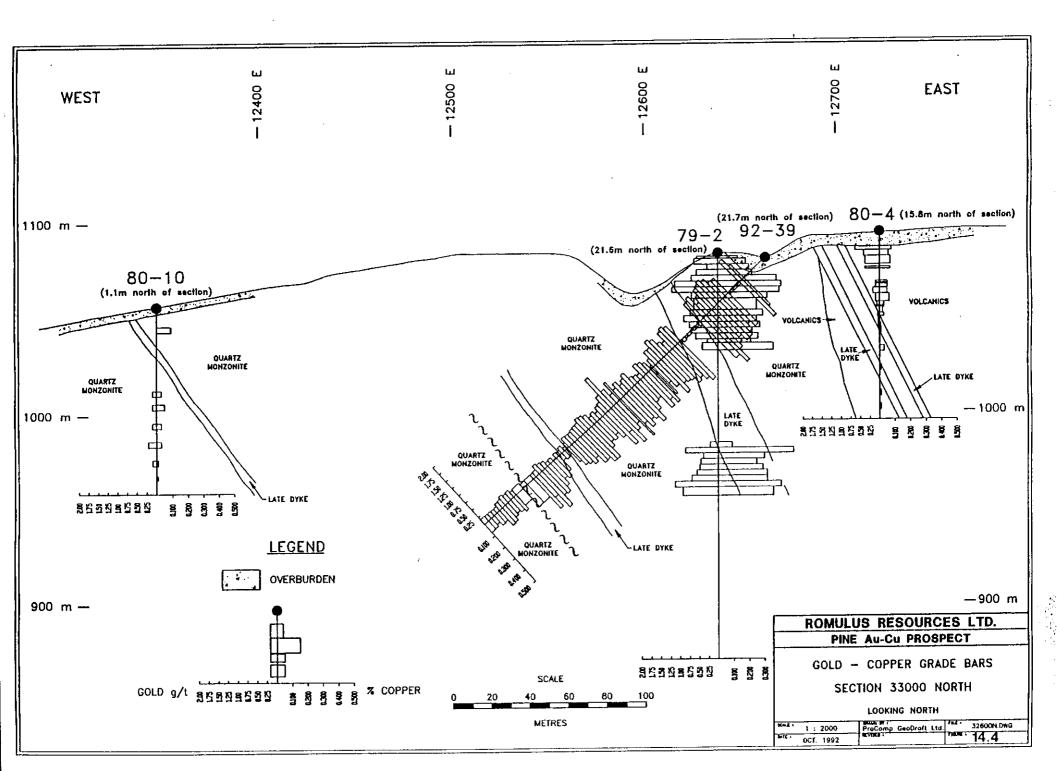


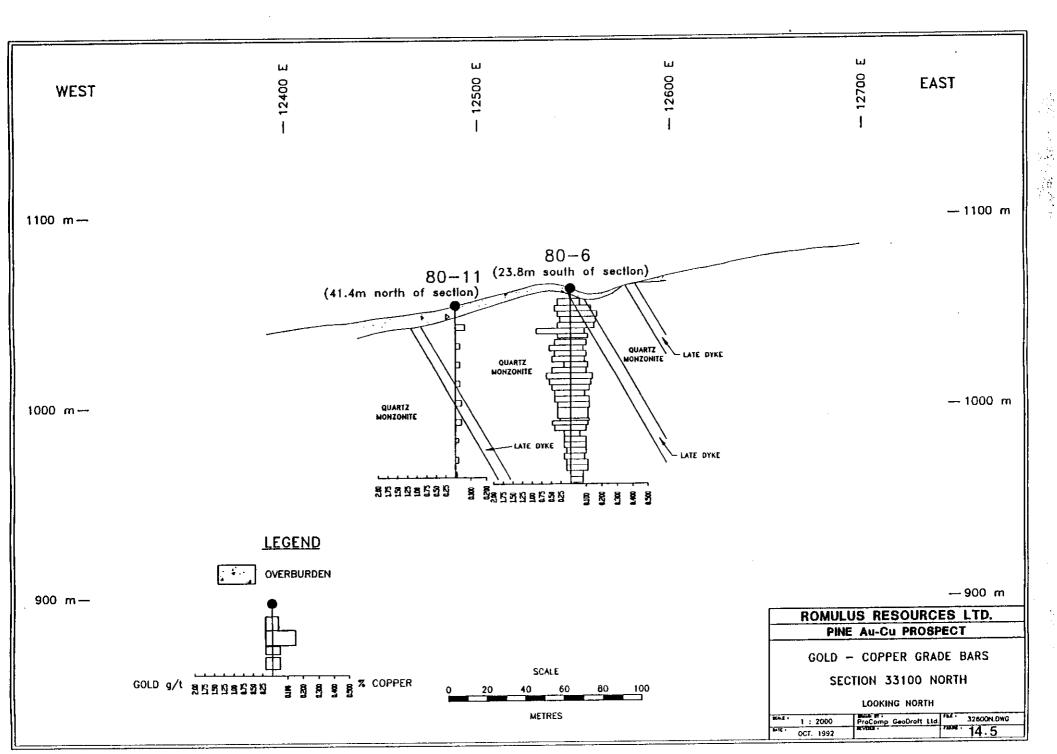




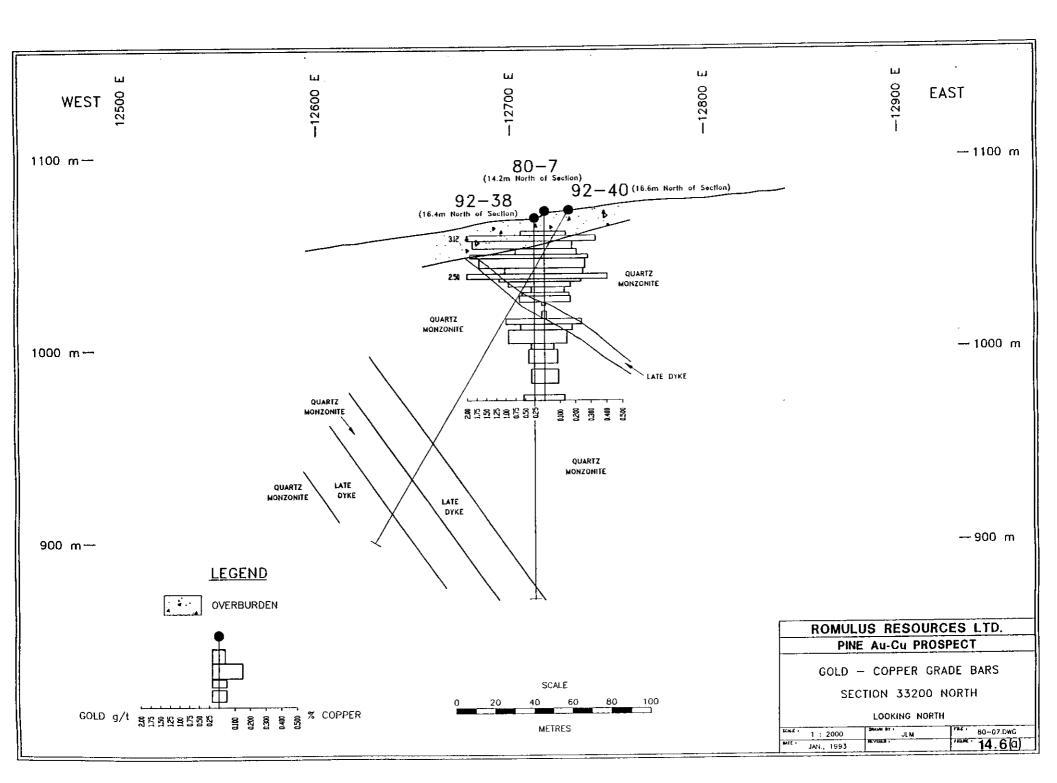
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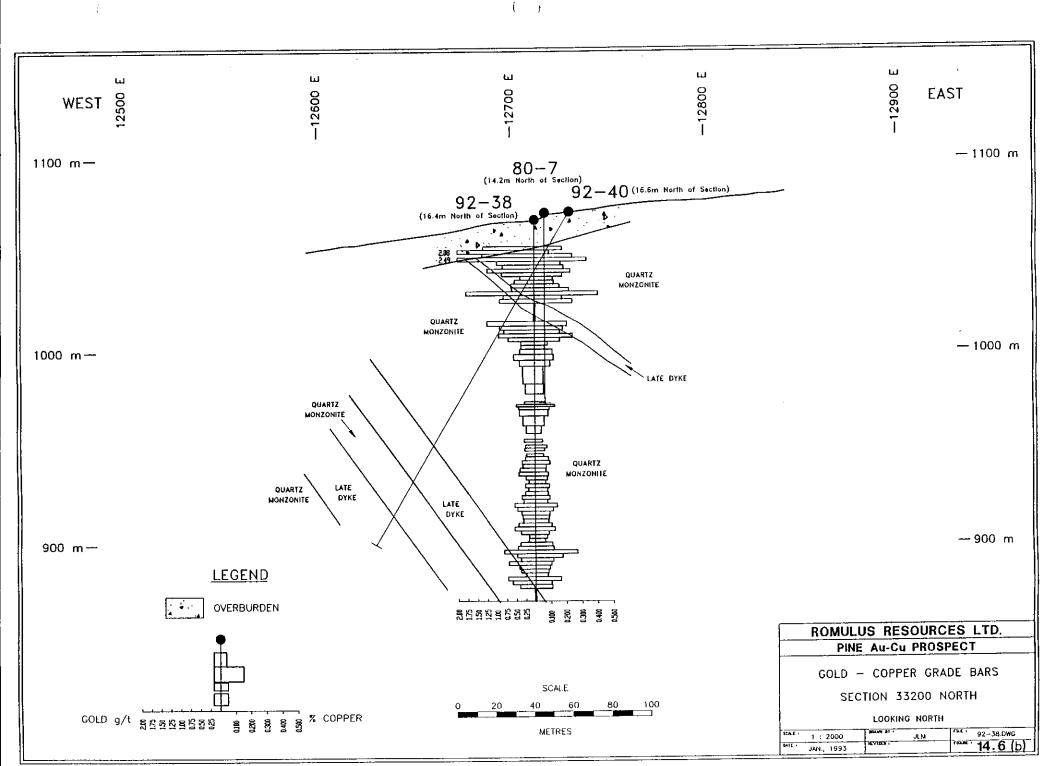




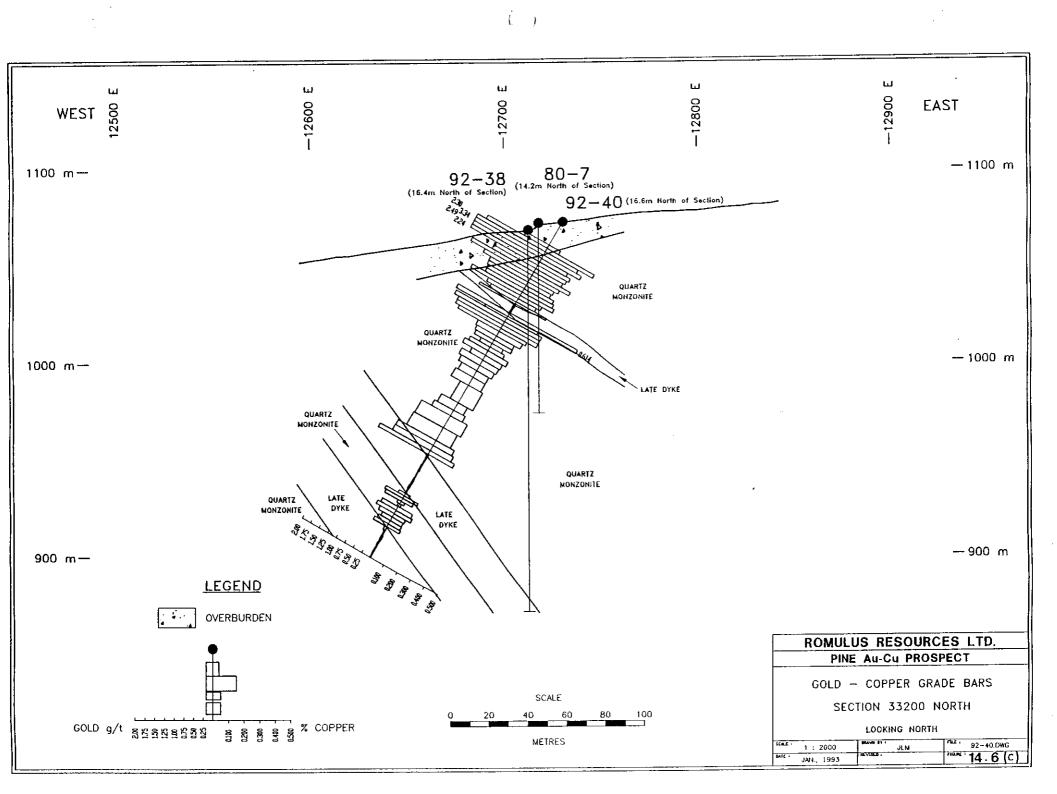


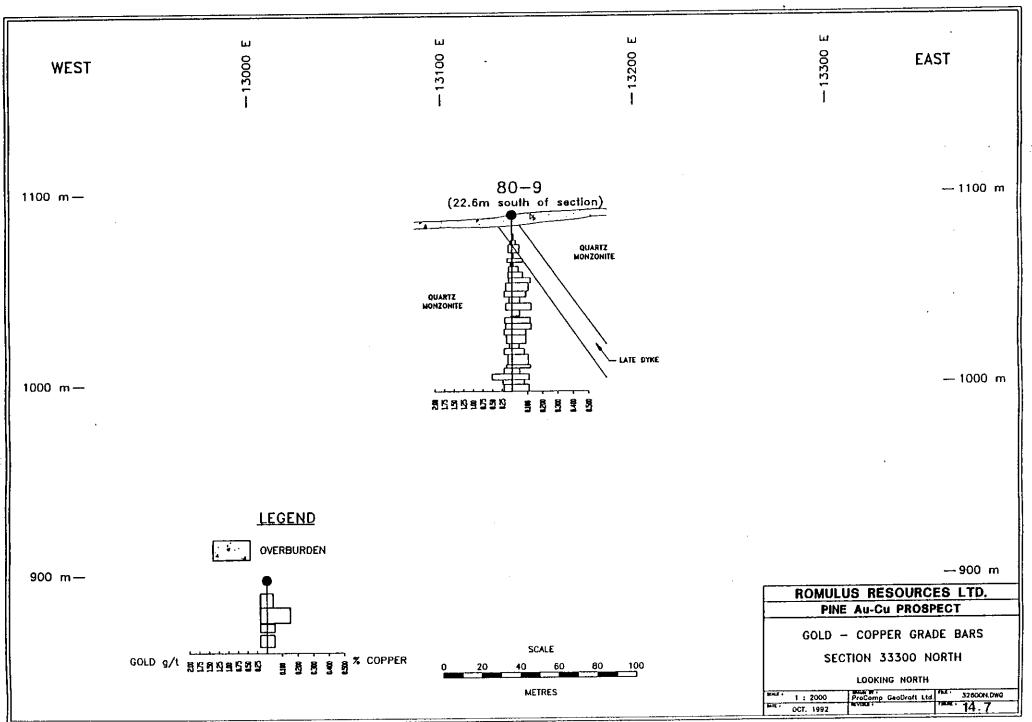
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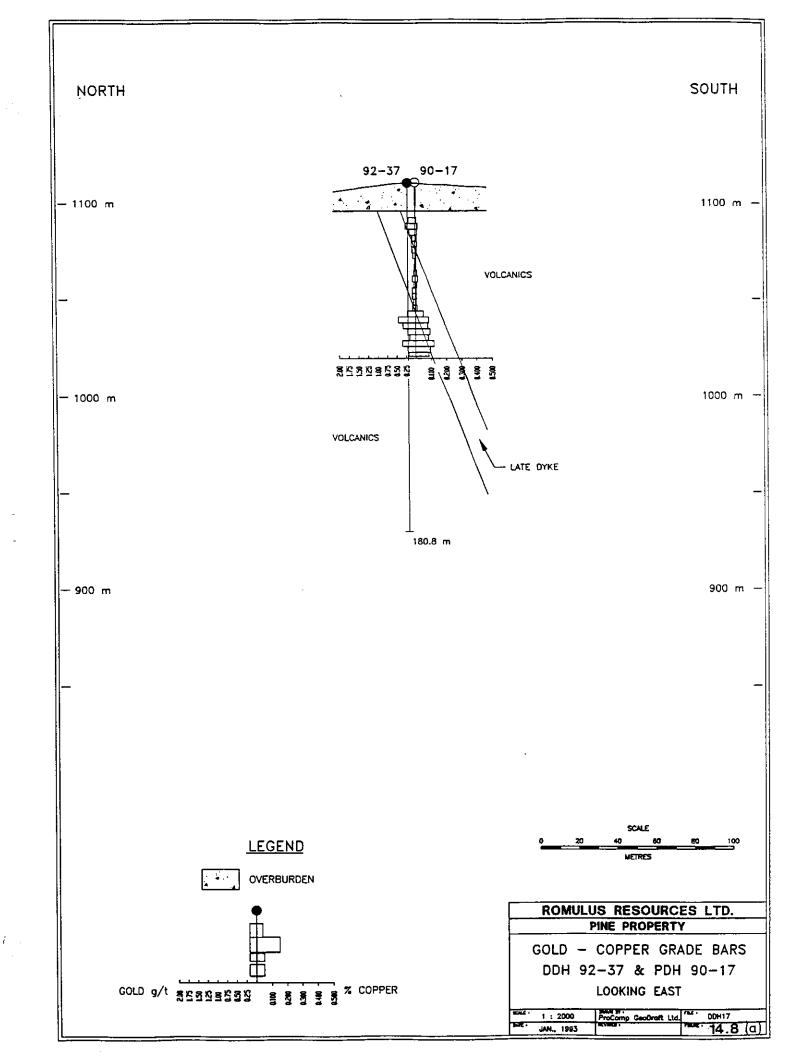


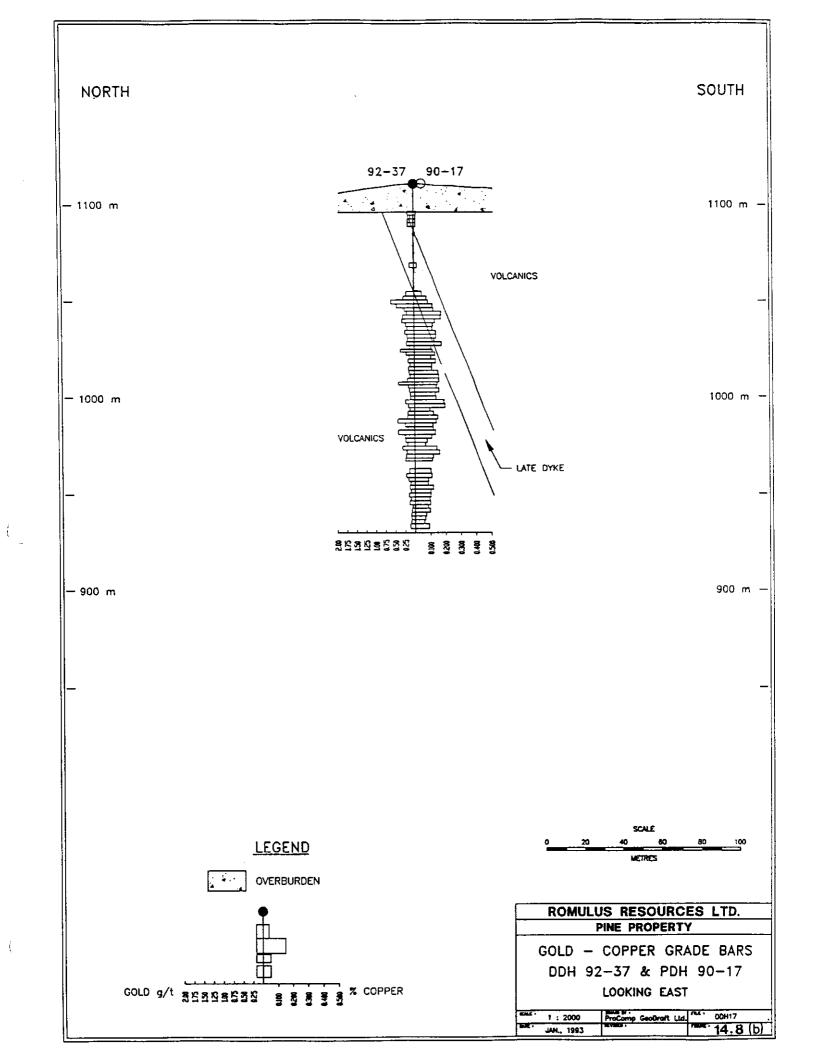


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#### TABLE 9 ROMULUS RESOURCES LTD. PINE PROJECT COMPARISON OF DRILLING METHODS 1979 - 1992

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GROUP	HOLE	COMPANY	SAMPLE R	ROM	TO	LENGTH	Au	Cu	Cu Equiv.
	NO.		TYPE	(m)	(m)	( <u>u</u> )	g/t		%
A	1								
1	90-17	COMINCO	RC CHIPS	67.1	90.5	23.4	0.27	0.09	0.36
	92-37	ROMULUS	HQ CORE	66.0	91.0	25.0	0.21	0.14	0.35
В									
[	80-7	RIOCANEX	BQ CORE	15.1	99.6	84.5	0.87	0.16	1.03
	92-38	ROMULUS	HQ CORE	14.0	96.6	82.6	0.68	0.13	0.81
					-				
C									
	80-7	RIOCANEX	BQ CORE	10.8	70.0	59.2	1.12	0.19	1.31
	92-38	ROMULUS	HQ CORE	14.0	64.0	50.0	0.87	0.16	1.03
	92-40	ROMULUS	HQ CORE	14.0	65.8	51.8	1.33	0.21	1.54
	92-38/40	ROMULUS	HQ CORE	14.0	64.9	50.9	1.10	0.19	1.29
D									
	79-2	RIOCANEX	BQ CORE	1.8	51.0	49.2	0.67	0.28	0.95
	92-39	ROMULUS	HQ CORE	12.2	47.7	35.5	0.43	0.21	0.64
	92-39*	ROMULUS	HQ CORE	12.2	47.7	35.5	0.63	0.30	0.92

A - Direct comparison of same vertical interval for twinned holes

B - Direct comparison of same vertical interval for twinned holes

C - Comparison of Au rich portions of holes

92-38/40 weighted average of 92-38 and 92-40

D - 92-39 calculated including post mineral dykes
 92-39\* calculated excluding post mineral dykes
 Note: No post mineral dykes were intersected in 79-2

#### 7.4 <u>1992 Romulus Drilling</u>

The 1992 Romulus drilling program consisted of 783 m of HQ diamond drilling in four holes. The HQ core size, which by volume is approximately four times bigger than that of BQ, was utilized in order to obtain larger samples and better core recoveries. The average core recovery in the 1992 program is 76% versus 66% in Riocanex's 1979-80 BQ drilling programs.

Hole 92-37, which twinned and was drilled deeper than percussion Hole 90-17, was designed to follow-up on encouraging gold-copper assays obtained in the Cominco hole (Figure 13.8 and 14.8). Hole 92-37 intersected 123.01 metres grading 0.20 g/tonne gold and 0.119% copper and demonstrated that the volcanic host rocks in this area are significantly enriched in gold and copper.

A direct comparison of the same gold-copper mineralized interval for twinned holes 90-17 and 92-37 (see Table 9) shows that although the equivalent grades are about the same, there is a significant upgrading of the copper grade in diamond drill hole 92-37. The average copper grade over the compared interval is 0.09% in the percussion hole versus 0.14% in Hole 92-37. This is consistent with the fact that the percussion holes around DDH 72-1, which grades 0.25% Cu over its entire length, returned lower values in the 0.12 - 0.14% Cu range. The copper grades at the Fin Cu-Mo prospect may be higher than those indicated in the Cominco percussion holes.

Hole 92-38, which twinned and was extended beyond Hole 80-7, was designed to follow-up on the high grade gold-copper mineralization that was intersected in the Riocanex hole (Figures 13.6 and 14.6). Over its entire length, excluding the last several metres which bottomed in a late dyke, Hole 92-38 encountered quartz monzonitehosted porphyry-style mineralization which has an average grade of 0.51 g/tonne gold and 0.112% copper across 178.13 metres.

A direct comparison of the same vertical interval for twinned holes

Copeland Rebagliati & Associates Ltd.

80-7 and 92-38 (see Table 9) shows a decrease in gold-copper grades in Hole 92-38. It should be noted, however, that the surveyed distance between the two holes is about 5 metres and the actual distance could be greater as the collar location of 80-7 was only approximated (there was no casing left in the hole). Furthermore, if one incorporates the results of Hole 92-40, which essentially intersected the same high-grade gold-copper zone as did 80-7 and 92-38, the weighted average of Holes 92-38/40 is about the same as the average grade of 80-7.

Hole 92-39, collared 25 m due east of Hole 79-2 and angled -45° due west, was designed to test the continuity of quartz monzonite hosted gold-copper mineralization in the vicinity of Hole 79-2 (Figures 13.4 and 14.4). Hole 92-39 intersected significant goldcopper mineralization down to the bottom of the hole, including intercepts of 0.43 g/tonne gold and 0.205% copper across 35.50 m and 0.37 g/tonne gold and 0.229% copper across 80.03 m.

Comparing the upper intercept of 92-39 with that of 79-2 (Table 9), it will be noted that there is an apparent grade decrease in Hole 92-39. The decrease is due to the fact that the average grade of Hole 92-39's upper intercept has been diluted by post-mineral dykes. No dyking was intersected in the upper intercept of Hole 79-2. When post-mineral dyking is removed from Hole 92-39's grade calculation, the average grade of the two holes is about the same.

Hole 92-40, collared about 20 m due east of Hole 92-38 and angled -60° due west, was designed to test for the westerly extension of the gold-copper mineralization encountered in Holes 80-7 and 92-38 (Figures 13.6 and 14.6). The hole intersected 125.98 m grading 0.92 g/tonne gold and 0.155% copper before encountering two 20 m+ thick, late dykes and about 20 m of lower grade intrusive-hosted mineralization. Holes 80-7, 92-38 and 92-40 clearly demonstrate the gold-enriched nature of the porphyry-style mineralization which remains open to the north, east, west and to depth at this locality.

#### SURVEY CONTROL

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In August 1992, Jeff Stevens, the project surveyor, completed a survey of 24 air photo targets, all but two drill hole collars (past and present diamond and percussion drilling) and two legal corner posts which were pertinent to the 1992 Romulus drilling.

The survey of air photo targets generated two sets of coordinates, UTM and "Mine Grid", the latter being an extension of the Kemess mine grid located to the south of the property. The air photo targets were established to provide triangulation control for an aerial photography survey carried out by Eagle Mapping Ltd. The latter survey is to be used for the generation of control topographic base maps on the Pine property. A complete set of drill hole and survey data are presented in Appendix A.

## 9.0 ENVIRONMENTAL ASPECTS

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Minimal surface disturbance was created by Romulus Resources Ltd. during 1992 as the majority of the program involved geochemical and geophysical grid work. The four diamond drill holes completed by Romulus were collared on existing drill pads. An existing camp site was also utilized to further minimize new disturbance. Two kilometres of drill access roads built by Romulus were reclaimed by a thorough slashing program.

Access to the property was achieved by rehabilitating a few short sections of the 24 km access road constructed by Cominco in 1990. The majority of the surface disturbance caused by the road existed prior to Romulus becoming the operator. Upgrading the road by Romulus primarily involved improving drainage control. The lack of slash abatement performed by Cominco is well documented. A photomap album of the same has been forwarded to the MEMPR office in Prince George along with an accompanying memo in which Romulus states that it is their opinion that Cominco should be fully responsible for the access road slash abatement to meet exploration guidelines.

No environmental base line studies on the Pine property have been initiated nor has any test-work been carried out on the gold-copper mineralization in order to determine the environmental repercussions of mining it. The Pine gold-copper deposit is at an early stage of development. Romulus, when appropriate, will establish, survey and monitor environmental data.

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CONCLUSIONS

Integrated geological, geochemical and geophysical surveys suggest that a large gold-copper rich hydrothermally altered sulphide system, represented by the Zone 1 chargeability anomaly, is over four square kilometres in extent. This sulphide system is spatially and genetically related to the intrusion of a quartz monzonite pluton. To date, only a small portion of this target has been diamond drill tested and it remains a highly prospective exploration target which warrants thorough investigation.

Several other areas on the Pine property with favourable gold, copper and molybdenum soil geochemical expressions, some of which lie within IP or aeromagnetic anomalies, remain under-explored and are attractive additional exploration targets. These include the multi-element soil geochemical anomaly in the North Grid area; the intensely kaolinized, gold and molybdenum enriched breccia (?) unit in the Northwest grid area; and the gossanous zone along Bogie Creek which is coincident with the partially defined Zone 5 chargeability anomaly. Only a small portion of the very 100 prospective square kilometre Pine property has been systematically explored.

Comparisons of HQ versus BQ diamond drilling methods at the Pine and Tree gold-copper prospects indicate that although the HQ core delivered approximately four times as large a sample by virtue of its size, the overall recoveries improved only about ten percent and the gold-copper grades remained about the same. In future drilling programs, as a compromise, perhaps NQ core size could be utilized.

At the Fin copper-molybdenum prospect, comparison of copper grades in percussion versus diamond drill holes indicates that actual copper grades may be higher than those obtained in the Cominco percussion holes.

As most post-mineral dyking trends northerly and dips moderately to steeply to the east, future diamond drill holes should be mainly inclined to the west, in order to minimize the length of dyke intersections.

With good roads in place, and with anticipated improvements in the road-rail infrastructure associated with the proposed development of the nearby Kemess project, the exploration potential of the Pine property fully warrants further substantial expenditures to carry this project forward towards the delineation of a major gold-copper deposit.

# 11.0 RECOMMENDATIONS

A phased, success contingent exploration program is recommended for the Pine property to further evaluate known porphyry prospects and to explore for others. A 3,000 metre, Phase 1 drilling program is recommended for the Zone 1 IP anomaly to thoroughly explore the four square kilometre IP anomaly that represents the geophysical expression of a large gold-copper porphyry-type sulphide system.

A Phase 2 program would consist of 3,000 metres of drilling on untested gold-copper-molybdenum prospects outside the Zone 1 anomaly and various ancillary surveys including property wide geochemical, geophysical and geological surveys to identify and assess mineral deposits associated with prospective intrusions and their associated alteration zones.

Copeland Rebagliati & Associates Ltd.

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# STATEMENT OF COSTS

## STATEMENT OF COSTS ROMULUS RESOURCES LTD. PINE PROJECT - 1992

## 1. NORTHWEST GRID

Salaries	\$2,520.00	
Analytical - Soils (file # 92-1940)	\$3,145.00	
Support Costs 10 Mandays at \$516/manday	y \$5,160.00	
Helicopter: 4.3 Hours at \$700.00 Hr	\$3,010.00 Sub-total	\$13,835.00

# 2. NORTHWEST GRID (Fill-In) Soils + Mapping + Prospecting

	Salaries			\$780.00	
	Analytical	- Soils (file # 92-1966) - Rock (file # 92-2666)		\$1,665.13 \$49.49	
	Support Co 4	osts Mandays at \$516/manda	у	\$2,064.00	
	Helicopter: 0.81	Hours at \$700.00 Hr	Sub-total	\$567.00	\$5,125.62
3.	NORTH G	GRID - SOIL GRID			
	Salaries			\$1,375.00	
	Analytical	- Soils (file # 92-2261) - Soils (file # 92-2664) - Soils (file # 92-2977)		\$1,953.82 \$1,636.57 514.38	
	Support Co				
	9	Mandays at \$516/manda	y	\$4,644.00	
	Helicopter: 0.81	Hours at \$700.00 Hr	Sub-total	\$567.00	\$10,690.77
4.	NORTH C	GRID - IP GRID			
	IP SURVE 4	Y km @ \$775/km		\$3,100.00	
	Support Co 12	osts Mandays at \$516/manda	у	\$6,192.00	
	Helicopter: 4.39	Hours at \$700.00 Hr	Sub-total	\$3,073.00	\$12,365.00
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## STATEMENT OF COSTS (Cont'd) ROMULUS RESOURCES LTD. PINE PROJECT - 1992

LINECUTTII Salaries	NG		\$1,440.00	
Support Costs 10 M	; fandays at \$516/manday	,	\$5,160.00	
Helicopter: 5.15 H	lours at \$700.00 Hr	Sub-total	\$3,605.00	\$10,205.00
		Sub total		<b>410</b> ,202.00
MAPPING A Salaries	ND PROSPECTING		\$175.00	
Support Costs 1 N	s fandays at \$516/manday		\$516.00	
		Sub-total		\$691.00
MAIN IP G	RID			
IP SURVEY 58 k	m of cut line @ \$775/km	1	\$44,950.00	
Support Costs 108 N	s Iandays at \$516/manday	,	\$55,728.00	
Helicopter: 7.22 H	Iours at \$700.00 Hr		\$5,054.00	
		Sub-total		\$105,732.00
LINECUTTI	NG			
65.5 k	m of cut line @ \$585/km	1	\$38,317.50	
Support Costs 82 N	s fandays at \$516/manday	7	\$42,312.00	
Helicopter: 3.53 H	lours at \$700.00 Hr		\$2,471.00	
		Sub-total		\$83,100.50

## STATEMENT OF COSTS (Cont'd) ROMULUS RESOURCES LTD. PINE PROJECT - 1992

MAPPING AND PROSPECTING	
Salaries	\$2,510.00
Analytical - Rocks (file # 92-2262)	\$301.58
- Rocks (file # 92-2423)	\$163.71
Support Costs	
12 Mandays at \$516/manday	\$6,192.00
Sub-tota	\$9,167.29

#### 6. WEST GRID - Soils + Mapping + Prospecting

Salaries	\$4,585.00	
Analytical - Soils (file # 92-2663) - Rock (file # 92-2666)	\$3,012.75 \$395.63	
Support Costs 30 Mandays at \$516/manda	y \$15,480.00	
Helicopter: 2.16 Hours at \$700.00 Hr	\$1,512.00 Sub-total	\$24,985.38

#### 7. CANYON CREEK GRID - Soils + Mapping + Prospecting

Salaries	\$1,270.00	
Analytical - Soils (file # 92-2665)	<b>\$1,494.26</b>	
Support Costs 8 Mandays at \$516/manday	\$4,128.00	
Sub-tota	al \$6,892.26	-

#### 8. SONG 1 - RECCONNAISANCE TRAVERSE

Salaries	\$295.00	
Analytical - Soils + Rock (file # 92	-2977) \$514.38	
Support Costs 2 Mandays at \$516/manday	y \$1,032.00	
Helicopter: 1.83 Hours at \$700.00 Hr	\$1,281.00	
	Sub-total	\$3,122.38

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## STATEMENT OF COSTS (Cont'd) ROMULUS RESOURCES LTD. PINE PROJECT - 1992

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#### 9. SONG 2 - RECCONNAISANCE TRAVERSE

\$295.00	
\$514.38	
\$1,032.00	
\$938.00	\$2,779.38
	\$514.38 \$1,032.00

#### **10. NON-DRILLING WORK SPECIFIC TO FIN 14 CLAIM**

MAPPING AND PROSPECTING Salaries	\$1,230.00	
Support Costs		
6 Mandays at \$516/manday	\$3,096.00	
	Sub-total	\$4,326.00
LOGGING AND SPLITTING OLD	CORE	
Salaries	\$2,315.00	
Analytical - Core (file # 92-2263)	\$1,243.88	
- Core (file # 92-2422)	632.42	
Support Costs		
14 Mandays at \$516/manday	\$7,224.00	
	Sub-total	\$11,415.30

#### 11. AERIAL PHOTOGRAPHY AND SURVEY CONTROL

Eagle Mapping, Air Photos	\$455.80	
Eagle Mapping, Aerial Photography	s \$10,430.40	
Survey Control	\$1,757.00	
Support Cost 8 Mandays at \$516/manda	y \$4,128.00	
Helicopter 8.56 Hours at \$700.00 Hr	\$5,992.00 Sub-total	\$22,763.20

## STATEMENT OF COSTS (Cont'd) ROMULUS RESOURCES LTD. PINE PROJECT - 1992

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## 12. 1992 ROMULUS RESOURCES DIAMOND DRILLING

#### A) JT Thomas Diamond Drilling(1-Sep-92 to 30-Sep-92) 783 metres at \$ per metre \$91,679.43

	· 1	. ,	
	Support Cost		
	84 Mandays at \$516/manday	\$43,344.00	
	Sub-total		\$135,023.43
n	Core Lessing and Sulitains		
,	Core Logging and Splitting		
	Salaries	\$7,635.00	
	Support Cost		
	41 Mandays at \$516/manday Sub-totai	\$21,156.00	\$28,791.00
	Sub-1041		\$28,791.00
5)	Min-En Assays and ICP		
		\$9 225 AA	
	334 Core Samples Sub-total	\$8,335.04	\$8,335.04
D)	Core Shack		
	Salaries	\$495.00	
	Materials	\$500.00	
	Support Cost		
	4 Mandays at \$516/manday	\$2,064.00	#2.070.0V
	Sub-total		\$3,059.00
E)	Drill Hole Survey		
	Salaries	\$2,486.00	
	Surger Cast		
	Support Cost 8 Mandays at \$516/manday	\$4,128.00	
	Sub-total		\$6,614.00
P)	Slashing Crew		
	Salaries	\$2,475.00	
	Support Cost		
	6 Mandays at \$516/manday	\$3,096.00	
	Sub-total		\$5,571.00
	TOTAL 1992 EXPENDITU	КE	\$514,589.55

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Copeland Rebagliati & Associates Ltd.

# 14.0 <u>CERTIFICATES OF QUALIFICATIONS</u>

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#### CERTIFICATE OF QUALIFICATIONS

I, Brian K. Bowen, of 12470 99A Avenue, Surrey, B.C., hereby certify that:

- 1. I am a consulting Geological Engineer with offices at 12470 99A Avenue, Surrey, B.C.
- I am a graduate of University of British Columbia, Vancouver, B.C. (B.A.Sc Geological Engineering, 1970).
- 3. I have practised my profession continuously since graduation.
- I am a member in good standing of the Association of Professional Engineers of British Columbia.
- 5. The foregoing report is based on:
  - a) A study of all available Company and government reports.
  - b) My personal knowledge of the region gained during several years of porphyry exploration in the area, including from May 1992 to present as a geological consultant to the Pine project.
- 6. I have not directly or indirectly received nor do I expect to receive any interest, direct or indirect, in the property of Romulus Resources Ltd., or any affiliate. I do not beneficially own, directly or indirectly, and Securities of Romulus Resources Ltd. or any affiliate.

POFE Aue Enq. 1993

#### CERTIFICATE OF QUALIFICATIONS

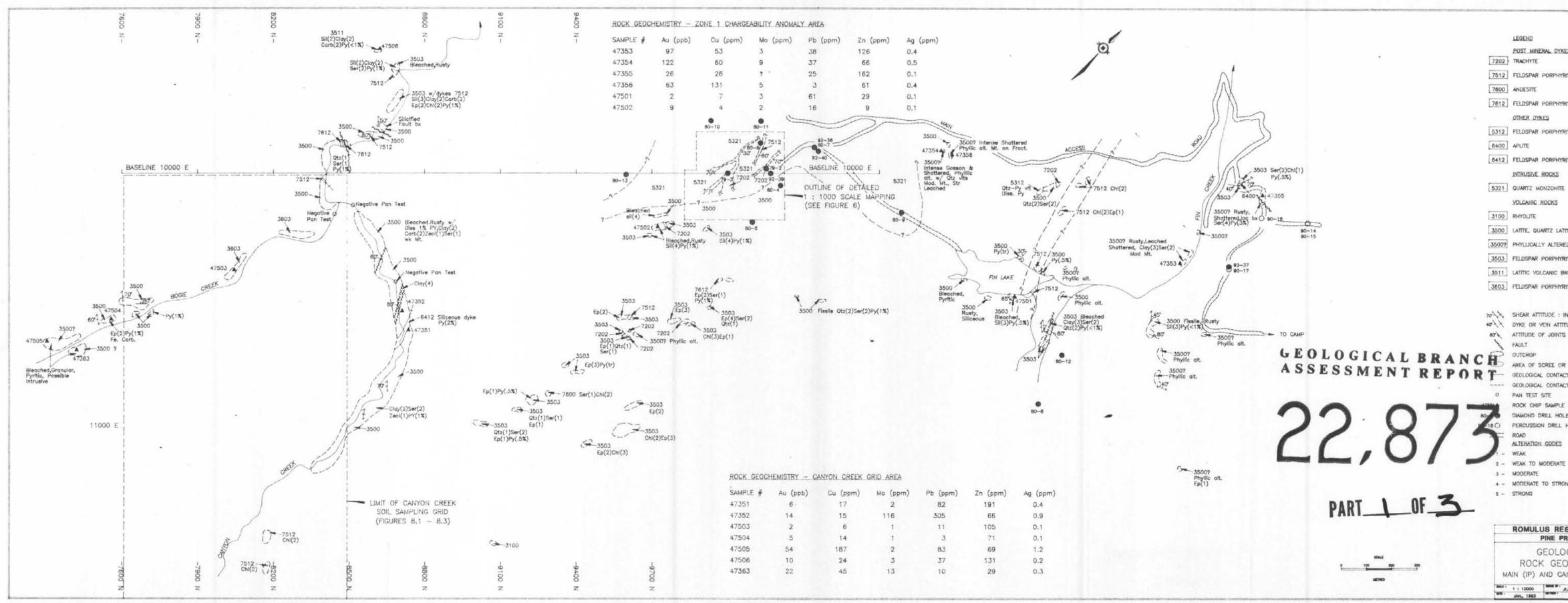
I, Michael Genn, hereby certify that:

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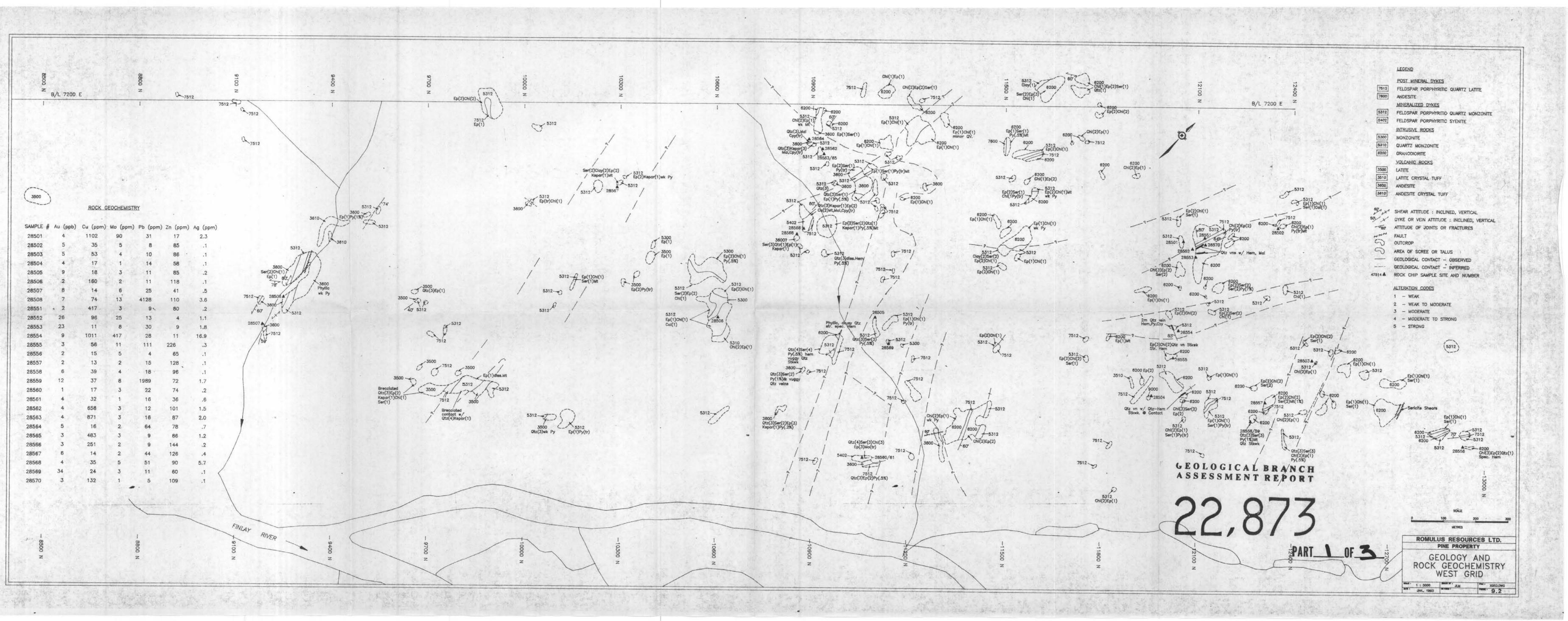
- I am a graduate of University of British Columbia, Vancouver, B.C. (B.Sc. Geology, 1986).
- 2. I have worked in mineral exploration in BC, Yukon and Alberta since 1985.
- 3. I have no investment in any company associated with the Pine Property.

M. Genn March 29, 1993

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