

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORTS

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JAN 11 1996

**EPI 1-8 CLAIMS**

**NAPIER GROUP**

**KAMLOOPS MINING DIVISION**

**BRITISH COLUMBIA**

**N.T.S. 92I/8W**

**LATITUDE 50° 25' NORTH**

**LONGITUDE 120° 17' 15" WEST**

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT**

**24,249**

by

**J.E.L. (Leo) Lindinger, P. Geo.**

**DECEMBER 29, 1995**

**FILMED**

## TABLE OF CONTENTS

	<b>PAGE</b>
<b>SUMMARY</b>	<b>1</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>LOCATION AND ACCESS</b>	<b>2</b>
<b>CLIMATE, TOPOGRAPHY AND VEGETATION</b>	<b>2</b>
<b>PROPERTY</b>	<b>2</b>
<b>HISTORY</b>	<b>2</b>
<b>REGIONAL GEOLOGY</b>	<b>3</b>
<b>LOCAL GEOLOGY</b>	<b>3</b>
<b>DISCUSSION OF GEOLOGICAL INVESTIGATIONS</b>	<b>4</b>
<b>GEOCHEMISTRY</b>	<b>5</b>
<b>CONCLUSIONS</b>	<b>6</b>
<b>RECOMMENDATIONS</b>	<b>7</b>
<b>PROPOSED WORK PROGRAM</b>	<b>7</b>
<b>STATEMENT OF EXPENDITURES</b>	<b>7</b>
<b>SELECTED REFERENCES</b>	<b>8</b>
<b>STATEMENT OF QUALIFICATIONS</b>	<b>9</b>

**LIST OF FIGURES**

	after page
FIGURE 1 - LOCATION MAP	1
FIGURE 2 - CLAIM MAP	2
FIGURE 3 - REGIONAL GEOLOGY	4
FIGURE 4 - OVERBURDEN AND BEDROCK GEOLOGY	5
FIGURE 5 - GOLD, SILVER, COPPER, ZINC GEOCHEMISTRY	6
FIGURE 6 - ARSENIC, CADMIUM, MERCURY, LEAD GEOCHEMISTRY	6

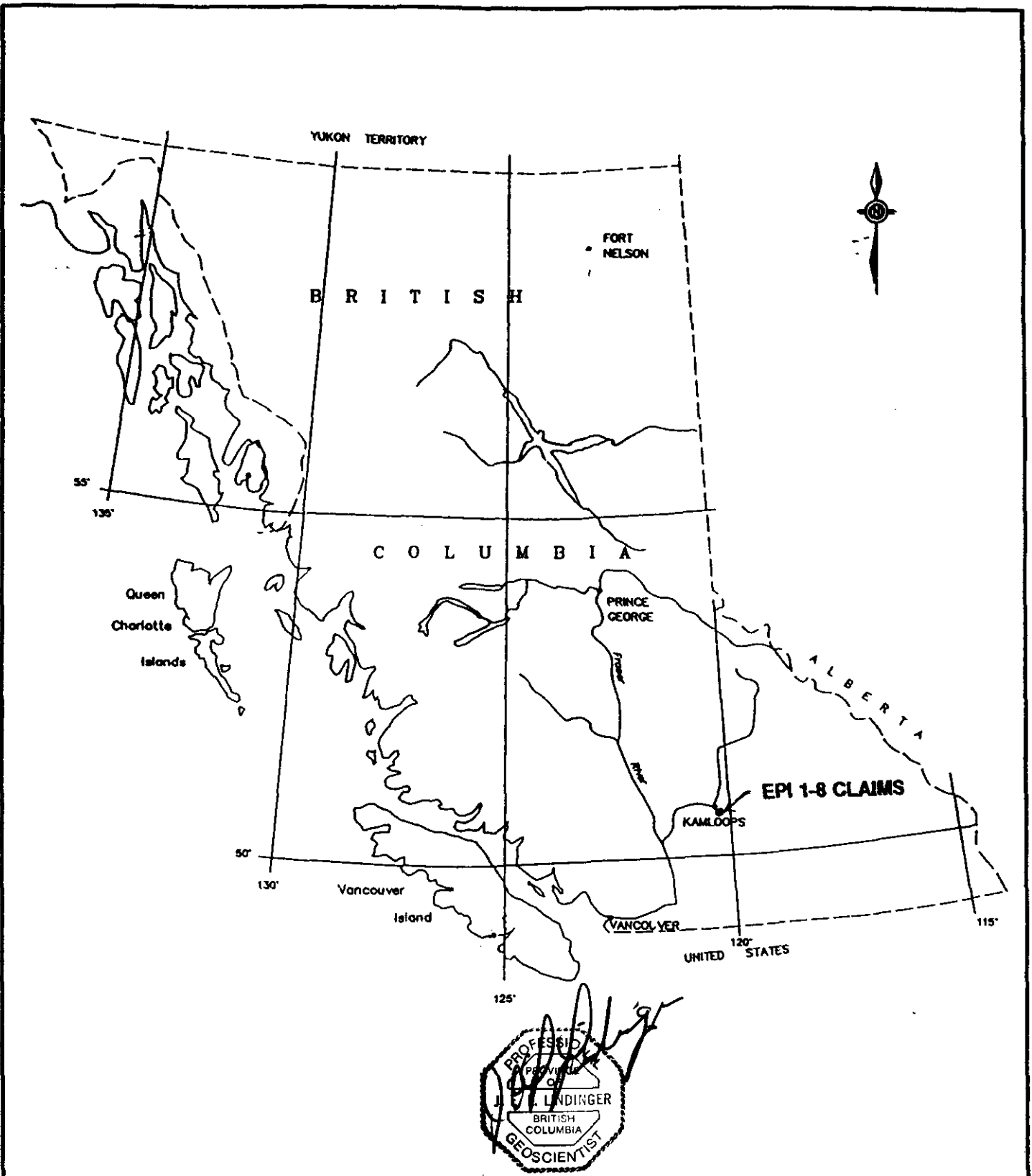
**LIST OF APPENDICES**

**APPENDIX I - CERTIFICATE OF ANALYSES**

**APPENDIX II - ROCK DESCRIPTIONS**

**SUMMARY** A local mapping and sampling program was undertaken on the EPI 1-8 Claims (Napier Group) which cover the NAP Mineral Occurrence (Minfile Occurrence #92I/SE-169). on September 7, 1995. The property is located 35 km south of Kamloops within the Kamloops Mining Division. The occurrence is located within the Quesnel Terrain of the Intermontane Tectonic Belt. The occurrence lies within a large east west striking shear zone of deformed volcanics and sediments of the upper Triassic Nicola Group near the intrusive contact with the earliest Jurassic Wildhorse Batholith to the northeast. A possible porphyry copper deposit may have formed at the contact of the Wildhorse Batholith with Nicola lithologies in this area during that event. Percussion drilling in 1973 delineated up to 33.5 m of 0.21% copper, with accompanying zinc and gold values. Deformation, thought to be related to the collision of Quesnellia (Nicola rocks and intrusives) with North America occurred during the mid Jurassic. The shear zone may be part of a thrust fault related to that event that deformed the porphyry deposit. Erosion during the Jurassic and Cretaceous Eras exposed the mineralized area. Subsequent transtensional tectonic and volcanic activity in the early Tertiary included deposition of local accumulations of Kamloops Group sediments and later bimodal extrusive volcanic activity resulting in rhyolite and slightly later basalt deposits that cover parts of the property. Epithermal style hydrothermal activity related to these Tertiary volcanic events resulted in extensive bleaching, silicification and late stage carbonate flooding of the rocks within the shear zone. The best copper, gold and sometimes mercury values are found associated with the carbonate flooding. Surface samples of mineralized material have yielded over 10,000 ppm copper, 8,000 ppm zinc, and 540 ppb gold. The 1995 program also analyzed for mercury and molybdenum and anomalies were found for these metals in addition to copper gold and zinc. Also basal rhyolites found on the property are hydrothermally altered and intruded by small basaltic dykelets with later hematitic stockwork veinlets which can be anomalous in mercury, indicating that some hydrothermal activity continued until the time of basaltic extrusive activity. Mapping of overburden and rhyolite cover over the central part of the property indicate that the past geochemical anomalies are confined to bedrock and subcrop exposures and that the true extent of mineralization has not been determined. Examination of hydrothermally altered rhyolite suggest that the clays are illitic and not zeolitic. A \$200,000 Stage 1 multiphased program including geological mapping and rock sampling, shallow detailed and deep penetrating ground geophysics, trenching, litho-geochemical studies, and diamond drilling is proposed.

**INTRODUCTION** A one day geological field mapping and rock sampling program was completed by the Author on September 7, 1995. The purpose of this program was to map bedrock geology, noting rock type, alteration, mineralization, and structure. Areas of deep masking overburden and till were also mapped. Six rock samples were taken and sent for gold, 30 element ICP and pathfinder 11 element analysis. This report documents the findings of this program and relates this information with historic data and applies these findings to current tectonic and metallogenic models.



Scale 1:10,000,000

100 0 100 200 300 400 Km

J.E.L. Lindinger P.Geo.			
<b>NAPIER GROUP</b>			
<b>EPI 1-8 CLAIMS</b>			
Kamloops MD NTS 921/8			
<b>LOCATION MAP</b>			
SCALE: AS NOTED	<b>DEC 1995</b>	N.T.S.	DRAWN BY: GEO-COMP
			FIGURE: 1

**LOCATION and ACCESS** The EPI 1-8 claims are in the Kamloops Mining Division; Latitude 50° 25' North, Longitude 120° 17' 15" West as found on N.T.S. Map Sheet 92I/08W. The property is located 35 km south of Kamloops and immediately east of Napier Lake. Access is via the old Kamloops-Merritt Highway (Hwy 5), then by range roads running south from the Roche Lake Road or north from the Stump Lake Ranch Road. A little used spur road crosses the EPI 7-8 Claims. Water access to the west side of the claims is available from Napier Lake.

**CLIMATE, TOPOGRAPHY and VEGETATION** The claims lie in a semi-arid intermontaine climatic zone. Rainfall is less than 50 cm/year, temperatures range from -30 to +40 degrees centigrade. Topography is moderately rolling tall grass prairie with occasional groves of ponderosa pine. Napier lake, on the west side of the property occupies the south end of a north draining steep walled glacial spillway.

**PROPERTY** The EPI 1-8 claims are contiguous 2 post mineral claims.

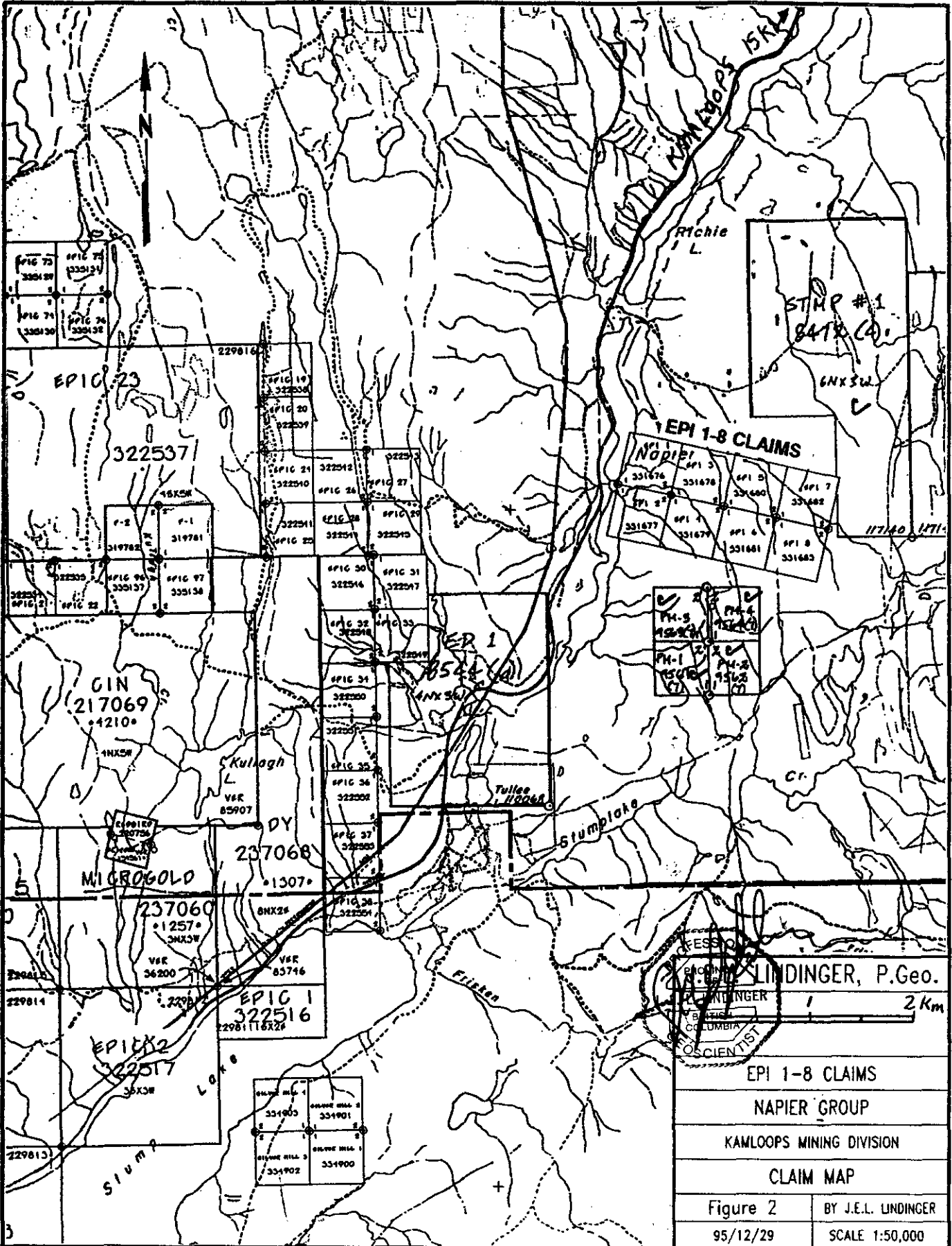
EPI 1	record #	331676	expiry	October 12, 1996*
EPI 2	"	# 331677	"	"
EPI 3	"	# 331678	"	"
EPI 4	"	# 331679	"	"
EPI 5	"	# 331680	"	"
EPI 6	"	# 331681	"	"
EPI 7	"	# 331682	"	"
EPI 8	"	# 331683	"	"

\*upon proof of assessment work which this report summarizes.

These claims were grouped as the Napier Group Event #3076312, on September 25, 1995.

All claims are held 100% by J.E.L. Lindinger.

**HISTORY** In 1973 Newconex Canadian Exploration Ltd. staked and worked the then undiscovered Nap Occurrence. The claims were staked over a pronounced quartz-sericite-pyrite gossan and vegetative kill zone. Initial work consisted of soil sampling for copper and zinc, ground magnetics and geological mapping. A 2 km by 0.7 km zone of interest was outlined by this preliminary program. A widely spaced 12 hole percussion drill program was completed later that year. 5 holes on the eastern half of the property were drilled primarily on overburden covered magnetic anomalies whereas the 7 westerly holes were drilled into the highest copper in soil anomalies. Although 33.5 m grading 0.21% copper was intersected no further significant work was performed on the property. The only followup work complete by Newconex was a vertical loop EM survey over the



**EPI 1-8 CLAIMS**

EPI 1	EPI 2	EPI 3	EPI 4	EPI 5	EPI 6	EPI 7	EPI 8
331674	331675	331676	331677	331678	331679	331680	331681
331682	331683	331684	331685	331686	331687	331688	331689

**EPIC 23**

322537

**GIN**

217069

4210

**MICROGOLD**

237060

1257

**EPIC 1**

322516

331903	331901
331902	331900

**J. E. LINDINGER, P. Geo.**

1 2 Km

**EPI 1-8 CLAIMS**

**NAPIER GROUP**

**KAMLOOPS MINING DIVISION**

**CLAIM MAP**

Figure 2 BY J.E.L. LINDINGER

95/12/29 SCALE 1:50,000

known mineralized area. The claims were allowed to lapse.

Field evidence of staking by Noranda in 1982 was found by later operators, however no claims were recorded.

In 1987 Werner Gruenwald and Doug Lieshman staked a 12 unit modified grid claim over the occurrence.

Between 1987 and 1990 Gruenwald and Lieshman conducted soil and rock geochemistry of surficial and shallow test pit material, magnetic, and VLF electromagnetic surveys over the areas of known mineralization. Near surface bedrock sampling of mineralized material reported over 10,000 ppm copper, 8,000 ppm zinc, and 540 ppm gold. Molybdenum was locally anomalous.

The Nap Occurrence was staked by the owner on October 12 1994.

**GEOLOGY - REGIONAL** The Napier lake area is located within the Intermontaine Belt and underlain predominantly by rocks of the Quesnel Terrain. With the exception of small exposures of possibly Palaeozoic meta-sediments near Merritt 20 km south, the oldest rocks in the area are Upper Triassic to earliest Jurassic Nicola Group volcanics and sediments of oceanic island arc affinity. These rocks have been intruded by coeval plugs, stocks and small batholiths of dominantly alkalic rocks, and by slightly later calc-alkalic batholithic sized intrusive bodies. These arc rocks were obducted onto western north America during the mid Jurassic. The resulting fabric of moderately to highly folded strata was truncated and displaced by southeasterly to easterly striking south dipping thrust faults.

Localized erosion and deposition occurred from the mid Jurassic through to the Paleocene. Block faulting related to early Tertiary tectonic activity exposed areas of deep seated structures displaying ductile deformation fabrics thought to have originated during plate collision such as in the Nicola Horst located 11 km west of the property. Subaerial volcanic and intrusive events, including the Palaeocene megacrystic granitic rocks of the 30 km long Rocky Gulch Batholith within the Nicola Horst, and slightly later Eocene Kamloops Group subareal bimodal rhyolitic and basaltic volcanism followed. These rocks form extensive blankets south and west of Napier Lake. Tertiary structures generated by transtensional tectonics initiated during the mid Cretaceous are dominantly north striking tensional features that crosscut and displace pre-existing rocks including Kamloops Group lithologies.

Remnants of undeformed Miocene "Chilcotin Group" flood basalts lie in a broad discontinuous arc within a 5 km radius of Napier Lake.

The only known Pleistocene basalts deposits occur south of Merritt.

Pleistocene to Recent accumulations of consolidated and unconsolidated glacial, interglacial and post glacial sediments cover large expanses of the area.

**GEOLOGY - LOCAL** The Nap Occurrence appears to outcrop as part of a window of older pre Kamloops age rocks east of Napier Lake. The mid-Mesozoic granitic Wildhorse Batholith underlies the east and northeast areas. Eocene Kamloops Group



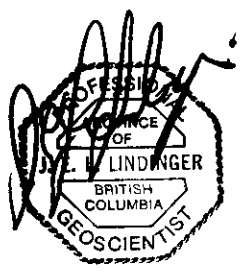
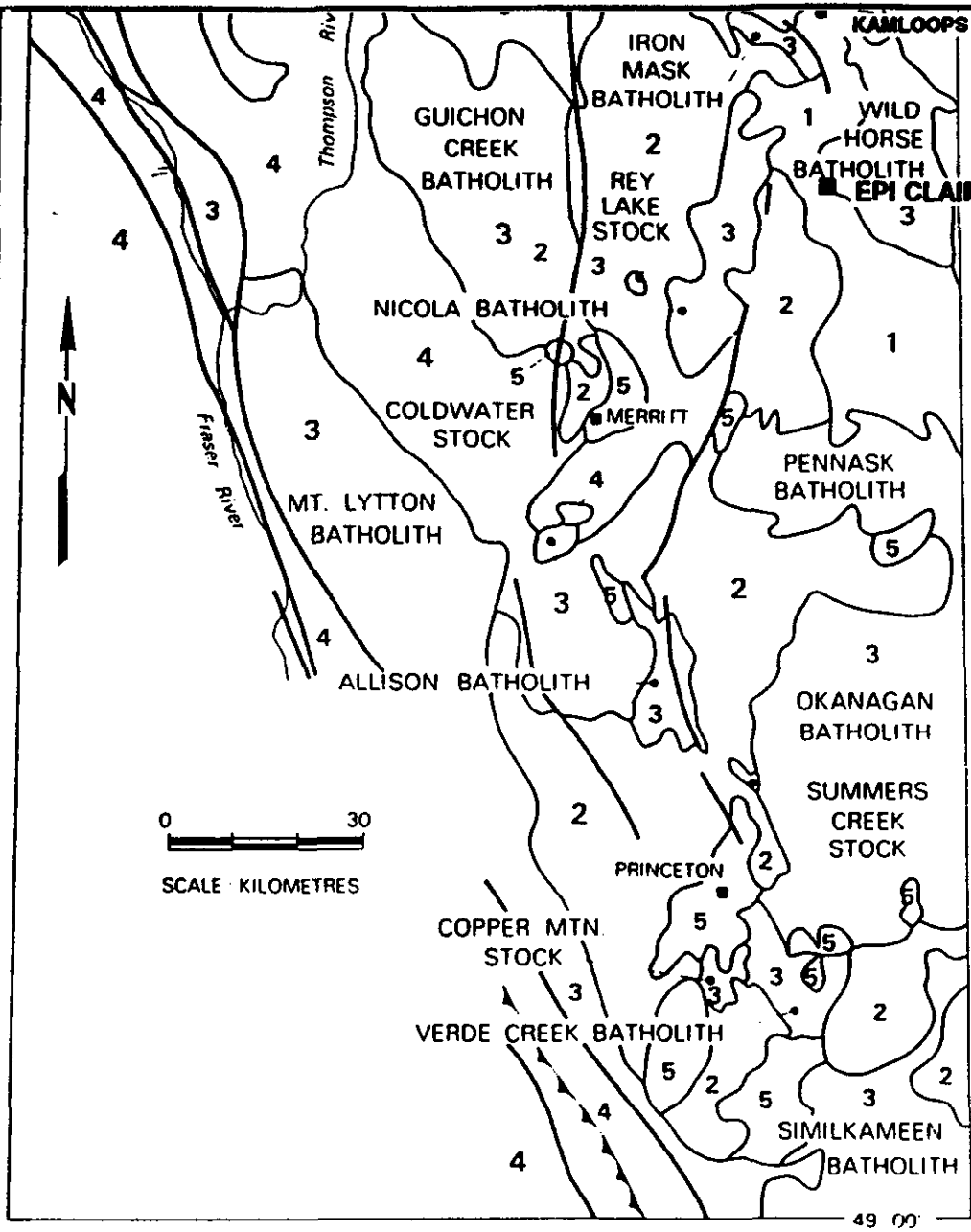
basalts, andesites, and rhyolites lie north, south and west of this area. A large 1700 meter by 300 to 700 meter  $110^{\circ}$  striking exposure of part of a quartz-sericite-pyrite 'shear zone', thought by (Rebagliati 1973) to be an assemblage of tectonized and hornfelsed Nicola Group volcanics intruded by apophyses of the nearby Wildhorse Batholith. Surface exposures of highly anomalous copper and gold with moderate zinc and silver values, define the known exploration targets to date. Several of these targets have been percussion drilled with moderate returns of copper, zinc and locally gold mineralization. Local accumulations of rhyolite and basalt cover areas of the property. Thin to locally thick pre, intra, and post glacial deposits cover the most of the claims.

**DISCUSSION OF EXPLORATION RESULTS.** It is apparent that a large hydrothermal system generated the extensive pyritic quartz-sericite 'schist' alteration zone. Comparison with known economic porphyry copper deposits suggest that this zone may be part of a metamorphosed? 'phyllitic' alteration shell adjacent to/or overlying a porphyry copper core. The high pyrite (reportedly over 10% in areas) and low copper content may be indicative of a "pyrite halo" of typical calc-alkalic porphyry deposits. All percussion holes drilled into the alteration zone reported elevated copper and zinc mineralization. The best results were in hole 73-P11 which reported 33.5 meters grading 0.21% copper. Hole 73-P8 reported 0.19% copper over 18.3 meters. Hole 73-P9 reported 230 ppb gold over 3.1 meters within a 15 m (hole length) zone of elevated gold values bordered by border by a wider length of anomalous copper-zinc mineralization. Highlights of the surface programs by Gruenwald and Leishman are copper samples exceeding 1% (10,000 ppm), zinc exceeding 8,000 ppm, and gold to 540 ppm. Relationships of these metals with other indicator elements and observations of the 1995 mapping and sampling program are discussed below.

Examination of the 1972 drill results where copper, zinc and often gold were analyzed and the multi-element geochemical results of the limited soil, rock and test pit sampling by Gruenwald and Leishman, it appears that potentially economic mineralization may occur in at least three styles. In addition to the extensive pyrite-low grade copper-zinc mineralization (Cu and Zn to 200 ppm - essentially close to background), are copper-zinc-gold (Cu > 1.0%, Zn > 0.8% and gold to 0.540 ppb), gold (to 0.23 ppm) with copper and zinc, and molybdenum (to 140 ppm)-zinc-copper-gold (to 100 ppb) mineralizing styles.

Further examination of the multi-element geochemical analyses suggest that copper is moderately associated with zinc, cadmium, calcium; weakly associated with lead, silver, manganese, nickel, phosphorus; and negatively correlated with iron, strontium, vanadium, sodium and potassium. Gold is associated with iron, silver, copper, zinc, with a very weak local? associations with sodium.

The 1995 program largely confirmed the findings of earlier programs with the addition of the following: The extensive east to southeast striking south dipping shear zone may have been generated by ductile shearing related to mid Jurassic compressional tectonics related to the collision of Quesnellia onto North America. This event post dated the



**LEGEND**

- 5** TERTIARY VOLCANIC AND SEDIMENTARY ROCKS
- 4** UNDIVIDED PRE AND POST NICOLA VOLCANIC AND SEDIMENTARY ROCKS
- 3** PLUTONIC ROCKS
- 2** NICOLA GROUP
- 1** PROBABLE NICOLA GROUP

**SYMBOLS**

- THRUST FAULT
- MAJOR FAULT

**MODIFIED FROM  
GSC MAP 232A**

J.E.L. LINDINGER, P.Geo.	
EPI 1-8 CLAIMS	
NAPIER GROUP	
KAMLOOPS MINING DIVISION	
REGIONAL GEOLOGY	
Figure 3	BY J.E.L. LINDINGER
95/12/29	SCALE 1:50,000

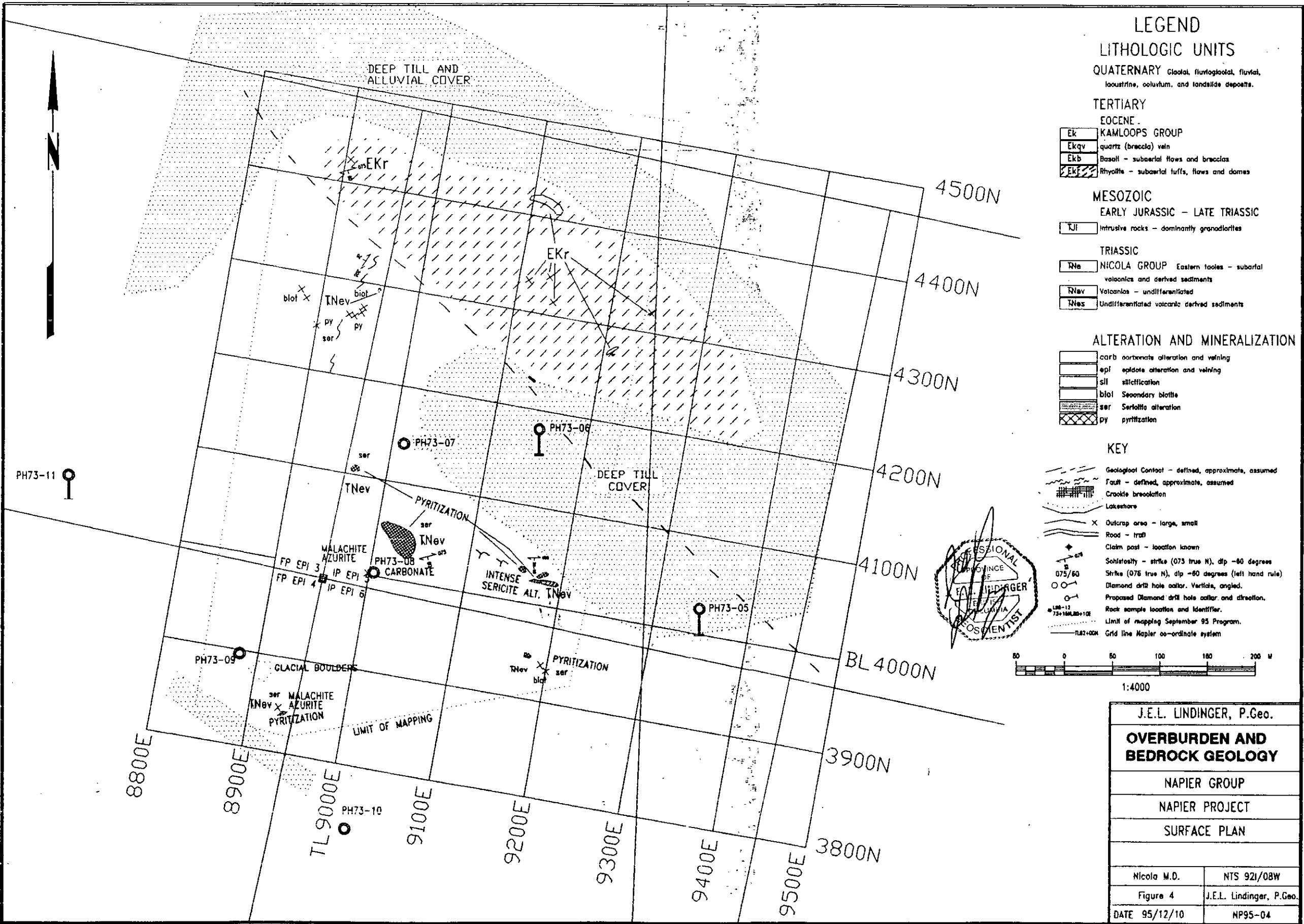
intrusive and accompanying porphyry style mineralizing event(s), deforming and possibly rotating the older lithologies. A tentative scenario is that the shear zone has been elongated in an east-west direction and may be tilted to the north ie (south dipping). The presence of lamprophyre dykes (of unknown age) within this shear zone is indicative of deep structures (Rebagliati 1973). The author upon noting that the highest grades of copper and often gold had a very close association with calcite from information provided by (Gruenwald and Leishman, 1987, Leishman, 1990) confirmed these findings in the field by mapping and sampling strongly carbonate (calcite) flooded bleached and foliated pre Tertiary rocks that report up to 0.41% copper, 486 ppm Zn, 5.8 ppm silver, 150 ppb Hg and 420 ppb gold. Samples of hydrothermally altered rhyolite containing dykelets of basalt and later hematite stockwork veins were taken and found to be locally anomalous in mercury reporting up to 410 ppb. These geological and geochemical results strongly suggest epithermal style alteration and mineralization. The broad range of metal values including anomalous mercury in both pre Kamloops and Kamloops Group rocks indicate that an Eocene hydrothermal event may have overprinted the preexisting porphyry style mineralization. Additional support for this scenario, ie (post mid Jurassic) alteration and metallogenesis. is indicated by observing exposures of biotitic gneissic rocks that apparently grade into intensely bleached, silicified and rather coarse grained sericite-muscovite schists where it appears that the biotite has been replaced by sericite-muscovite, and the remainder of the rock by silica and amorphous illitic clays. Examination of rock samples were made by D. Bouffard P. Geo. for zeolite potential. His tentative conclusion was that some potential exist however the dominant clay minerals present appear to be illitic.

**GEOCHEMISTRY** Six samples were sent to Eco-Tech Laboratories of Kamloops British Columbia to be analyzed for gold, 28 element ICP and an 11 element pathfinder package.

The rock samples are prepared by drying if required, then crushed to -10 mesh. A 250 gram subsample is then pulverized to -140 mesh.

For gold a 30 gram subsample was taken of the pulp and fire assayed with atomic absorption finish. The elements in the Pathfinder 11 analytical package were analyzed as a gold related trace element package. Mercury was analyzed by cold vapour extraction. Silver, antimony, arsenic, bismuth, cadmium, copper, molybdenum, lead, selenium, and zinc were digested and analyzed by procedures optimized for each element. The 28 elements analyzed by ICP used conventional techniques.

Brief descriptions and analytical highlights follow. For elements analyzed in both Pathfinder and ICP packages the Pathfinder results are recorded.



**LEGEND**  
**LITHOLOGIC UNITS**

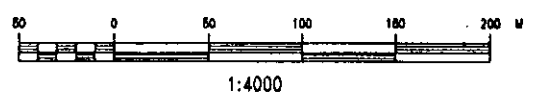
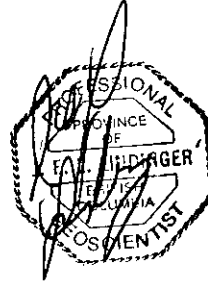
- QUATERNARY** Glacial, fluvio-glacial, fluvial, lacustrine, coluvium, and landslide deposits.
- TERTIARY**  
**EOCENE**
- Ek** KAMLOOPS GROUP
  - Ekqv** quartz (breccia) vein
  - Ekb** Basalt - subaerial flows and breccias
  - Ekr** Rhyolite - subaerial tuffs, flows and domes
- MESOZOIC**  
**EARLY JURASSIC - LATE TRIASSIC**
- TJi** Intrusive rocks - dominantly granodiorites
- TRIASSIC**
- TNe** NICOLA GROUP Eastern toles - subaerial volcanics and derived sediments
  - TNeV** Volcanics - undifferentiated
  - TNes** Undifferentiated volcanic derived sediments

**ALTERATION AND MINERALIZATION**

- carb** carbonate alteration and veining
- epi** epidote alteration and veining
- sil** silicification
- blol** Secondary biotite
- ser** Sericite alteration
- py** pyritization

**KEY**

- Geological Contact - defined, approximate, assumed
- Fault - defined, approximate, assumed
- Crookite brecciation
- Lakeshore
- Outcrop area - large, small
- Road - trail
- Claim post - location known
- Schistosity - strike (073 true N), dip -60 degrees
- Strike (076 true N), dip -60 degrees (left hand rule)
- Diamond drill hole collar. Vertical, angled.
- Proposed Diamond drill hole collar and direction.
- Rock sample location and identifier.
- Limit of mapping September 95 Program.
- Grid line Mapler co-ordinate system



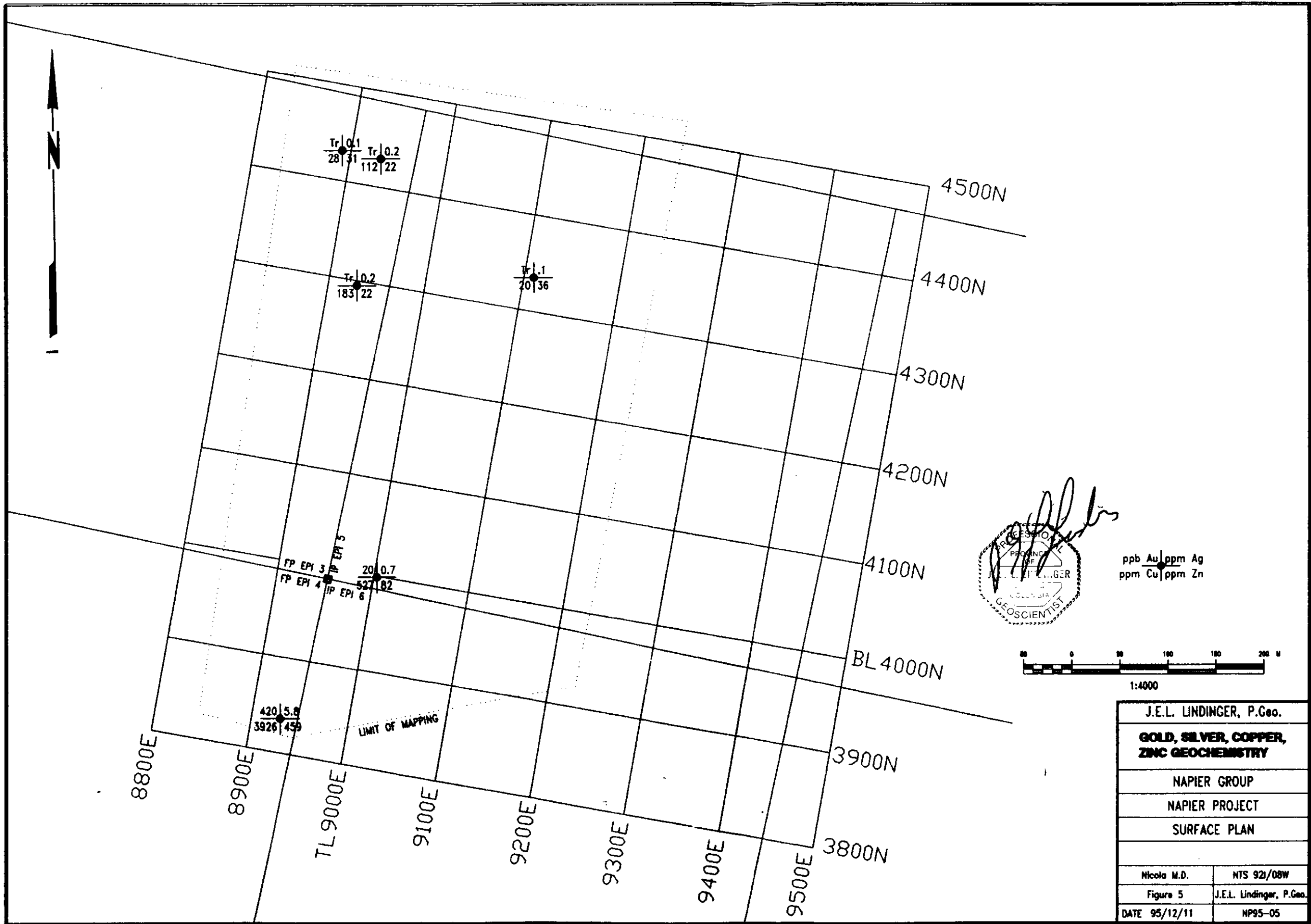
J.E.L. LINDINGER, P.Geo.	
<b>OVERBURDEN AND BEDROCK GEOLOGY</b>	
NAPIER GROUP	
NAPIER PROJECT	
SURFACE PLAN	
Nicola M.D.	NTS 921/08W
Figure 4	J.E.L. Lindinger, P.Geo.
DATE 95/12/10	NP95-04

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>Au</u> ppb	<u>Ag</u> ppm	<u>Hg</u> ppb	<u>As</u> ppm	<u>Cu</u> ppm	<u>Zn</u> ppm
3845N8930E	Carbonate alt. (intrusive?)	420	5.8	150	4.4	3926	459
4295N8970E	Pyritic, hornfelsed Nicola volcanic	5	0.2	10	0.5	183	22
4430N8900E	Hydrothermally altered rhyolite	5	0.1	410	1.0	28	31
4335N9110E	Hydrothermally altered rhyolite	5	0.1	30	1.3	20	36
4430N8930E	Pyritic, hornfelsed Nicola volcanic	5	0.2	10	745	112	22
4003N8998E	Carbonate stockwork-flood breccia	20	0.7	15	0.3	527	82

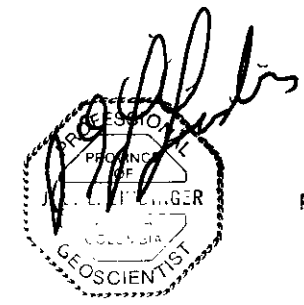
**CONCLUSIONS:** Analysis of the exploration results suggest that rocks covered by Epi Claims include a partially eroded and deformed porphyry copper deposit that has, as yet an undetermined potential, as large parts of this system are covered by rhyolite, basalt and blankets of glacial till and alluvium. Overprinting this system in part, in the visible exposures on the property are structurally controlled silicified bleached zones with accompanying late stage carbonate stockwork - flood zones of epithermal affinity that appear to be related to Eocene volcanism. These secondary zones report the highest copper, gold, mercury, zinc and silver values. The high copper values may reflect preferential remobilization of copper from a preexisting porphyry style copper deposit at depth. The occasional anomalously high copper, gold and mercury associated with late structurally hosted carbonate alteration and dilatant stockworking within the bleached areas, and anomalous mercury hosted by hydrothermally altered rhyolites that overlie the older systems implies that an Eocene age hydrothermal system existed. This evidence is intriguing in relation to the Eocene aged epithermal mineralization found in the nearby Stump Lake Camp 4 to 15 km to the southwest where some 70,000 tonnes of silver, gold, and base metal quartz veins were mined from the Planet Mine, the Mary Reynolds Property where assays of shear hosted quartz veins and breccia zones of epithermal affinity have yielded assays in excess of 10,000 ppb gold, and anomalous silver, lead, zinc and copper values, and the Microgold property where near surface chalcidonic quartz stockwork, vein, breccia zones and sinter deposits contain large volumes of anomalous gold.

Examination for zeolite minerals indicate that there is some potential for these clays, however the dominant clays observed appear to be illitic.

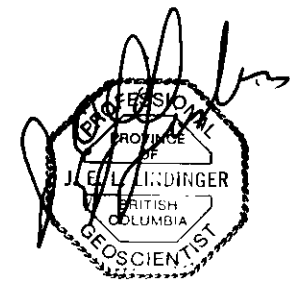
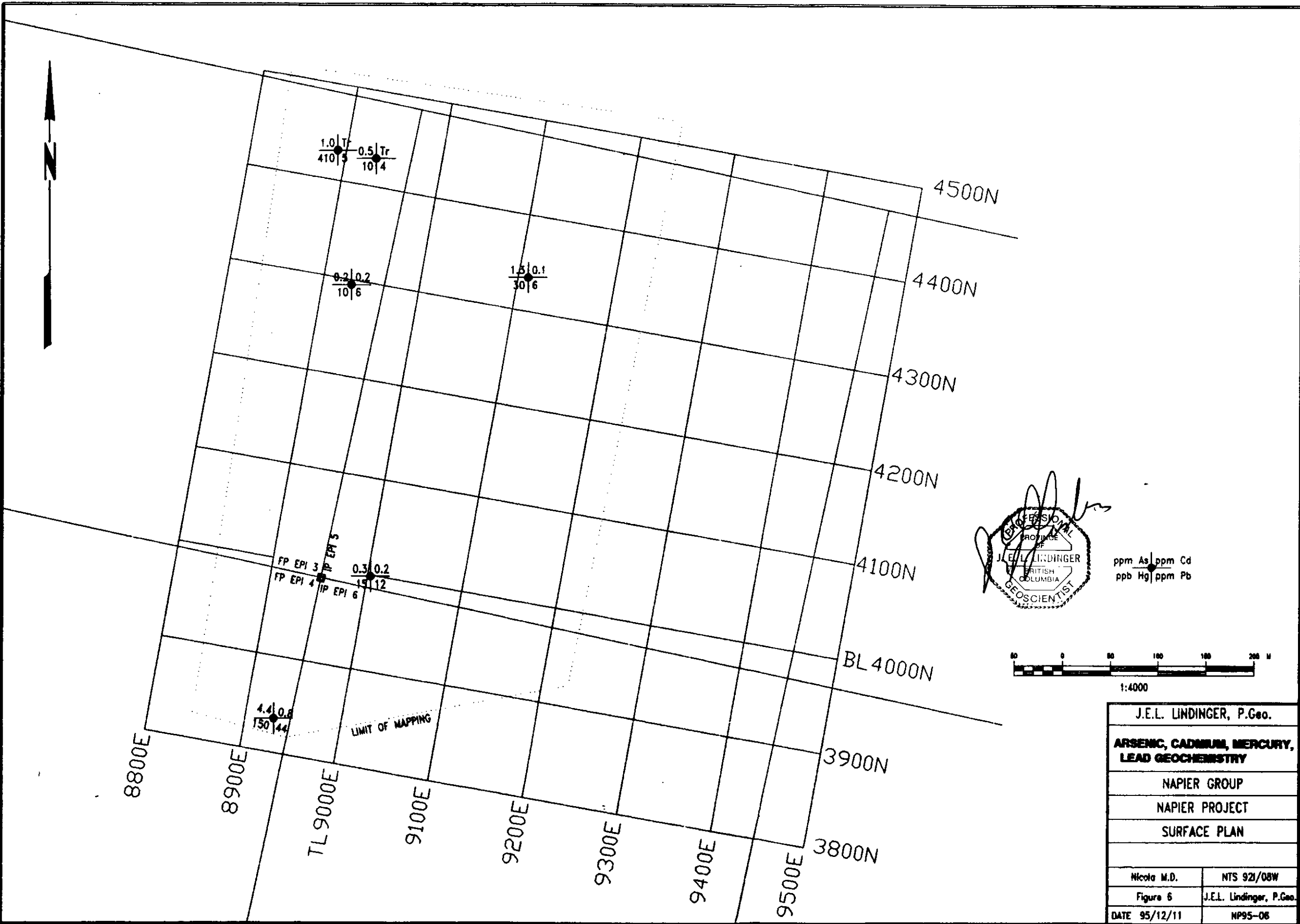
The widely spaced, shallow, steeply south dipping to vertical percussion drilling and poor outcrop exposure of the alteration system have only partially defined the extent of both of the mineralized systems.



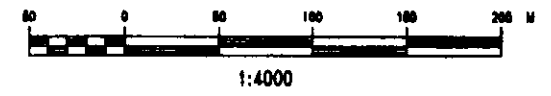
ppb Au | ppm Ag  
ppm Cu | ppm Zn



J.E.L. LINDINGER, P.Geo.	
<b>GOLD, SILVER, COPPER, ZINC GEOCHEMISTRY</b>	
NAPIER GROUP	
NAPIER PROJECT	
SURFACE PLAN	
Nicola M.D.	NTS 921/08W
Figure 5	J.E.L. Lindinger, P.Geo.
DATE 95/12/11	NP95-05



ppm As | ppm Cd  
ppb Hg | ppm Pb



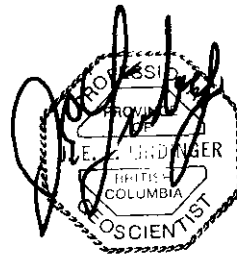
J.E.L. LINDINGER, P.Geo.	
<b>ARSENIC, CADMIUM, MERCURY, LEAD GEOCHEMISTRY</b>	
NAPIER GROUP	
NAPIER PROJECT	
SURFACE PLAN	
Nicola M.D.	NTS 921/08W
Figure 6	J.E.L. Lindinger, P.Geo.
DATE 95/12/11	NP95-06

**RECOMMENDATIONS:** A \$200,000.00 multiphased Stage 1 work program comprising detailed mapping of existing rock exposures for alteration, mineralization and structure; ground geophysical surveys such as induced polarization, or E-Scan; trenching in areas of relatively thin overburden; overburden drilling of deeply covered areas; and diamond drilling to test and target the known and inferred mineralized zones is proposed.

### PROPOSED WORK PROGRAM

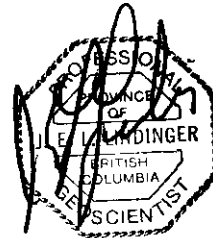
The proposed work program is itemized as follows.

Geological mapping and sampling	\$ 7,500.00
Geophysics - Escan EM and or IP	\$ 25,000.00
Trenching	\$ 10,000.00
Diamond Drilling	\$105,000.00
Analyses - petrographics - litho-geochemical studies	\$ 16,000.00
Logistical support	\$ 7,500.00
Supervision	\$ 11,000.00
Subtotal Proposed Program	\$182,000.00
Contingency @ 10%	\$ 18,200.00
Grand Total Phase 1	\$200,200.00



### STATEMENT OF WORK AND EXPENDITURES

GEOLOGICAL MAPPING - 1 Day @ \$400/day	\$ 400.00
Geological Consulting services - Magneering Research - 1 Hr @ \$50/hr	\$ 50.00
Vehicle 1 day @ \$45/day	\$ 45.00
Geochemical analyses -	\$ 246.85
Field and Office supplies	\$ 60.00
Report	\$ 150.00
Total Work and Expenditures	\$ 951.85





**SELECTED REFERENCES:**

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## STATEMENT OF QUALIFICATIONS

I, J E. L.(Leo) Lindinger, hereby do certify that:

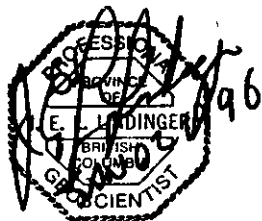
I am a graduate of the University of Waterloo (1980) and hold a BSc. degree in honours Earth Sciences.

I have been practising my profession as an exploration and mine geologist continually for the past 15 years.

I am a fellow in good standing with the Geological Association of Canada (1987).

I am a registered member, in good standing as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (1992).

I own the mineral property described as the Epi 1-8 Claims and have conducted the exploration program described in this report.



December 29, 1995.

J.E.L.(Leo) Lindinger, P.Geo.

**APPENDIX I**  
**CERTIFICATES OF ANALYSES**





**ASSAYING  
GEOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ENVIRONMENTAL TESTING**

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (604) 573-5700  
Fax (604) 573-4557

**CERTIFICATE OF ANALYSIS AK 95-812**

**LINDINGER  
879 MCQUEEN DR.  
KAMLOOPS, BC  
V2B 7X8**

**10-Oct-95**

**ATTENTION: L. LINDINGER**

6 Rock samples received September 14, 1995

**PROJECT #: EPI**

**SHIPMENT #: 1**

**Sample submitted by: Lindinger**

**PATHFINDER II**

ET #.	Tag #	Ag (ppm)	As (ppm)	Bi (ppm)	Cd (ppm)	Cu (ppm)	Hg (ppb)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Se (ppm)	Zn (ppm)
1	3845 N 8930 E	5.8	4.4	<.1	0.8	3926	150	4	44	0.2	<.2	459
2	4295 N 8970 E	0.2	0.5	<.1	0.2	183	10	<.1	6	<.2	<.2	22
3	4430 N 8900 E	0.1	1.0	<.1	<.1	28	410	<.1	5	<.2	<.2	31
4	4335 N 9110 E	0.1	1.3	<.1	0.1	20	30	<.1	6	<.2	<.2	36
5	4430 N 8930 E	0.2	0.5	<.1	<.1	112	10	<.1	4	<.2	<.2	22
6	4003 N 8998 E	0.7	0.3	<.1	0.2	527	15	<.1	12	<.2	<.2	82

**QC/DATA:**

**Resplit:**


R/S 1	3845 N 8930 E	5.6	4.2	<.1	0.6	3904	120	<.1	46	4.2	<.2	458
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**Repeat:**

1	3845 N 8930 E	5.8	4.8	<.1	0.8	3991	150	3	44	4.8	<.2	460
6	4003 N 8998 E	-	-	-	-	-	-	-	-	-	-	-

**Standard:**

GEO'95		1.4	49.0	<.1	0.2	90	-	<.1	-	2.2	<.2	88
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*per*   
**ECO-TECH LABORATORIES LTD.**  
Frank J. Pezzotti, A.Sc.T.  
B.C. Certified Assayer

**APPENDIX II**  
**DETAILED ROCK DESCRIPTIONS**

**SAMPLE IDENTIFIER****DESCRIPTION**

- 3845N 8930E Grey-brown very fine grained siliceous, pyritic sheared rock with late carbonate void fillings. Dominant shear appears to be steeply dipping. Voids are angular, brittle tensional features displaying conjugate expansion in the horizontal plane. Malachite and rare azurite staining associated with carbonate "veining" and dark brown to black felted masses of micaceous and metallic minerals (Enargite? or tetrahedrite?).
- 4003N 8998E Leucocratic siliceous sericite, biotite schist. Rock in intensely silicified brown biotite and or phlogopite schist. Protolith is probably Nicola Group sediments or volcanics. Micas are partially replaced with sericite. Late stage calcite flooding encloses contains siliceous clots of chalcopyrite and enargite?
- 4295N 8950E Sheared dacitic to andesitic metavolcanic. Rock is a mottled brownish grey cataclasite composed of 75 % unsorted feldspar porphyroblasts with recessive darker mafic augens and disseminated aggregates and grains of biotite and relict (hornblende?). Trace disseminated pyrite. Rock has been extensively sheared then appears to be potassically altered and hardened.
- 4295N 8970E Sheared dacitic to andesitic metavolcanic. Rock is a mottled brownish grey weathering grey-green chloritic cataclasite. composed of 40 % unsorted feldspar porphyroblasts with 60 % darker green chloritic mafic schistose groundmass. Trace disseminated pyrite.
- 4335N 9110E Pale grey fine grained welded? rhyolitic crystal tuff, or flow. Rock is massive and texturally and compositionally homogenous, comprising 5 % minute mafic euhedra of hornblende and or biotite, fine grained white feldspars with indistinct boundaries, and 7% 2 to 5 mm clear euhedral quartz porphyroblasts in a white feldspathic groundmass. Some sub to euhedral feldspars (Plagioclase?) are altered to illitic clays. Numerous fine to hairline hematitic veinlets and stockwork crosscut the rock and are associated in outcrop with westerly striking structures.
- 4410N 9125E Rhyolite as at 4335N 9110E except for slightly less alteration and stockwork basalt dykelet and hematite veining.
- 4430N 8900E Pale grey fine grained welded? rhyolitic crystal tuff, or flow. Rock is massive and texturally and compositionally homogenous, comprising 5 % minute mafic euhedra of hornblende and or biotite, fine grained white feldspars with indistinct boundaries, and 7% 3 to 6 mm clear euhedral quartz porphyroblasts in a white feldspathic groundmass. Feldspathic

groundmass has undergone extensive clay alteration. Rock is crosscut by hairline to 1 cm brown stockwork dykelets of basalt containing late hematite veins.

4430N 8930E Sheared dacitic to andesitic metavolcanic. Rock is a fine grained mottled brownish grey weathering grey cataclasite. Rock appears andesitic with silicate flooding with minor disseminated pyrite.