GEOLOGICAL AND GEOCHEMICAL SURVEY

ON THE V.G. GROUP OF CLAIMS

VICTORIA MINING DIVISION

N.T.S. 92B/12

VG-1 (0841), VG-2 (0842) VG-3 (0843) AND VAL (0857)

Latitude 48°33' Longitude 123°55'30"

- garnet
- andalusite
- staurolite

Owner : Beau Pre Explorations Limited
Valentine Gold Corporation

Operator : Noranda Exploration Company, Limited (no personal liability)

Authors : Terence J. McIntyre
R.G. Wilson

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

SUMMARY

The VG group of claims lie approximately 26 km northwest of the township of Sooke, B.C. The group, comprising 51 units, is accessed from Sooke via the Butler and Jordan main logging roads which are generally in good condition. A reconnaissance style programme, which entailed geological mapping, prospecting and geochemical rock and stream sediment sampling, was carried out from April 18 to June 10, 1989.

Traverses were carried out along creeks on the VG group. Pan and silt samples were taken at the base of tributaries leading into the Jordan and San Juan Rivers. Each creek was subsequently mapped geologically, at a scale of 1:5,000, with a view to identifying lithology, metamorphism, structure, mineralization, quartz veining and alteration. Continuous rock chip samples were taken across the width, and along the strike, of quartz veins and quartz microveining, and across the width of fault zones.

The geology of the VG group consists of the Leech River Formation which is composed of metasandstone, metapelites, and amphibolites. These units have been regionally metamorphosed and deformed into a east-west trending, north dipping, structure.

Throughout the metasandstone and metapelite units occur quartz veins, quartz microveining, quartz lenses and sweats, however, visible sulfide mineralization within the quartz veins is rare.

Continuous rock chip samples taken from quartz veins and fault zones failed to produce Au or Cu values significantly above background values.

Two pan samples, however, returned values of 3040 ppb and 5450 ppb Au. The former, taken from a creek along the western boundary of the claim group, may indicate that the Au mineralization is originating in a unit located along the creek or at it's headwater further south of the claim block.

The latter, obtained from the northern edge of the claim block on the Jordan River, suggests that the Au mineralization may originate north of the claim block.

In any event, study of the individual Au grains is necessary in order to determine whether we are looking at distal glacial transport or a proximal source of the Au.

1.0 INTRODUCTION

1.1 Location and Access

The VG group lies approximately 26 km northwest of the township of Sooke, B.C. (Figures 1 & 2). The property is accessed from Sooke via the Butler Main and Jordan Main logging roads. From this point access to the various areas within the claim group is via the J9, J40, and West Jordan Main logging roads. These roads provide very good access to most of the claim group, and are generally in good condition.

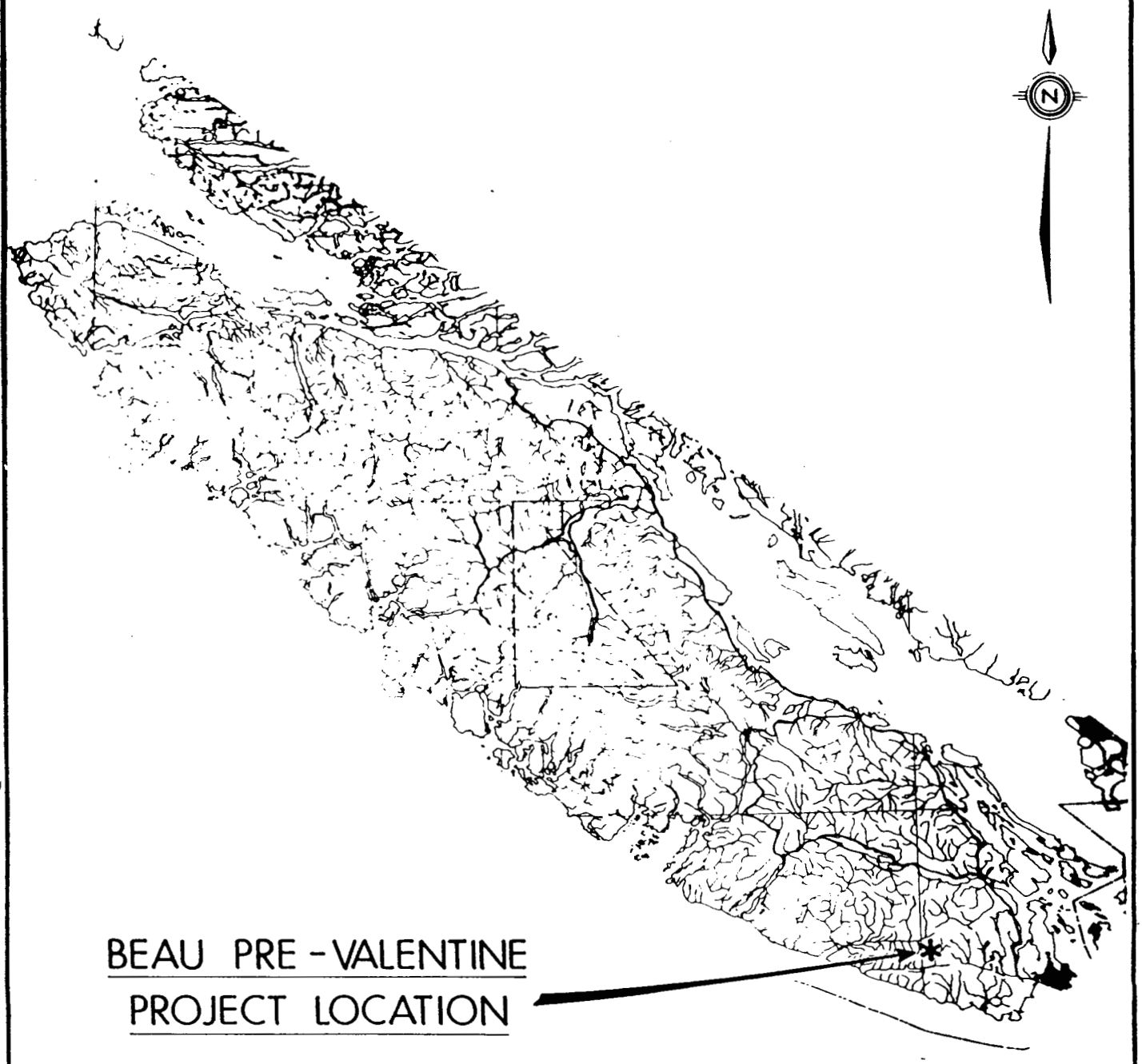
1.2 Physiography

The VG group lies within the Vancouver Island Ranges in the southern portion of the Insular Mountains.

The physiography is composed of relatively flat valley bottoms with moderate to precipitous valley sides. Typically, there are thick glaciofluvial and colluvial deposits on the valley floor, but abundant outcrop at higher elevations. Elevations range from 470 m at the Jordan River, along the eastern portion of the claim group, up to 960 m at the headwaters of Williams Creek at the western edge of the claim group.

The climate of southern Vancouver Island is quite mild. The fall, winter and spring months are typified by heavy precipitation which can result in a considerable snow pack at elevations greater than 600 metres. Below this elevation work can proceed almost year round, however, above this elevation the snow pack remains until May and June. The summer months are hot and dry with up to six weeks of forest closure annually due to forest fire hazard.

Two-thirds of the claim group has been clear cut logged and replanted, and now supports a profusion of second growth in various stages of maturation. The remaining one-third, located in the southwestern portion of the claim group, consists of stands of mature timber interspaced with huckleberry bushes.

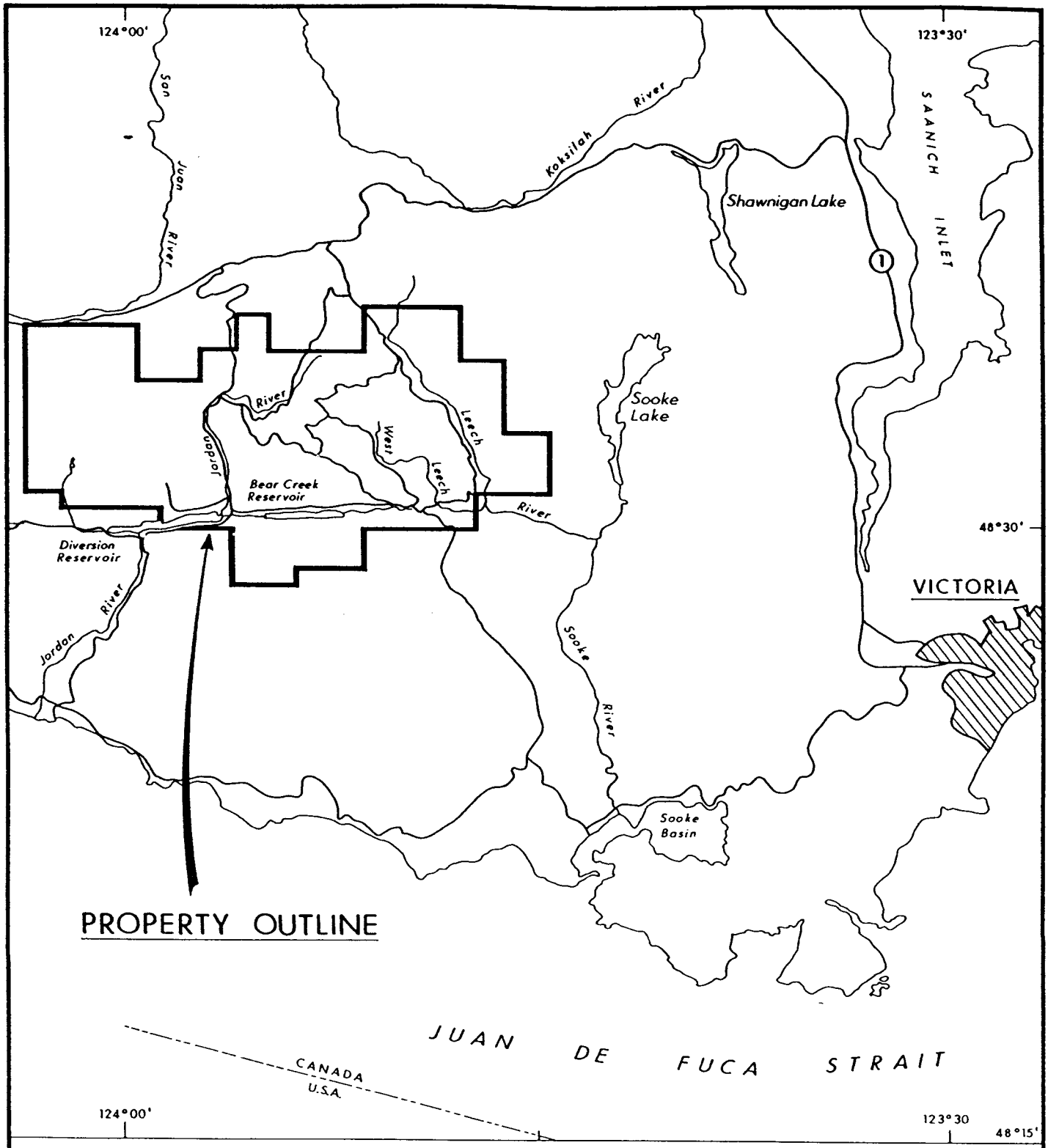


BEAU PRE - VALENTINE
PROJECT LOCATION

Km. 40 20 0 40 Km.

REVISED	BEAU PRE - VALENTINE
	PROJECT LOCATION
PROJ No 120	SURVEY BY R.W. DATE JULY 1989
N.T.S 92B/C	DRAWN BY J.S. SCALE 1:2,000,000
DWG No 1	NORANDA EXPLORATION
	OFFICE VANCOUVER

NCI 774



Km. 5 2.5 0 5 Km.

REVISED	BEAU PRE - VALENTINE
	PROPERTY LOCATION
PROJ. No. 120	SURVEY BY: R.W. DATE: JUNE 1989
N.T.S. 92B/5,12	DRAWN BY: J.Serwin SCALE: 1:250,000
DWG. No. 2	NORANDA EXPLORATION OFFICE: VANCOUVER

VANCAL 11927

1.3 Claims and Ownership

The VG group is composed of the following claims (Figure 3):

Name	Record #	Units	Previous Due Date	New Expiry Due Date
VG-1	0841	15	April 11/90	April 11/91
VG-2	0842	20	April 11/90	April 11/91
VG-3	0843	10	April 11/90	April 11/91
Val	0857	6	April 11/90	April 11/91

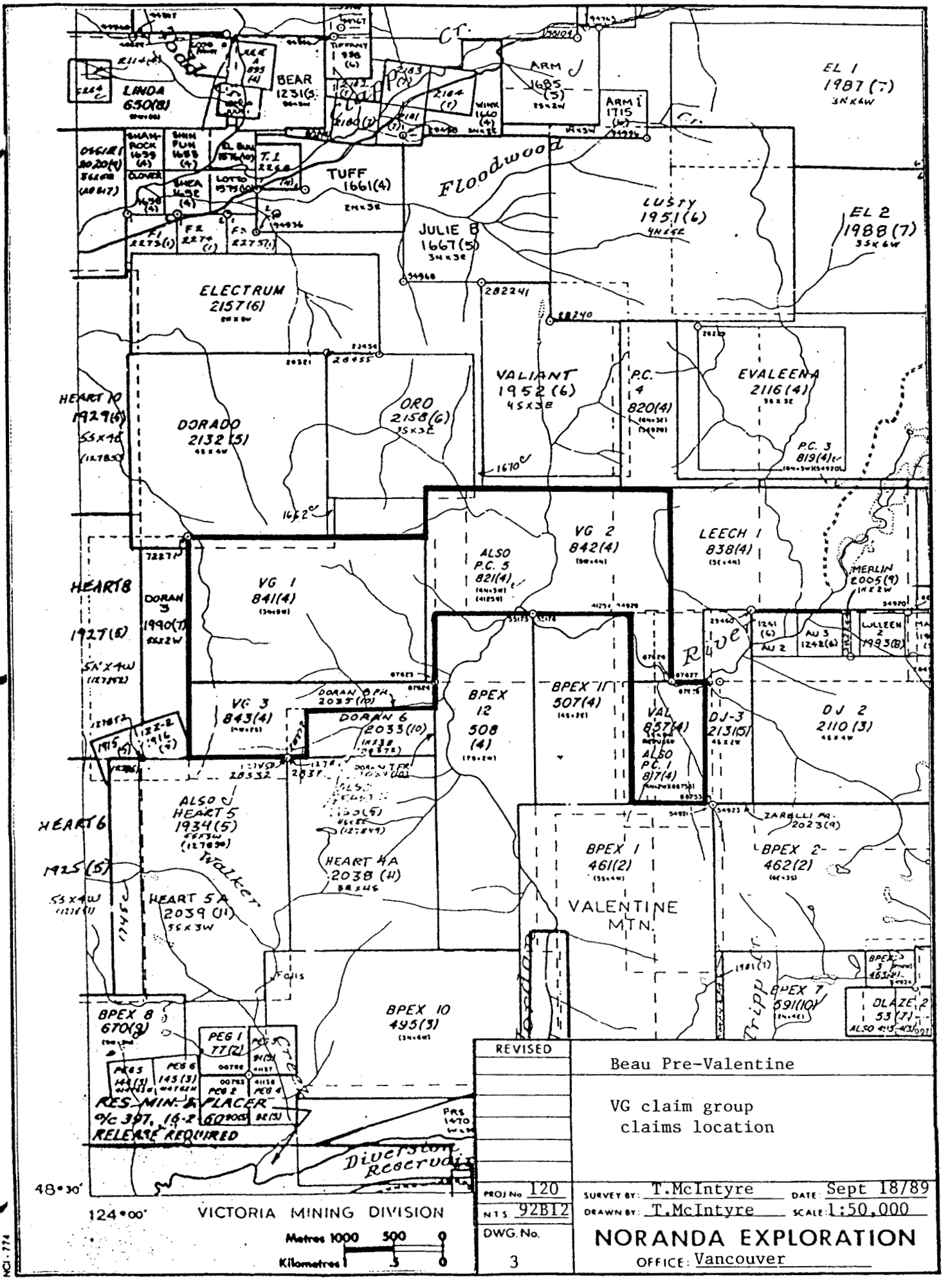
All interest in the VG group of claims have been transferred for administrative purposes to Noranda Exploration Company, Limited (no personal liability), as stated in an option agreement between Noranda, Beau-Pre Explorations Ltd., and Valentine Gold Corporation.

1.4 Previous Work

Discovery of placer gold in the Leech river gave rise to a gold rush in 1864 to 1865. A tent city with a population of upwards of 4,000 people sprang up at the confluence of the Leech and Sooke Rivers. Placer gold and nuggets ranging from ½ to 1 ounce were reported, however, a bedrock source was not found. Total value of the placer gold recovered in this area, in 1866 dollars, is estimated between $100,000 and $200,000.

In 1966 Mr. Fred Zorelli discovered native gold in a piece of quartz float on Valentine Mountain. In 1976 Bob Beaupre discovered native gold in a narrow quartz vein called the "A" Vein and began an exploration programme from 1976 to 1983. The programme, centred on Valentine Mountain, involved soil geochemical surveys, trenching, bulk sampling, geological mapping, and drilling. In 1985 Falconbridge Limited conducted a trenching and sampling programme on the property.

Work performed on the VG group of claims consists of a 1986 Expeditor Resources programme which comprised geological mapping, and geochemical rock and soil sampling, and a 1987/88 regional exploration programme conducted by Valentine Gold Corporation which entailed geological mapping, and geochemical rock and stream sediment sampling.



REVISED	Beau Pre-Valentine
	VG claim group claims location
PROJ No 120	SURVEY BY: T.McIntyre DATE: Sept 18/89
NTS 92B12	DRAWN BY: T.McIntyre SCALE: 1:50,000
DWG. No. 3	NORANDA EXPLORATION OFFICE: Vancouver

NCI-774

1.5 Work Performed

A total of 38 mandays were spent on a reconnaissance style exploration programme from April 18 to June 10, 1989 on the VG group of claims.

The programme comprised geological mapping, prospecting, and geochemical rock and stream sediment sampling. A total of 44 rocks, 16 silts and 18 pan samples were taken. The silt and pan samples were analyzed by Acme Analytical Laboratories for 30 elements using ICP, and Noranda's Vancouver laboratory for Au using Atomic Absorption. The rock samples were analyzed entirely by Acme Analytical Laboratories.

1.6 Personnel

The work was carried out on the claim group by T. McIntyre (Regional Property Crew Chief), B. Singh, B. Northcote (Geological Assistants), S. Louden, D. Dempsey, D. Collicott and I. Saunders (Fieldmen).

2.0 METHODS

2.1 Geological Mapping

Geological mapping coincident with geochemical sampling of favourable lithological locales was carried out predominantly up creeks, but also along logging roads. The mapping, at a scale of 1:5,000, was carried out with a view to identifying lithology, metamorphism, structure, mineralization, quartz veining and alteration.

2.2 Geochemical Sampling

Continuous rock chip samples were taken along the strike of quartz veins, quartz microveins, and quartz lenses, and across the width of fault zones within the Leech River Formation. Rock samples collected on the VG group, each weighing approximately 2 kg, were placed in 6 ml plastic bags and shipped to Acme Analytical Laboratories Limited in Vancouver for analysis.

The samples were dried, sieved to -80 mesh, and subjected to a 95°C solution of 3:1:2 - $HCl:HNO_3:H_2O$ for a period of 1 hour. The samples were analyzed using the 30 element ICP (inductively coupled argon plasma) method and geochemically analyzed for Au by Atomic Absorption determination.

Pan and coincident silt samples were taken from tributaries leading into the Jordan and San Juan Rivers. The pan samples were obtained by sieving stream sediment down to -6 mesh and subsequently panning this down to a final volume of approximately 20 ml. Silt samples weighing approximately 1 kg were obtained from the same location as the pan sample and placed into Kraft paper bags. Both were given a sample number and partially air dried prior to shipment to Noranda's Vancouver laboratory.

Analysis was carried out by Acme Analytical Laboratories Limited using the 30 element ICP method used for rock samples. Noranda's Vancouver laboratory conducted the analysis of Au in pan and silt samples using Atomic Absorption determination.

Appendix I contains descriptions of the analytical techniques employed by Noranda's laboratory for Au analysis for the stream sediment samples, and by Acme's laboratory for ICP and Au analysis for rock samples. Appendix II contains rock sample lithological descriptions, and Appendix III contains the laboratory analysis certificates of results.

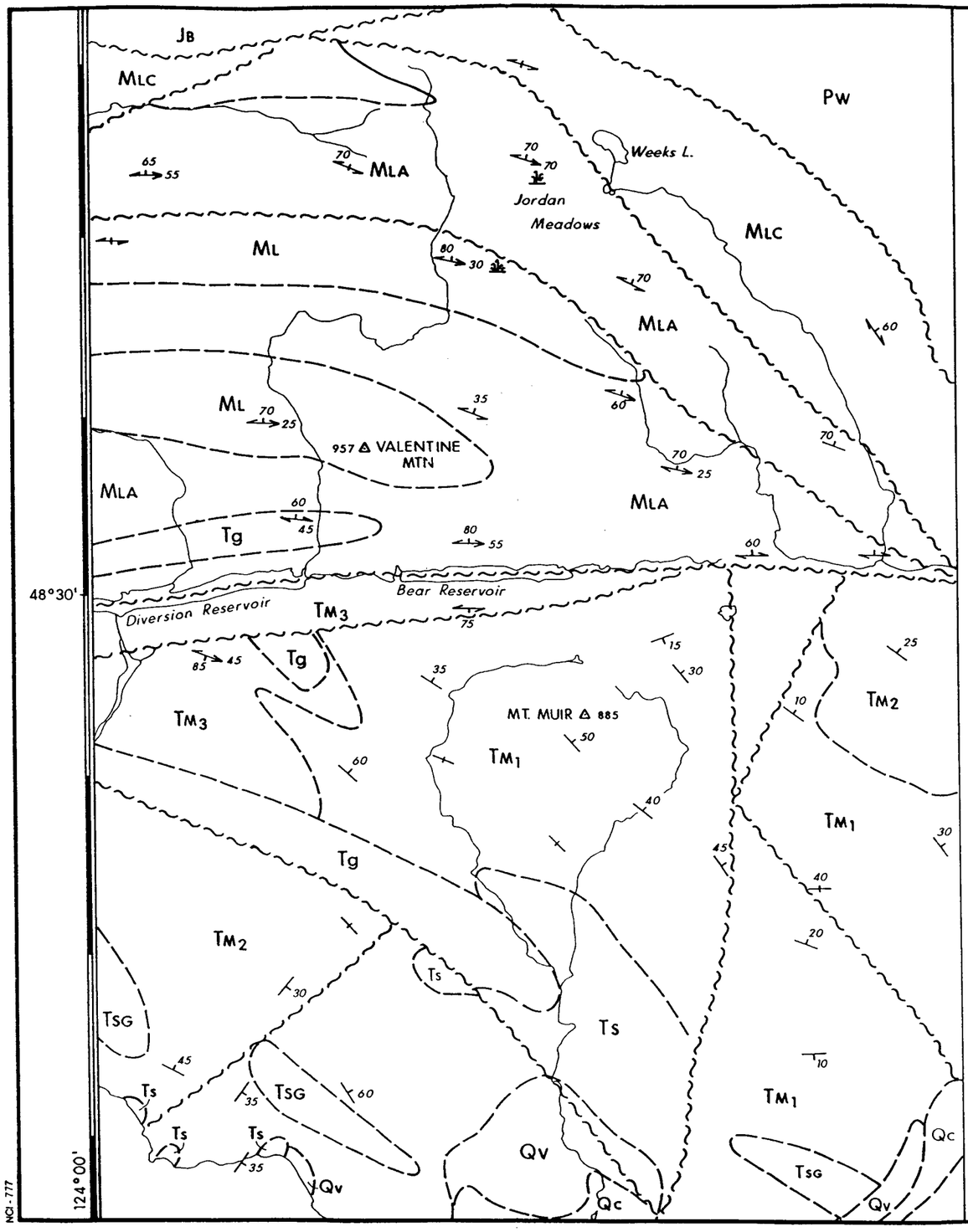
Sample type and location, designated by symbol, and sample numbers are displayed on Figure 6.

3.0 GEOLOGY

3.1 Regional Geology

The southern portion of Vancouver Island is composed of a series of volcanics and sediments, of Mesozoic to Cenozoic Age, which have subsequently been deformed and faulted into a structurally complex stratigraphic sequence (Figure 4).

This stratigraphic sequence is represented by the Bonanza Volcanics, Leech River Formation, Metchosin Volcanics, and the Colquitz Gneiss and Wark Diorite.



NCI-717

LEGEND

CENOZOIC

QUATERNARY
RECENT

- Q — Recent sediments
- Qc — CAPILANO SEDIMENTS: sand, gravel, silt, clay
- Qv — VASHON DRIFT: gravel, sand, till
- Qq — QUADRA SEDIMENTS: sand, gravel (includes some older beds)

TERTIARY
OLIGOCENE AND/OR MIOCENE

- Ts — SOOKE FORMATION: conglomerate, sandstone, shale

EOCENE (AND OLDER ?)

- Tg — CATFACE INTRUSIONS: quartz, diorite, agmatite
- TM — METCHOSIN VOLCANICS: TM1 pillow basalt, breccia, tuff; TM2 mainly basaltic lava; TM3 schistose metavolcanic rock
- TSG — SOOKE GABBRO: mainly gabbro

MESOZOIC

JURASSIC AND CRETACEOUS
UPPER JURASSIC AND LOWER CRETACEOUS

- JKs — SPIEDEN FORMATION: conglomerate, sandstone, siltstone

TRIASSIC TO CRETACEOUS
LEECH RIVER FORMATION (MLC to ML)

- ML — METAGREYWACKE UNIT: metagreywacke, meta-arkose, quartz-feldspar-biotite schist
- MLA — ARGILLITE - METAGREYWACKE UNIT: thinly bedded greywacke and argillite, slate, phyllite, quartz-biotite schist
- MLC — CHERT-ARGILLITE-VOLCANIC UNIT: ribbon chert, cherty argillite, metarhyolite, metabasalt, chlorite schist
- MC — CONSTITUTION FORMATION (San Juan Island): thinly bedded greywacke, argillite and chert.

JURASSIC
LOWER TO MIDDLE JURASSIC
BONANZA GROUP

- JB — Basaltic to rhyolitic tuff, breccia, flows, minor argillie, greywacke

PALEOZOIC

PENNSYLVANIAN AND MISSISSIPPIAN
LOWER PALEOZOIC (OR YOUNGER?)

- PC — COLQUITZ GNEISS: quartz - feldspar gneiss
- PW — WARK GNEISS: massive and gneissic metadiorite, metagabbro, amphibolite.

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- Geological boundary, (approximate)
- Fault, (approximate)
- Antyclinal axis
- Synclinal axis
- Bedding, (inclined, vertical, overturned)
- Foliation (inclined, vertical, with plunge of lineation)
- Gneissosity, (inclined, vertical)

SCALE
1: 100,000

Kilometres 2 1 0 2 4 Kilometres

REVISED	BEAU PRE - VALENTINE
	REGIONAL GEOLOGY
PROJ. No. 120	SURVEY BY: _____ DATE: October 89
N.T.S. 92B/12	DRAWN BY: J. Serwin SCALE: 1: 100,000
DWG. No. 4	NORANDA EXPLORATION OFFICE: VANCOUVER

P.J.A.

At the centre of this sequence is the discrete geotectonic Leech River Formation (Grove, 1984). It is a fault bounded complex package of sediments and volcanics which have undergone regional metamorphism to produced metasandstones, metapelites and amphibolites. The metapelites range from phyllite, to biotite schist through to biotite-garnet-staurolite-andalusite-schist depending upon metamorphic grade. These units have been subsequently intruded by Tertiary granitic and quartz diorite sills.

The age of the Leech River Formation is somewhere between Late Jurassic to Early Cretaceous (Fairchild, 1982). It is thought originally to have been sediments from a Pacific rim trench which have subsequently been deformed and faulted to produce a major, east-west trending, east plunging anticline centred on Valentine Mountain.

South of the Leech River Formation, separated by the Leech River Fault, lie the Metchosin Volcanics a sequence of basaltic lavas, aquagene breccia, and pyroclastics of Eocene age.

North of the Leech River Formation, separated by the San Juan Fault lie the Karmutsen and Bonanza volcanics. These are represented by massive andesite and dacite tuffs, and flows, and are Paleozoic to Jurassic in age.

To the east, separated by the Survey Mountain Fault, lie the Colquitz Gneiss, Wark Diorite and metavolcanic units. These are considered to be Paleozoic to Mesozoic in age.

3.2 Property Geology

The geology of the VG group consists of a complex sequence of volcanics and sediments of the Leech River Formation. This sequence, considered to be Mesozoic to Cenozoic in age, has undergone regional metamorphism and deformation to produce an east-west trending north dipping structure.

On the property the Leech River Formation is represented by metasandstone, metapelites, and amphibolites.

The metasandstone is a fine to medium grained quartz-feldspathic sandstone. In fresh surface it is medium to light grey, weathering to a buff brown colour. The unit is massive and often forms prominent cliffs. In some locations it exhibits minor schistosity and occurs as minor laminations within the phyllite. It is the most persistent lithological unit on the claim group.

The metapelites are represented by the phyllite, and by the biotite-garnet-schist to biotite-garnet-staurolite-andalusite-schist. The mineralogical composition of the metapelites is dependent upon metamorphic grade.

There are two types of phyllite present on the property. One formed from low grade metamorphism and second from retrograde metamorphism (Wingert, 1984). The latter, a retrograde phyllite is found along the Leech River Fault.

The phyllite unit is a very fine grained biotitic phyllite. It is strongly fissile, grey-black in colour and exhibits a micaceous sheen along cleavage planes. In outcrop the phyllite is generally a recessive unit and often occurs as recurring lamina within the metasandstone unit. The schists are fine to medium grained with biotite, and quartz segregated layers 1-3 mm in width. In fresh and weathered surfaces they are a medium to dark grey colour.

The highest metamorphic grade of the schists is the biotite-garnet-staurolite-andalusite-schist. These schists are found predominantly on Valentine Mountain and west across the Jordan River. Biotite-garnet-schists occur in zones between the biotite-garnet-staurolite-andalusite-schist and the lower metamorphic grade phyllites.

The main constitute minerals of the schists are biotite, garnet, staurolite, andalusite, and quartz with minor amounts of chlorite, muscovite and tourmaline. Garnet is common in the mineralogical composition of the schists, and occurs as porphyroblasts of euhedral almandine garnet ranging in size from >1 mm to 1 cm and averaging 2-3 mm.

Staurolite is also porphyroblastic as is the andalusite. The staurolite, dark brown to black in colour, is euhedral cruciform in shape and ranges in size from >1 mm to 1.5 cm and averages 7-9 mm. Andalusite (chiastolite) occurs as subhedral to anhedral crystals 2 cm to 8 cm in length and in colour light pink in fresh surface weathering to medium to dark grey.

The schist observed on the VG group is confined to the southwest corner of the claim group and occurs as biotite-garnet-schist.

The order of constituate minerals of the schists is not meant to imply the relative abundance of each mineral, but rather it is intended to act as an indicator of regional metamorphic grade.

The amphibolite unit occurs as layers or lamina within the metapelites and metasandstone units. Originally intercalated porphyritic basalt and crystal tuff (Grove, 1982) the amphibolite unit varies dependent upon metamorphic grade from upper green schist facies to amphibolite facies (Wingert, 1984).

The lower grade amphibolite is a fine grained schistose rock with fine grained actinolite crystals apparent on foliation surfaces. The higher grade amphibolite is composed of alternating bands of fine grained acicular actinolite, hornblende, and quartz-feldspar-epidote. The amphibolite unit varies from a chloritic green colour to alternating bands of dark green and white minerals.

The amphibolite unit is variable in width reaching a maximum width of 220 metres in the centre of the claim group and often occurs as thin beds within the metasandstone unit. The amphibolite is important structurally because of it's consistent lateral extent and resistant nature.

The most predominant structural feature on the VG group is foliation. The foliation is conspicuous within the metasandstone and phyllite units and parallels the contacts between the units. Generally, contacts are distinct and well defined.

In the southwest corner of the claim group minor parasitic folds were observed in the schists with the axial planes trending 274° and dipping 74° to the north. As well some of the schists in this area exhibit a unique cataclastic texture.

The foliation, contacts and fold axes all contribute to the structural feature of the formation and all trend east-west and dip to the north.

3.3 Mineralization and Alteration

Quartz veins, quartz microveining, and quartz lenses and sweats occur throughout the metasedimentary and metavolcanic rocks. Quartz veins and accompanying parallel quartz microveining are found predominantly within the metasandstone and metapelite units and are parallel to the foliation. These veins range in size from

5 mm to 0.25 m and are composed of a white bull quartz to semi-translucent quartz with subhedral to anhedral crystals. Sulfide mineralization is a rare occurrence although the quartz veins generally show limonitic or hematitic staining. Visible sulfides within the quartz veins are limited to a trace of pyrite and/or pyrrhotite.

Alteration is confined to minor chlorite within quartz veins, silicification of the amphibolite unit in the vicinity of quartz veins, and fault gouge within shear and fault zones.

4.0 GEOCHEMICAL RESULTS

Sample location and type, designated by symbol, and sample numbers are displayed on Figure 6. Results for Au and As are displayed on Figures 7, and results for Cu, Zn, Pb and Ag are displayed on Figures 8. Analysis certificates for all elements are contained within Appendix IV.

Rock chip samples taken across the width and along the strike of quartz veins, and quartz microveining, failed to produce Au or Cu values significantly above background values. The only exceptions to this are R.59318, taken from a quartz vein and it's accompanying parallel quartz microveining, and R.59064 which was taken from a stockwork of quartz stringers. These rock samples produced values of 117 ppb and 83 ppb Au respectively.

Two pan samples, on the other hand, produced anomalous Au values. Pan and silt sample H.59567 and S.59568 taken from Achnamurchen Creek, along the western edge of the claim boundary, returned values of 3040 ppb and 5 ppb Au respectively. Pan and silt samples H.59674 and S.59675 taken from the north fork of the Jordan River returned values of 5450 ppb and 5 ppb Au respectively.

The results of pan sample H.59567, obtained from Achnamurchen Creek, seems to suggest that the source of the Au is a unit located along the creek, or that it originates at the headwaters of the creek.

In the case of pan sample H.59674, obtained from the Jordan River near steep banks consisting of glacial till, it appears that the source of the Au in all likelihood is located north of the claim group. However, in both these cases further study of the individual Au grains is necessary in order to ascertain whether there has been distal or proximal transportation of the Au.

5.0 CONCLUSIONS

The geology of the VG group is composed of metasandstone, metapelites and amphibolite units of the Leech River Formation. These units were subjected to regional metamorphism and deformation to produce a tightly folded east-west trending, north dipping, structure.

The quartz veins, and quartz microveining occur predominantly, but not solely, within the metasandstone, and metapelite units, and are parallel to the foliation.

The only geochemical anomalies on the VG group came from pan concentrate samples obtained from Achnamurchen Creek and the Jordan River.

Anomalous pan sample H.59567 may indicate that Au mineralization occurs in a unit located along the western edge of the claim boundary, or that it is originating at the headwaters of Achnamurchen Creek.

Anomalous pan sample H.59674, obtained from the north fork of the Jordan River, suggests that the Au mineralization is originating north of the claim block. Since the claim group consists of varying amounts of glacial till, further study of the individual Au grains is necessary in order to determine whether we are looking at distal glacial transport or a proximal source of the Au.

6.0 REFERENCES

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Grove, E.W. (1984) : Geological Report and Work Proposal on the Valentine Mountain Property for Beau-Pre Explorations Ltd., N.T.S. 92B/12W, Victoria Mining Division.

Muller, J.E. (1975) : Victoria Map Area, British Columbia (92B), G.S.C., in Report of Activities, Paper 75-1, Part A, p.21-26.

Peatfield, G.R. (1987): Geology and Geochemistry on the Valentine Mountain Property, Victoria Mining Division, N.T.S. 92B/5W, 12W, Assessment Report.

Wingert, G.A. (1984) : Structure and Metamorphism of the Valentine Mountain Area, Southwestern Vancouver Island, British Columbia, the University of British Columbia, B.Sc. Thesis.

APPENDIX I

ANALYTICAL METHOD DESCRIPTIONS FOR

GEOCHEMICAL ASSESSMENT REPORTS

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyses geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples:

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples:

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

N.B.: If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM:

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJvL/ie

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253-3158

GEOCHEMICAL LABORATORY METHODOLOGY & PRICES - 1989

Sample Preparation

S80	Soils or silts up to 2 lbs drying at 60 deg.C and sieving 30 gms -80 mesh (other size on request)	$ .85
SJ	Saving part or all reject	.45
S20R	Soils or silts - drying at 60 deg.C and sieving -20 mesh & pulverizing (other mesh size on request.)	2.00
SP	Soils or silts - drying at 60 deg.C pulverizing (approx . 100 gms)	1.50
RP100	Rocks or cores - crushing to -3/16" up to 10 lbs, then pulverizing 1/2 lb to -100 mesh (98%)	3.00
Cr	Surcharge crushing over 10 lbs	.25/lb
2PX	Surcharge for pulverizing over 1/2 lb	1.00/lb
RPS100	Same as RP100 except sieving to -100 mesh and saving +100 mesh (200gms)	3.75
RPS100 1/2	Same as above except pulverizing 1/2 the reject - additional	1.00/lb
RPS100 A	Same as above except pulverizing all the reject - additional	1.00/lb
OP	Compositing pulps - each pulp Mixing & pulverizing composite.	.50 1.50
HM	Heavy mineral separation - S.G.2.96 + wash -20 mesh	12.00
V1	Drying vegetation and pulverizing 50 gms to -80 mesh	3.00
V2	Ashing up to 1 lb wet vegetation at 475 deg.C	2.00
H1	Special Handling	17.00/hr

Sample Storage

Rejects - Approx. 2 lbs of rock or total core are stored for three months and discarded unless claimed.

Pulps are retained for one year and discarded unless claimed.

Additional storage - for 3 years $10.00/1.2 cu.ft. box
or 15 cents/sample pulp
or 5 cents/sample soil

Supplies

Soil Envelopes	4" x 6"	$125.00/thousand
Soil Envelopes	4" x 6" with gusset	$140.00/thousand Plastic
Bags	7" x 13" 4 ml	$10.00/hundred
Plastic Bags	12" x 20" 6 ml	$ 20.00/hundred
Ties		$ 2.00/hundred
Assay Tags		N/C
10% HCl		$ 5.00/liter
Dropping bottles		$ 1.00/each
Zn Test	A & B	$ 12.00/each liter

Conversion Factors

1 Troy oz = 31.10 g
1 oz/ton = 34.3 ppm = 34.3 g/tonne = 34,300 ppb
1 % = 10,000 ppm

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253-3158

GEOCHEMICAL ANALYSES - Rocks and Soils

Group 1 Digestion

.50 gram sample is digested with 3 mls 3-1-2 HCl-HNO3-H2O at 95 deg.C for one hour and is diluted to 10 ml with water. This leach is near total for base metals, partial for rock forming elements and very slight for refractory elements. Solubility limits Ag, Pb, Sb, Bi, W for high grade samples.

Group 1A - Analysis by Atomic Absorption.

Element	Detection	Element	Detection	Element	Detection
Antimony*	2 ppm	Copper	1 ppm	Molybdenum	1 ppm
Bismuth*	2 ppm	Iron	0.01 %	Nickel	1 ppm
Cadmium*	0.1 ppm	Lead	2 ppm	Silver	0.1 ppm
Chromium	1 ppm	Lithium	2 ppm	Vanadium	2 ppm
Cobalt	1 ppm	Manganese	5 ppm	Zinc	2 ppm

First Element $2.25 Subsequent Element $1.00 *1

Group 1B - Hydride generation of volatile elements and analysis by ICP.

This technique is unsuitable for sample grading over .5% Ni or Cu. Cu Massive Sulphide.

Element	Detection
Arsenic	0.1 ppm
Antimony	0.1 ppm
Bismuth	0.1 ppm
Germanium	0.1 ppm
Selenium	0.1 ppm
Tellurium	0.1 ppm

First Element $4.75 All Elements $5.50

Group 1C - Hg

Detection limit - 5 ppb Price $2.50

Hg in the solutions are determined by cold vapour AA using a F & J scientific Hg assembly. The aliquots of the extract are added to a stannous chloride/hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Group 1D - ICP Analysis

Element	Detection
Ag	0.1 ppm
Cd,Co,Cr,Cu,Mn,Mo,Ni,Sr,Zn	1 ppm
As,Au,B,Ba,Bi,La,Pb,Sb,Th,V,W	2 ppm
U	5 ppm
Al,Ca,Fe,K,Mg,Na,P,Ti	0.01 %

Any 2 elements	$3.25
5 elements	4.50
10 elements	5.50
All 30 elements	6.25

Group 1E - Analysis by ICP/MS

Element	Detection
Ga,Ge	1 ppm
Au,Bi,Cd,Hg,In,Ir,Os,Re,Rh,Sb,Te,Th,Tl,U	0.1 ppm

All Elements 15.00 (minimum 20 samples per batch or $15.00 surcharge)

Hydro Geochemical Analysis

Natural water for mineral exploration

26 element ICP - Mo,Cu,Pb,Zn,Ag,Co,Ni,Mn,Fe,As,Sr,Cd,V,Ca,P, Li,Cr,Mg,Ti,B,Al,Na,K,Ce,Be,Si				$8.00
F by Specific Ion Electrode	-	detection	20 ppb	$3.75
U by UA3	-	detection	.01 ppb	5.00
pH			.1 pH	1.50
Au	-	detection	.001 ppb	4.00

* Minimum 20 samples or $5.00 surcharge for ICP or AA and $15.00 surcharge for ICP/MS. All prices are in Canadian Dollars

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253-3158

Group 2 - Geochemical Analysis by Specific Extraction and Instrumental Techniques

Element	Method	Detection	Price
Barium	0.100 gram samples are fused with .6 gm LiBO2 dissolved in 50 mls 5% HNO3 and analysed by ICP. (other whole rock elements are also determined)	10 ppm	$4.00
Boron	.5 g/Na2O2 fustion - 50ml in 20% HCl	2 ppm	4.00
Carbon	LECO (total as C or CO2)	.01 %	5.75
Carbon+Sulfur	Both by LECO	.01 %	6.50
Carbon (Graphite)	HCl leach before LECO	.01 %	8.00
Chromium	0.50 gram samples are fused with 1 gm Na2O2 dissolved in 50 ml 20% HCl, analysed ICP.	5 ppm	4.00
Fluorine	0.25 gram samples are fused with NaOH; leached solution is adjusted for pH and analysed by specific ion electrode.	10 ppm	4.50
Sulphur	LECO (Total as S)	.01 %	5.50
Sulphur insoluble	LECO (After 5% HCl leach)	.01 %	8.00
Tin	1.00 gram samples are fused with NH4I. The sublimed Iodine is leached with 5 ml 10% HCl, and analysed by Atomic Absorption.	1 ppm	4.00
Tl	.50 gram digested with 50% HNO3 - Dilute to 10 ml - graphite AA	.1 ppm	4.00
Tungsten	.50 gram samples are fused with Na2O2 dissolved in 20 ml H2O, analysed by ICP.	1 ppm	4.00

Group 3 - Geochemical Noble Metals

Element	Method	Detection	Price
Au*	10.0 gram samples are ignited at 600 deg.C, digested with hot aqua regia, extracted by MIBK, analysed by graphite furnace AA.	1 ppb	$ 4.50
Au** Pd,Pt,Rh	10.0 gram samples are fused with a Ag inquart with fire assay fluxes. After cupulation, the dore bead is dissolved and analysed by AA or ICP/MS.	1 ppb 2 ppb	6.00 - first element 2.50 - per additional 10.00 - for All 4

Larger samples - 20 gms add $1.50
30 gms add $2.50

Group 4A - Geochemical Whole Rock Assay

0.200 gram samples are fused with LiBO2 and are dissolved in 100 mls 5% HNO3.

SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O, MnO, TiO2, P2O5, Cr2O5, LOI + Ba by ICP.

Price: $3.75 first metal $1.00 each additional $9.00 for All.

Group 4B - Trace elements

Element	Detection	Analysis	Price
Co,Cu,Ni,Zn,Sr	10 ppm	ICP	$3.75 first element or
Ce,Nb,Ta,Y,Zr	20 ppm	ICP	$1.00 additional to 4A
			$6.00 for All.

Group 4C - analysis by ICP/MS.

Be, Rb, Y, Zr, Nb, Sn, Cs, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Th, U

Detection: 1 to 5 ppm Price : $20.00 for All.

* Minimum 20 samples or $5.00 surcharge for ICP or AA and $15.00 surcharge for ICP/MS. All prices are in Canadian Dollars

APPENDIX II

ROCK SAMPLE DESCRIPTIONS

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120

LAB REPORT # _____

N.T.S. 92B/12

DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59676	~500m S of bridge on June 4 creek. Iron stained Qtz vein in phyllite - silicified in area of vein <1% pyrrhotite vein 3-4cm wide 260°/74°(N).	<1	Chip	0.5	42	7	85	0.1	6	2		Northcote
R59677	~100m S of claim line on Jordan R. Irregular Qtz veins/lenses in phyllite (biotitic) iron stained, not continuous. 066°/vert.	-	Grab		9	4	21	0.1	2	2		Northcote
R59678	~300m S of claim line Jordan R. 0.5m wide zone of irregular orange iron stained Qtz veins. Veins pinch & swell 0-10cm ~280°/70°.		Chip	0.5	20	5	42	0.1	8	2		Northcote
R59679	Intersection of creek & Jordan R. 500m S of claim line. Qtz lense 0.75m pinching to 5-10cm vein in phyllite ~277°/70°.		Chip	1.0	7	4	10	0.1	2	1		Northcote
R59680	100m N of creek intersection with Jordan R. S of Northern VG claim line. Numerous irregu -lar Qtz veins in amphibolitic metasandstone 4 x 8m zone of intense veining; milky white 285°/70°.		Grab	4	13	2	14	0.1	3	1		Northcote

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120 N.T.S. 92B/12

LAB REPORT # DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59681	200m N of creek intersection as above. Very irregular Qtz veins in Metasandstone. Veined zone ~1.5m wide. Locally iron stained. Veins not continuous. 280°/75°.		Chip	1.5	21	5	69	0.1	10	1		Northcote
R59313	Achnamurchen Creek 8+06m. - Lamina of Phyllite within Amphibolite unit. Contains Qtz vein; vuggy & limonitic. 1.0m x 0.06m.	-	Chip	0.06	10	6	12	0.1	9	2		McIntyre
R59314	Lennox Creek - Metasandstone unit containing 25% Qtz as micro veining, limonitic with muscovite.	-	Chip	0.30	11	5	34	0.1	2	1		McIntyre
R59315	Lennox Creek - Qtz vein within metasandstone unit. Limonitic 1.0m x 0.08m.	-	Chip	0.08	13	5	23	0.1	6	1		McIntyre
R59316	Lennox Creek - Qtz vein hosted within Phyllite unit. White semi-translucent limonitic Qtz. 1.0m x 0.08m.	-	Chip	0.08	3	2	2	0.1	2	1		McIntyre
R59317	Jordan River - Qtz vein - limonitic hosted within Amphibolite near contact with metasandstone. 1.0m x 0.03m.	-	Chip	0.03	84	3	48	0.1	3	2		McIntyre

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120 N.T.S. 92B/12

LAB REPORT # _____ DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59318	Jordan River - Qtz veining & microveining 1 1/2m in width parallel to foliation in meta-sandstone. Qtz, with minor limonite & chlorite.	-	Chip	1.0	9	6	36	0.1	9	117		McIntyre
R59319	Jordan River - Qtz veining & microveining Tr Py, Tr limonite & minor chlorite 0.50m chip perpendicular to strike.	Tr	Chip	0.50	17	4	19	0.1	3	9		McIntyre
R59320	Jordan River - Qtz vein, tr limonite, minor chl. 1.0m x 0.05m.	-	Chip	0.05	17	4	4	0.1	170	14		McIntyre
R59321	Jordan River - Qtz microveining limonitic, weakly amphibolitic metasandstone.	-	Chip	0.50	14	3	20	0.1	2	2		McIntyre
R59322	Jordan River - Qtz veining & microveining >10% of o/c, limonitic qtz with a trace of chlorite.	-	Chip	0.30	19	4	23	0.1	5	1		McIntyre
R59323	Antrim Creek - Qtz vein contain -ing limonite 1.0m x 0.10m.	-	Chip	0.10	16	4	28	0.1	3	1		McIntyre
R59324	Antrim Creek - Qtz vein hosted within phyllite unit with parallel micro veining over total width 0.15m x 1.0m x 0.08m.	-	Chip	0.08	12	6	42	0.1	2	1		McIntyre

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120

LAB REPORT # _____

N.T.S. 92B/12

DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59325	Antrim Creek - Qtz vein - White semi-translucent limonitic qtz. 1.0m x 0.15m.	-	Chip	0.15	14	3	56	0.1	2	2		McIntyre
R59326	Access Rd to Upper Skye Creek. Sample of fault gouge containing limonite & clays.	-	Chip	0.20	14	25	104	0.4	39	2		McIntyre
R59327	Access Rd to Upper Skye Creek. Qtz micro veining within Amphibolite unit.	-	Chip	1.0	91	5	106	0.1	4	3		McIntyre
R59328	Antrim Creek near Jordan Main-Qtz vein 0.10m with accompanying parallel qtz micro veining. 1.0m chip/channel from Hanging wall - qtz vein - footwall. Footwall <1% Aspy Tr Py. Hanging wall >5% qtz m.v.; Footwall 35% qtz m.v. 0.10m Qtz vein Tr Aspy, Tr Py.	Tr	Chip Channel	1.0	26	10	82	0.1	8	1		McIntyre Singh
R59329	Sharpe Cr - Jo River - Muir Cr-Qtz veining - discontinuous qtz veining & micro veining in Phyllite unit. Limonitic, vuggy, qtz 1.0m x 0.08m.	-	Chip	0.08	11	3	19	0.1	4	2		McIntyre
R59330	Sharpe Cr - Jo River - Muir Cr-Qtz micro veining 30%-40% qtz in Phyllite unit. <10% limonite.	-	Chip	0.30	17	9	68	0.1	7	4		McIntyre

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120 N.T.S. 92B/12

LAB REPORT # DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59331	Jo River - Qtz vein consisting of 3% limonite hosted within metasandstone 1.0m x 0.15m.	-	Chip	0.15	5	3	4	0.1	2	1		McIntyre
R59332	Muir Cr - Shear zone consists of mylmized zone, limonite, qtz str & clays 5% limonite.	-	Chip	0.20	24	7	43	0.1	3	1		McIntyre
R50627	Antrim Creek- Chip of limonitic lense Phyllite with minor qtz veining, 15% qtz strong lim, strong Mn.	-	Chip	0.50	15	7	57	0.1	3	2		Singh
R50628	Antrim Creek - Qtz vein, sugar qtz, strong lim, & hem in patches.	-	Chip	1.0	3	2	2	0.1	2	1		Singh
R50629	Skye Cr Road - Graphitic Phyll with 1cm qtz vein, strongly limonitic, some hematite, <1% Aspy.	<1	Chip		27	17	75	0.2	6	3		Singh
R50630	Bob's Knive Creek Trav Flinstone Mobile Rd - Graphitic Phyll with abundant qtz veining. Qtz is strongly limonitic & hematitic. 0.25m wide Qtz vein.	-	Chip	0.50	12	8	59	0.1	7	2		Singh
R44476	Located at north side of road at 2nd intersection of Jordan main from north Jordan bridge. Chip sample, 1m, of 56cm quartz	0	Chip	1	21	7	75	0.1	7	6		Sharpe

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120 N.T.S. 92B/12

LAB REPORT # _____ DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R44476(con't)	vein, 255°/47°(RHR). Locally gossanous and vuggy. Wall rock biotitic phyllite included.											
R59306	Western Claim Bdry V.G. Silici-fied Amphibolite with 1% Po - disseminated.	1	Chip	1.0	166	6	78	0.4	6	4		McIntyre Dempsey
R59307	Qtz vein in Amph above. Semi-translucent qtz, with limonite. 1.0m x 0.15m.	-	Chip	0.15	6	2	8	0.1	2	4		McIntyre Dempsey
R59308	Western Claim Bdry - V.G. Qtz vein lim stain & 1% Aspy? 1.0m x 0.15m.	1	Chip	0.15	180	2	77	0.2	2	1		McIntyre Dempsey
R59309	West Claim Bdry - V.G. Qtz vein in Hanging wall. 1.0 x 0.30m.	-	Chip	0.30	31	2	19	0.1	2	9		McIntyre Dempsey
R59310	Chip of wall rock - Footwall - Metasandstone containing 1% Po.	1	Chip	0.50	30	4	44	0.1	21	11		McIntyre Dempsey
R59311	Western Claim Bdry - Footwall Metasandstone fault gouge - clays.	-	Chip	0.30	20	37	63	0.2	4	8		McIntyre Dempsey
R59312	Western Claim Bdry - Hanging wall altered Qtz vein material, limonite.	-	Chip	0.30	3	2	3	0.1	2	1		McIntyre Dempsey
R59064	Creek 4 - V.G. Stockwork Qtz stringers tr Po, mag lim. Amph Bi Schist.	Tr	Chip	0.50	198	5	224	0.3	2	83		Singh Callicott
R59065	Creek 4 - V.G. Stockwork Qtz	Tr	Chip	0.50	108	4	117	0.2	2	6		Singh

NORANDA EXPLORATION COMPANY, LIMITED

PROJECT # 120

LAB REPORT # _____

N.T.S. 92B/12

DATE May/June'89

PROJECT BEAU PRE VALENTINE (VG GROUP)

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb		SAMPLED BY
R59065(con't)	veining tr py (Aspy?) lim.											Callicott
R59062	Creek 2 - V.G. Qtz veining occupying 5% vol of rock 1% AsPy, strong lim, Bi Schist.	1	Chip	0.20	64	2	98	0.2	2	1		Singh Callicott
R59063	Creek 4 - V.G. mm. Qtz stringer occupying 2% of rock tr AsPy, lim Bi Schist.	Tr	Chip	0.20	31	6	80	0.3	83	1		Singh Callicott
R59650	Creek 2 - V.G. Amph Bi Schist tr py.	Tr	Channel	0.20	28	3	71	0.1	2	6		Singh
R59061	Creek 2 - V.G. Phyllite with Amph Bi Schist. Qtz veining throughout, strong lim stain hem, tr py (Aspy?).	Tr	Channel	0.20	41	3	70	0.1	2	5		Singh

APPENDIX III

ANALYSIS CERTIFICATES

NORANDA VANCOUVER LABORATORY

PROPERTY/LOCATION:VALENTINE VG CLAIM CODE :8906-041

Project No. : 120 Sheet:1 of 1 Date rec'd:JUN13
Material :16 SILTS & Geol.:J.M. Date compl:JUN27
Remarks :18 PANS

Values in PPM, except where noted.

T.T. No.	SAMPLE No.	Ag	As	PPB Au
2	58425	0.1	8	5
3	58655	0.1	16	5
4	58658	0.1	12	5
5	58660	0.1	2	5
6	58662	0.1	1	5
7	58664	0.1	1	5
8	58927	0.1	1	5,
9	58929	0.1	1	5
10	58931	0.1	1	5
11	58933	0.1	1	5
12	59568	0.1	2	5
13	59570	0.1	2	5
14	59572	0.1	1	5
15	59574	0.1	6	5
16	59673	0.1	8	5
17	59675	0.1	14	5

T.T. No.	SAMPLE No.	wt. (g)	PPB Au	Cu	Zn	Pb	Ag
100	58654	3.7	10	8	22	2	0.2
26	58653	34.6	10	28	96	1	0.6
27	58656	21.3	200	8	26	1	0.2
28	58657	26.0	320	20	50	1	0.2
29	58659	38.8	370	16	42	1	0.2
31	58661	22.9	10	20	54	1	0.2
32	58663	19.6	360	20	42	1	0.2
33	58926	63.1	10	20	72	1	0.2
35	58924	97.3	10	28	78	1	0.2
38	58928	66.6	10	38	76	1	0.2
40	58930	70.9	70	50	78	1	0.2
42	58932	35.6	10	36	120	1	0.2
43	59567	44.6	3040	12	48	1	0.4
46	59569	74.7	280	26	82	1	0.2
48	59571	102.9	20	36	82	1	0.2
52	59573	97.2	10	18	60	1	0.2
53	59672	45.7	40	28	56	2	0.2
54	59674	98.6	5450	36	110	4	0.2

N.B. Pan-con: entire sample used for Au determination.
*Cu, Zn, Pb, Ag values obtained from Aqua Regia sol'n.

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 13 1989 DATE REPORT MAILED: June 21/89 SIGNED BY. C. Leong ..D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8906-041 120 File # 89-1477

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
R 44476	2	21	7	75	.1	38	9	447	2.50	7	5	ND	2	10	1	2	2	30	.25	.091	3	29	.53	96	.07	2	1.07	.02	.36	1	6
R 50627	1	15	7	57	.1	9	4	318	2.85	3	5	ND	3	14	1	5	2	64	.12	.038	5	33	.90	230	.17	17	1.66	.04	.87	1	2
R 50628	1	3	2	2	.1	5	1	56	.32	2	5	ND	1	1	1	2	2	1	.01	.002	2	26	.01	2	.02	22	.03	.01	.01	1	1
R 50629	1	27	17	75	.2	22	9	351	3.39	6	5	ND	4	50	1	5	2	73	.43	.061	8	37	1.28	282	.13	3	2.64	.07	.85	1	3
R 50630	1	12	8	59	.1	14	4	330	2.49	7	5	ND	3	12	1	2	2	49	.08	.029	6	39	.88	81	.05	2	1.49	.06	.26	1	2
R 59313	2	10	6	12	.1	14	3	120	.82	9	5	ND	1	40	1	2	2	12	.23	.034	2	14	.18	14	.01	2	.58	.03	.03	1	2
R 59314	1	11	5	34	.1	12	5	226	1.73	2	5	ND	1	29	1	2	2	37	.25	.033	2	43	.71	164	.10	18	1.05	.06	.49	1	1
R 59315	1	13	5	23	.1	12	5	214	1.23	6	5	ND	1	19	1	2	2	26	.46	.027	2	19	.50	110	.07	2	.71	.04	.22	1	1
R 59316	2	3	2	2	.1	5	1	25	.32	2	5	ND	1	1	1	2	2	1	.01	.004	2	31	.01	1	.01	25	.05	.01	.01	1	1
R 59317	28	84	3	48	.1	29	12	111	2.80	3	5	ND	1	39	1	2	2	38	.90	.120	2	69	.51	26	.07	23	1.78	.11	.50	2	2
R 59318	1	9	6	36	.1	15	7	289	1.77	9	5	ND	1	36	1	2	3	40	.76	.037	2	35	.76	237	.12	2	1.16	.04	.55	2	117
R 59319	2	17	4	19	.1	10	4	183	1.10	3	5	ND	1	25	1	2	2	21	.91	.028	2	15	.43	59	.04	21	.58	.04	.15	1	9
R 59320	2	17	4	4	.1	7	3	88	.55	170	5	ND	1	4	1	2	2	3	.08	.021	2	32	.04	9	.01	23	.11	.01	.01	1	14
R 59321	2	14	3	20	.1	9	3	170	1.10	2	5	ND	1	17	1	2	2	17	.27	.032	2	13	.38	92	.04	10	.56	.04	.15	1	2
R 59322	1	19	4	23	.1	8	3	189	1.26	5	5	ND	1	10	1	2	2	19	.16	.033	2	34	.46	93	.05	10	.65	.04	.25	1	1
R 59323	1	16	4	28	.1	13	5	238	1.57	3	5	ND	1	17	1	2	2	34	.20	.030	2	22	.69	164	.09	2	.89	.03	.33	1	1
R 59324	1	12	6	42	.1	13	4	335	1.82	2	5	ND	1	10	1	2	2	43	.08	.017	2	39	.58	97	.08	2	1.03	.02	.49	1	1
R 59325	2	14	3	56	.1	26	6	355	2.41	2	5	ND	1	20	1	2	2	65	.18	.036	2	54	.93	172	.09	2	1.64	.04	.57	1	2
R 59326	1	14	25	104	.4	60	19	375	4.88	39	5	ND	6	35	1	2	2	139	.12	.041	10	94	1.51	254	.20	2	4.29	.02	1.11	2	2
R 59327	1	91	5	106	.1	66	28	425	4.26	4	5	ND	1	68	1	2	2	71	1.25	.069	2	169	1.25	118	.16	4	3.59	.16	.92	1	3
R 59328	1	26	10	82	.1	23	11	394	3.61	8	5	ND	2	29	1	2	2	103	.29	.053	4	49	1.41	422	.16	4	2.49	.08	1.12	1	1
R 59329	1	11	3	19	.1	15	4	148	1.08	4	5	ND	1	4	1	2	2	18	.06	.016	2	53	.22	16	.01	2	.41	.01	.07	3	2
R 59330	1	17	9	68	.1	19	8	280	2.89	7	5	ND	4	14	1	2	2	57	.18	.046	7	33	1.05	166	.11	2	1.85	.04	.67	1	4
R 59331	2	5	3	4	.1	8	1	65	.55	2	5	ND	1	3	1	2	3	6	.02	.003	2	54	.06	13	.01	2	.17	.01	.06	1	1
R 59332	2	24	7	43	.1	15	7	232	2.35	3	5	ND	3	13	1	2	2	34	.12	.034	6	17	.68	102	.06	21	1.30	.05	.41	1	1
R 59676	1	42	7	85	.1	36	11	473	3.42	6	5	ND	4	15	1	2	2	57	.21	.047	8	61	1.05	160	.09	2	2.06	.04	.58	1	2
R 59677	2	9	4	21	.1	11	2	114	1.17	2	5	ND	1	4	1	2	2	14	.04	.013	2	14	.26	17	.02	2	.49	.01	.07	1	2
R 59678	1	20	5	42	.1	17	6	263	2.02	8	5	ND	1	11	1	2	2	35	.13	.030	2	47	.75	121	.07	2	1.11	.03	.36	1	2
R 59679	2	7	4	10	.1	7	1	43	.61	2	5	ND	1	6	1	2	2	8	.05	.008	2	7	.09	13	.01	2	.23	.01	.02	1	1
R 59680	1	13	2	14	.1	8	3	156	.80	3	5	ND	1	15	1	2	2	10	.15	.014	2	37	.28	36	.02	2	.37	.02	.08	1	1
R 59681	1	21	5	69	.1	22	10	404	3.09	10	5	ND	1	25	1	2	3	75	.33	.058	3	46	1.25	274	.18	2	2.01	.06	1.08	1	1
STD C/AU-R	18	62	40	132	6.9	72	29	1021	4.00	43	17	7	37	49	18	15	20	58	.52	.092	36	55	.90	176	.07	32	1.93	.06	.13	12	480

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 15 1989 DATE REPORT MAILED: June 20/89. SIGNED BY. C. Leong .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8906-041 120 File # 89-1527

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
58654	2	34	4	91	.1	19	11	508	5.06	5	5	ND	3	85	1	2	3	89	.23	.050	5	57	1.52	80	.20	2	2.79	.04	1.23	1	1

Valentine VG Cl. (TMc) 8[illegible]-019

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUN 5 1989 DATE REPORT MAILED: June 9/89. SIGNED BY. C. Leong ..D.TOYE, C.LEONG, J.WANG: CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8906-019 120 File # 89-1349

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
R 59061	2	41	3	70	.1	14	9	240	2.59	2	5	ND	2	13	1	2	2	48	.14	.046	7	30	1.05	151	.09	2	1.56	.03	.55	1	5
R 59062	2	64	2	98	.2	37	15	364	4.12	2	5	ND	2	17	1	2	4	104	.33	.069	9	59	1.61	159	.16	2	2.03	.04	.48	1	1
R 59063	2	31	5	90	.3	14	9	268	3.34	93	5	ND	4	8	1	2	3	75	.15	.058	10	43	1.36	231	.14	2	1.77	.03	1.04	1	1
R 59064	1	198	5	224	.3	76	41	572	7.43	2	5	ND	1	20	1	2	2	149	.85	.091	2	210	1.56	210	.24	2	3.65	.11	.01	1	93
R 59065	1	108	4	117	.2	107	32	477	4.19	2	5	ND	1	24	1	2	2	84	1.06	.085	2	165	2.09	23	.11	2	2.56	.09	.16	1	6
R 59306	3	166	6	78	.4	55	28	664	4.89	6	5	ND	1	245	1	2	2	131	1.45	.094	2	66	1.12	106	.16	2	2.84	.11	.38	11	4
R 59307	3	6	2	8	.1	9	1	61	.48	2	5	ND	1	8	1	2	4	6	.03	.001	2	9	.04	3	.01	2	.09	.01	.01	1	4
R 59308	11	180	2	77	.2	31	20	1079	4.33	2	5	ND	1	15	1	2	2	97	.40	.102	4	114	1.28	102	.19	2	1.77	.04	.94	1	1
R 59309	2	31	2	19	.1	14	4	116	1.52	2	5	ND	1	22	1	2	4	22	.16	.052	3	17	.38	141	.08	5	.62	.02	.36	19	9
R 59310	2	30	4	44	.1	4	7	193	2.26	21	5	ND	1	12	1	2	2	26	.24	.054	7	3	.65	235	.15	2	1.16	.05	.64	1	11
R 59311	1	20	27	63	.2	23	14	450	3.32	4	5	ND	3	5	1	2	2	63	.08	.053	9	30	1.43	80	.09	6	3.22	.02	.19	1	8
R 59312	2	3	2	3	.1	9	1	91	.27	2	5	ND	1	1	1	2	3	3	.01	.004	2	9	.04	5	.01	2	.15	.01	.02	1	1
R 59650	1	28	3	71	.1	13	9	472	3.07	2	5	ND	1	10	1	2	2	70	.15	.046	4	32	1.41	482	.26	3	1.87	.04	.01	1	6

8906-019

APPENDIX IV

STATEMENT OF COSTS

VG GROUP

COST STATEMENT

WAGES:

T. McI.	9 mandays	x $140.00	
J. McC.	2 manday	x $140.00	
K.P.	2 mandays	x $140.00	
C.D.F.	2 mandays	x $140.00	
D.S.	1 manday	x $117.00	
B.S.	7 mandays	x $112.00	
B.N.	4 manday	x $124.00	
D.D.	3 mandays	x $104.00	
D.C.	4 mandays	x $ 74.00	
I.S.	4 mandays	x $190.00	
		-------	$4,865.00
			=========

ACCOMMODATIONS:

April	18-19	2 days @ $49.99/day	
May	23-26	4 days @ $35.64/day	
June	03-10	8 days @ $29.72/day	$ 480.24
			=========

GROCERIES:

April	18-19	8 people @ $16.44/person	
May	23-26	11 people @ $12.96/person	
June	03-10	19 people @ $12.51/person	
			$ 511.80
			=========

TRUCK:

April	18-19	2 days @ $17.00/day	
May	23-26	4 days @ $33.67/day	
June	03-10	8 days @ $40.50/day	
			$ 492.68
			=========

GAS:

April	18-19	2 days @ $12.44/day	
May	23-26	4 days @ $12.14/day	
June	03-10	8 days @ $11.12/day	
			$ 162.41
			=========

OFFICE SUPPLIES:		$ 15.92
TRUCK/TIRE REPAIR:		$ 12.48
MISCELLANEOUS:		$ 23.71
SHIPPING:		
April 18-19	1 box @ $ 4.44	
May 23-26	4 boxes @ $19.68	
June 03-10	6 boxes @ $29.52	
		$ 53.64
FIELD EQUIPMENT:		$ 44.03
GEOCHEMICAL ANALYSIS:		$1,133.40
REPORT WRITE-UP AND PREPARATION		
Author	$600.00	
Drafting	$600.00	
Typing	$200.00	$1,400.00
	TOTAL COSTS:	$9,195.31

GEOCHEMICAL ANALYSIS

COSTS FOR THE VG GROUP

---

1. Rocks *

44 samples x $6.25/sample analysis by ICP for 30 elements	
44 samples x $4.50/sample analysis by AA for Au	
44 samples x $2.40/sample handling & preparation	
44 samples x $1.50/sample data processing	
44 samples x $3.00/sample crushing & pulverizing	
44 samples x $17.65/sample	$ 776.60

2. Silts *

16 samples x $6.25/sample analysis by ICP for 30 elements	
16 samples x $3.50/sample analysis by AA for Au	
16 samples x $1.60/sample drying & sieving	
16 samples x $1.50/sample data processing	
16 samples x $12.85/sample	$ 205.60

3. Pan Concentrates

18 samples x $1.60/sample digestion & Cu analysis	
18 samples x $1.80/sample Zn, Pb, Ag analysis by AA	
18 samples x $5.00/sample Au analysis by AA	
18 samples x $8.50/sample	$ 151.20

TOTAL COST OF ANALYSIS:	$1,133.40

* Analysis by 30 element ICP: Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W.

APPENDIX V

AUTHORS QUALIFICATIONS

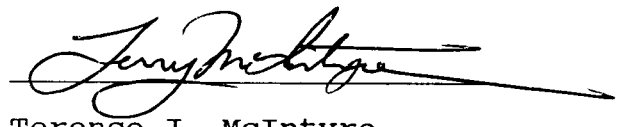
AUTHORS QUALIFICATIONS
****

I, Terence J. McIntyre of 894 Pacific Drive, Delta, Province of British Columbia, do hereby certify that:

- I have been employed as a Geologist for Noranda Exploration Company, Limited (no personal liability) from the spring of 1987 to the present.

- I graduated from the Montana College of Mineral Science and Technology in 1986 with a BSc degree in geological engineering.

- I have worked in mineral exploration and in mines since 1983.



Terence J. McIntyre

AUTHORS QUALIFICATIONS
****

I, Robert G. Wilson of the City of Vancouver, Province of British Columbia, do hereby certify that:

- I am a geologist residing at 3328 West 15th. Avenue, Vancouver B.C.
- I graduated from the University of British Columbia in 1976 with a BSc degree in Geology.
- I have worked in mineral exploration since 1973 and have practiced my profession as a geologist since 1976.
- I am presently a Project Geologist with Noranda Exploration Company, Limited (no personal liability).
- I am a member of the Geological Association of Canada (Cordillera Division).
- I supervised this project and have reviewed the findings presented within this report.

Rob Wilson
Project Geologist

123°39'00"

48°33'00"

427500mE
5379000mN

427500mE
5376000mN

431000mE
5379000mN

431000mE
5376000mN

Mill Creek

Lennon Creek

Creek 2

Sloper Creek

Jordan River

Muir Creek

Anangyches Creek

950.67

892.94

914.11

832.39

890.23

587.69

478.90

465.57

683.93

830.50

927.91

532.05

SCALE
1 : 5,000

Metres 100 50 0 100 200 300 400 Metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,359

REVISED	BEAU PRE-VALENTINE
	REGIONAL GEOCHEMISTRY SAMPLE LOCATIONS
PROJ. No. 120	SURVEY BY: DATE: Sept. 1989
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:5000
DWG. No. 6	NORANDA EXPLORATION
	OFFICE: Vancouver

129°59'00"

427500mE
5379000mN

48°33'00"

427500mE
5376000mN

Mull Creek

Ahrim Creek

Creek 4

Creek 2

Lennon Creek

Shasta Creek

Ashnaurchen Creek

Jordan River

Mull Creek

900.67

901.04

832.84

812.19

587.69

478.90

465.57

683.93

830.50

890.23

927.91

532.05

SOIL BROOK ⊕TALUS FINE +OTHER
LSOIL ⊕PAN CORE ≋WATER

NA - NOT ANALYSED
IS - INSUFFICIENT SAMPLE

431000mE
5376000mN

SCALE
1 : 5,000

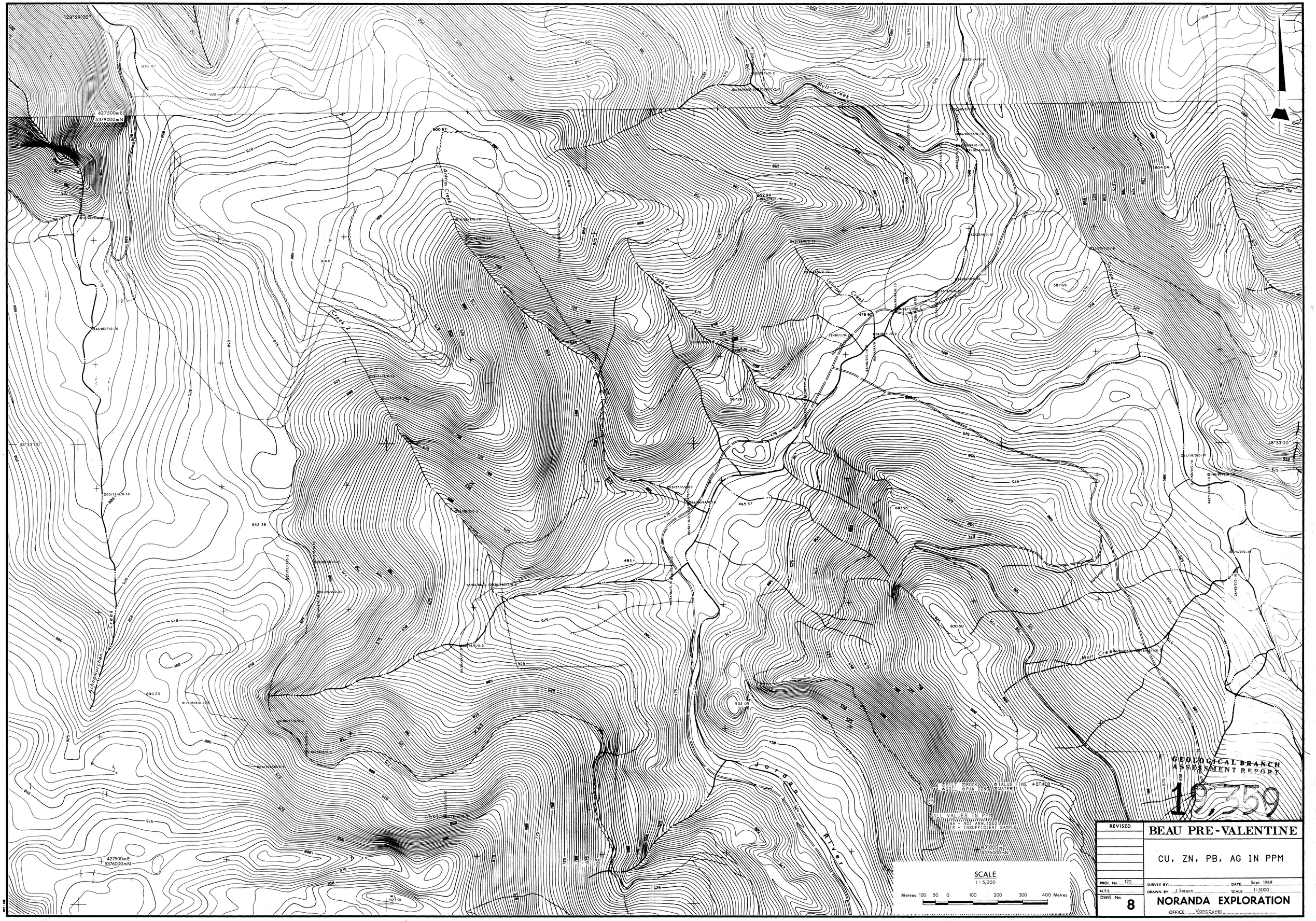
Metres 100 50 0 100 200 300 400 Metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,359

REVISED	BEAU PRE-VALENTINE
	AU IN PPB, AS IN PPM
PROJ. No. 120	SURVEY BY: DATE: Sept. 1989
N.T.S.	DRAWN BY: J Serwin SCALE: 1:5000
DWG. No. 7	NORANDA EXPLORATION
	OFFICE: Vancouver


Mull Creek
Muir Creek
Jordan River
Leddak Creek
Antrim Creek
Skye Creek
Creek 2
Achnamurchan Creek
VG 1
3N × 5W
VG 2
4N × 5W
VG 3
2S × 5W
VAL
2W × 3S
48°33'00"
427500mE
5376000mN
431000mE
5376000mN
LEGEND
EOCENE (AND OLDER?) CATFACE INTRUSIONS
6 PEGMATITE – Leucocratic with calic feldspar, sericite, and quartz occuring as dykes and sills average width 1.5m.
5 INTRUSIVES
5a – Quartz Diorite – Equaigranular medium grained weathers to a buff colour, fresh surface light to medium grey
METCHOSIN VOLCANICS
4 BASALTIC VOLCANICS
4a – Lapilli tuff – Medium to light green, fine grained matrix with sub angular clasts averaging 2–3mm across
4b – Agglomerate – Medium to light green. Medium to course grained matrix with large angular clasts 7cm–0.5m, averaging 8–10cm.
4c – Flow – Medium to light green fine grained with quartz and carbonate filled vesicules 1–2mm in width.
TRIASSIC TO CRETACEOUS LEECH RIVER FORMATION
3 METAPELITE
3a – Biotitic phyllite – Very fine grained grey black strongly fissile with a sheen along cleavage planes.
3b – Biotite Schist – Medium grained, biotite, quartz segregated layers 1–3mm wide. Fresh and weathered surfaces are medium to dark grey.
3c – Biotite – Garnet schist – same as 3b with porphyroblasts of euhedral almandine garnet, ranging in size from <1mm to 1cm, averaging 2–3mm.
3d – Biotite – Garnet – staurolite schist (order does not imply relative modal occurrence)–same as 3a with porphyroblasts of euhedral staurolite often cruciform, dark brown to black, ranging in size from <1mm–1.5cm, averaging 7–9mm.
3e – Biotite – Garnet – staurolite – andalusite schist (order does not imply relative modal occurrence) same as 3d with porphyroblasts of subeuhedral to anhedral andalusite (chiastolite), 2–8cm in length. Weathers medium to dark grey fresh surface light pink.
2 METASANDSTONE
2a – Greywacke – Medium to dark grey, fine to medium grained with lithic fragments and less than 25% quartz.
2b – Massive metasandstone – Medium grained equalgranular locally feldspathic. Weathers buff brown, fresh surface medium to light grey. Often forming prominent cliffs.
1 AMPHIBOLITE
Weathers chloritic green to dark green. Ranges from strongly foliated to massive with local pitted surfaces. Amphiboles (actinolite) vary from fine to course grained. The amphibolite unit varys from volcanic to calc–silicate in nature.
1a – Tuff – Medium to dark green. Matrix is fine grained and extensively chloritized. The clasts are sub angular ranging 0.5–2cm in width.
1b – Flow – Medium green chloritized amphiboles seen along cleavage planes. Vesicules are filled with quartz and carbonate.
1c – Chloritic phyllite – very fine grained, strongly fissile, and displays a sheen along cleavage planes. The fresh and wethered surfaces are light green.
SYMBOLS
Bedding (Strike+Dip)
Bedding (Strike+Vertical Dip)
Foliation (Strike+Vertical Dip)
Foliation (Strike+Dip)
Vein (Strike+Dip)
Vein (Strike+Vertical Dip)
Fracture (Strike+Dip)
Fracture (Strike+Vertical Dip)
Fault (Approximate)
Fault (Defined, Showing Dip)
Geologic Contact (Approximate)
LEGAL CORNER POSTS
Location Known
Location Approximate
SCALE
1 : 5,000
Metres 100 50 0 100 200 300 400 Metres
GEOLOGICAL BRANCH
ASSESSMENT REPORT
19,359
REVISED
BEAU PRE-VALENTINE
VG CLAIM GROUP
GEOLOGY
PROJ. No. 120
N.T.S.
DWG. No. 5
SURVEY BY: T. Mc Intyre
DATE: Sept. 1989
DRAWN BY: J. Serwin
SCALE: 1:5000
NORANDA EXPLORATION
OFFICE: Vancouver



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,359

REVISED	BEAU PRE-VALENTINE
	CU, ZN, PB, AG IN PPM
PROJ. No. 120	SURVEY BY: DATE: Sept. 1989
N.T.S.	DRAWN BY: J. Serwin SCALE: 1:5000
DWG. No. 8	NORANDA EXPLORATION
	OFFICE: Vancouver