86-967-15484

FILMED

GEOLOGICAL REPORT

on the

GR 3, 4, PAT 26, 28, 30, 35 - 49, 100,
1100 and 1200 MINERAL CLAIMS

Revelstoke Mining Division

N.T.S. 82M/09W, 10E

Latitude 51°38.3'N Longitude 118°30'W

by

G. GIBSON & ASSOCIATES
201 - 2020 West 2nd Avenue
Vancouver, B.C.
V6J 1J4

for

Owners: MACLAREN FOREST PRODUCTS INC.
P.O. Box 2380
Vancouver, B.C. V6B 3T5

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)
P.O. Box 2380
Vancouver, B.C. V6B 3T5

Operator: NORANDA EXPLORATION COMPANY, LIMITED

Gordon Gibson, Geologist

November 07, 1986

Table of Contents

List of Illustrations

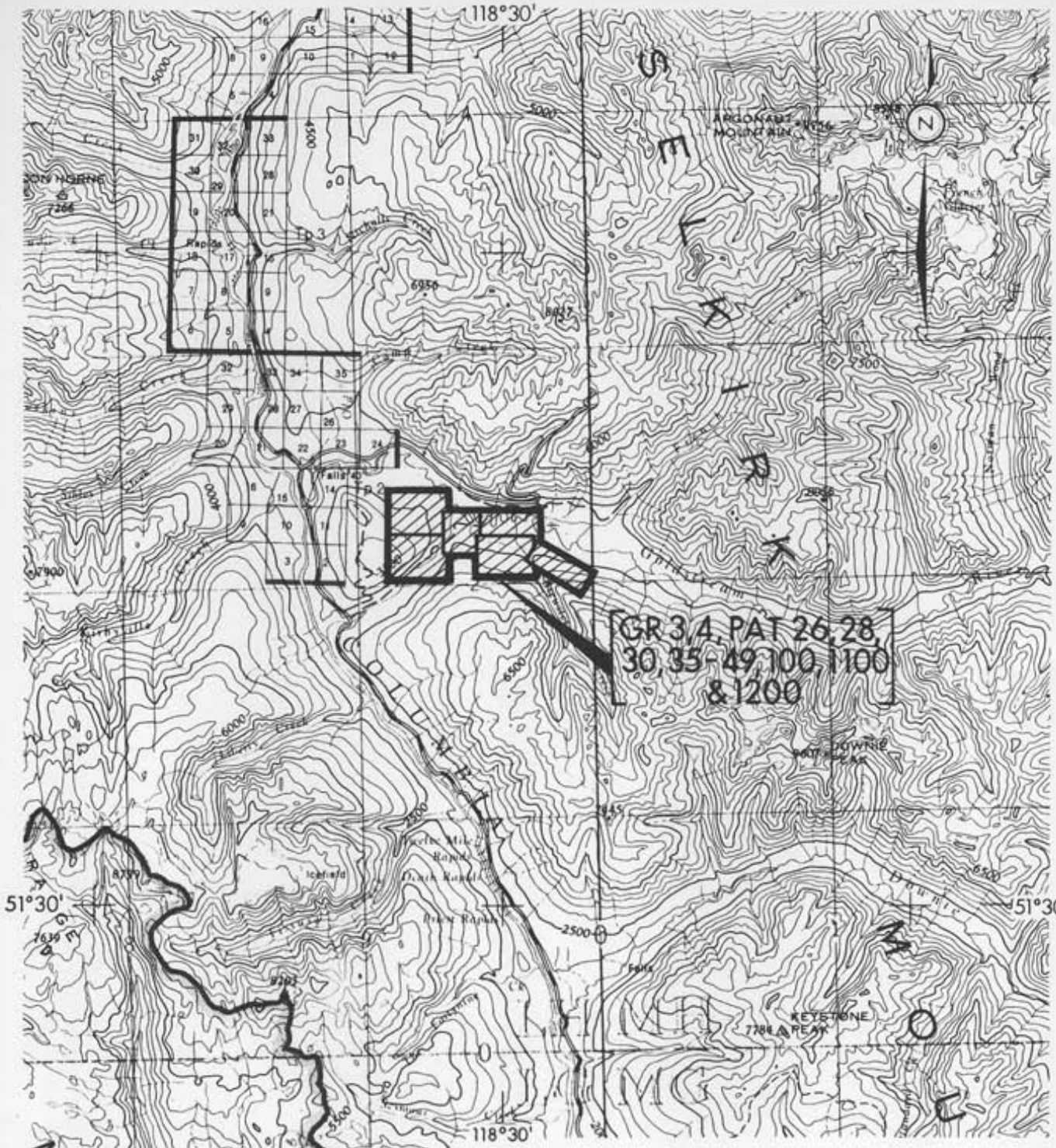
INTRODUCTION

Location, Access and Physiography

The GR 3, 4, PAT 26, 28, 30, 35-49, 100, 1100 and 1200 Mineral Claims are located in the northern Selkirk Mountains of southeastern British Columbia 50 km north of Revelstoke, see Drawing 1. The claims are in a single 100 unit block flanking Goldstream River on the south at a point approximately 9 km. west of Noranda's Goldstream mine.

Access to the property is via Route 23 - a permanent hard surface highway connecting Revelstoke and Mica Creek along the east shore of Lake Revelstoke. From a junction at Goldstream Creek the main Goldstream mine access road bisects the claims from west to east. Several good gravel haul roads of Westar Timber provide additional access to interior portions of the claims.

Virtually all of the property is below tree line and, where not logged, is clothed in dense stands of cedar, hemlock, balsam and spruce with locally prolific slide alder and devil's club. Bedrock exposures are limited primarily to streams and road cuts. Lowest-lying areas adjacent to the Goldstream River are floored by thick deposits of glacial drift and alluvium.



REVISED

GOLDSTREAM

LOCATION MAP

PROJ.No. 166	SURVEY BY: G. Gibson	DATE: Nov./86
N.T.S. 82M	DRAWN BY: P.J. Arthur	SCALE: 1:250,000
DWG.No. 1	NORANDA EXPLORATION	
	OFFICE: Vancouver	

Gordon Gibson

Climate is that of the Interior Rain Belt with temperatures ranging between -15°C and +30°C. Annual precipitation averages 1.15 m, more than half of which falls as up to 6 m of snow. Snowpack at any one time rarely exceeds 1.5 m.

Claims and Ownership

All claims are within the Revelstoke Mining Division.

Claim Name	Size	Record_No.	Record_Date	Owner
GR 3	20	1525	Nov 08, 1982	NORANDA EXPLORATION COMPANY, LIMITED
GR 4	20	1526	"	(No Personal Liability)
				P.O. Box 2380
				Vancouver, B.C. V6B 3T5
PAT 26	1	11381	May 23, 1974	MACLAREN FOREST PRODUCTS INC.
PAT 28	1	11383	"	P.O. Box 2380
PAT 30	1	11385	"	Vancouver, B.C. V6B 3T5
PAT 35	1	11415	Sep 03, 1974	"
PAT 36	1	11416	"	"
PAT 37	1	11417	"	"
PAT 38	1	11418	"	"
PAT 39	1	11491	Oct 23, 1974	"
PAT 40	1	11492	"	"
PAT 41	1	11493	"	"
PAT 42	1	11494	"	"
PAT 43	1	11495	"	"
PAT 44	1	11496	"	"
PAT 45	1	11497	"	"
PAT 46	1	11498	"	"
PAT 47	1	11499	"	"
PAT 48	1	11500	"	"
PAT 49	1	11501	"	"
PAT 100	20	5	Jul 05, 1975	"
PAT 1100	12	29	Oct 16, 1975	"
PAT 1200	10	30	"	"

Total:	100 units			

Operator is Noranda Exploration Company, Limited. Claim locations are shown on Drawing 3 of this report - scale 1:10,000.

Previous Work

Work by Noranda Exploration on the the western PAT claims began in 1975 and continued in 1976 with extensive grid preparation, soil sampling, MAG, VLF-EM and CEM surveys. In 1977 eight diamond drill holes were collared adjacent to areas now occupied by the tailings disposal pond in order to test the western strike continuation of favourable Goldstream host strata. Areas now covered by GR 3 and 4 were originally staked by Seaforth Mines and subsequently optioned to Canex Placer in 1977. Development work included grid preparation, geophysics, geochemistry, geological mapping and shallow diamond drilling (Keevil, 1977; Cannon and Pentland, 1977). In 1982 Noranda staked the GR claims and undertook more grid preparation, magnetometer, and horizontal loop EM surveys (Lewis, 1983).

Assessment Work - 1986

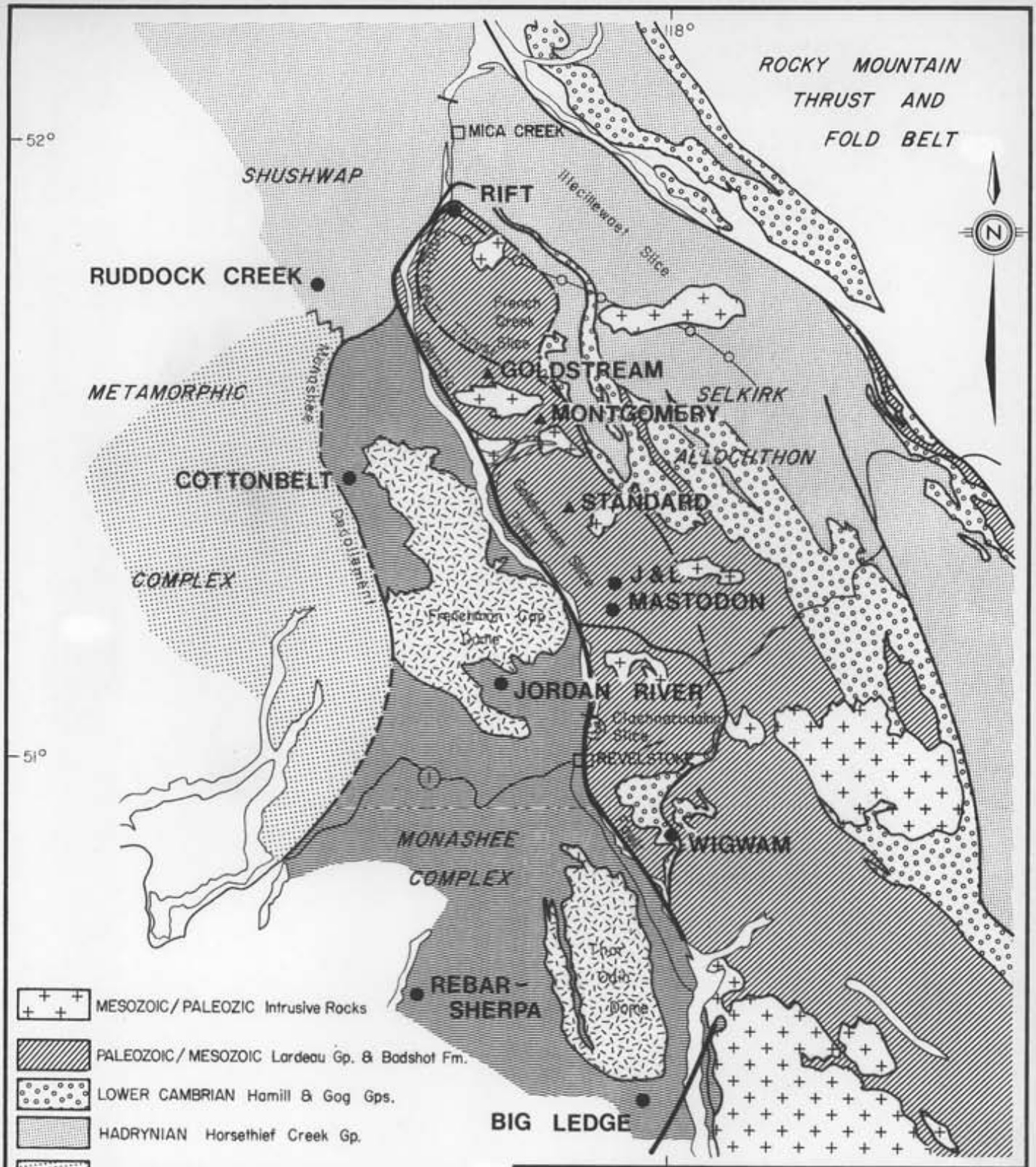
Work in 1986 was undertaken by the author at Noranda's request, as part of a re - assessment of geology adjacent to, and south of, the Goldstream mine. Geological mapping and prospecting traverses were confined mainly to abundant post - 1978 logging roads of Westar Timber, but also penetrated upslope and upsection, in creeks, from mean lake level at 1880' (573 m) to approximately 6500' (1981 m) ASL. Results were compiled on 1:25,000 topographic maps derived from standard 1:50,000 NTS sheets, with new roads transposed from reduced Westar 1:20,000 forest cover maps. Control was by odometer, beltchain and altimeter methods. Geological data are presented

on Drawing 4 of this report - scale 1:25,000.

GEOLOGY

Regional Setting

East of Lake Revelstoke, complexly deformed metasedimentary and metavolcanic units, and granitic intrusions, are part of the Selkirk Allochthon - a composite terrane embracing at least four major fault - bounded tectonic slices, see Drawing 2. Selkirk Allochthon was emplaced from west to east over core gneiss and mantling gneiss of the metamorphic infrastructure (Monashee Complex) along the Monashee Decollement and east - dipping Columbia River Fault during middle Mesozoic to Eocene time (Read and Brown, 1981). In the Goldstream River area, structures in Goldstream Slice of the allochthon result from superposition of non - coaxial second and third phase folds on previously overturned stratigraphy. Correlation of local informal map units as first used by Hoy (1979) southward to recently established Paleozoic formational sequences north of Carnes Creek (Brown et. al., 1983) is now proposed. As such, the 'Carbonate - Phyllite Division' becomes the Badshot Formation and lower part of the Index Formation and the 'Metavolcanic - Phyllite', 'Calc-Silicate Gneiss' and 'Quartzite-Schist' Divisions become the upper part of the Index Formation, see Drawing 4.



REVISED

GOLDSTREAM

REGIONAL TECTONIC MAP

PROJ. No. 166	SURVEY BY:	DATE: Nov./86
N.T.S. 82M	DRAWN BY: G. Gibson	SCALE: 1:1,000,000
DWG. No. 2	NORANDA EXPLORATION	
	OFFICE: Vancouver	

Stratiform Cu - Zn massive sulfide deposits in chlorite schist and dark banded graphitic phyllite (Goldstream, Montgomery and Standard) are spatially associated with basic volcanics of the upper Index Formation (Hoy, Gibson and Berg, 1984). By contrast, stratiform Pb - Zn deposits such as E & B's newly discovered RIFT occurrence reside in sections dominated by calcareous schist, calc-silicate gneiss, pelitic schist, marble and ultramafic rocks (Gibson, 1981,1982, 1983, 1984; Gibson and Hoy, 1985; Bellamy, 1985).

Local Geology

Between Downie Creek and Goldstream River the geological map pattern is dominated by a pair of shallow east - plunging Phase 3 folds, see Drawing 4. These have been traced continuously eastward for 23 km from Route 23 to north of Downie Peak. The southern fold, a synform, generally follows the axis of 'Goldstream Stock' which is actually a complex of pre - kinematic intrusive sills with intervening screens and pendants of layered metasedimentary and metavolcanic rock. The northern antiformal fold is assymetrical toward the south with a very sharp apex and tightly appressed profile, likely caused by southward transport and buckling of incompetent phyllites against the more rigid intrusive mass.

In the immediate GR and PAT claim area dark banded graphitic schist, chlorite schist, talc schist, marble, quartz-mica schist and quartzite units dip northward. Outcrops along

the main Goldstream access road expose cyclically interlayered quartzites and schists. These display consistent angular relationships between S_2 (mineral foliation) and S_0 (primary layering) indicating Z-shaped (dextral) vergence as viewed down plunge toward the northeast, parallel to regional Phase 2 lineations. Therefore, no fold hinges related to Phase 2 deformation can be documented for this area. Phase 2 deformation is of considerable importance at the Goldstream deposit further east, where the orebody has been stretched down the plunge of L_2 and sheared and flattened in the plane of S_2 (Hoy et. al., 1984).

CONCLUSIONS

North - dipping rock units underlying the GR and PAT claim area are laterally equivalent to ore bearing stratigraphy at the Goldstream mine. They occupy the northern limb of an east - plunging Phase 3 antiform.

Respectfully submitted,

Gordon Gibson

Gordon Gibson, Geologist
G. GIBSON & ASSOCIATES

References

Bellamy, J.R., 1985. Drilling report, MICA 12, MICA 19 FR. and RIFT mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment Report, 16p.

----------, 1985. Geophysical and geochemical report, MICA 12, MICA 19 FR. and RIFT mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment Report, 11p.

Brown, R.L., Lane, L.S., Psutka, J.F., and Read, P.B., 1983. Stratigraphy and structure of the western margin of the northern Selkirk Mountains: Downie Creek map area, British Columbia, in Current Research, Part A; GEOL. SURV. CAN., Paper 83-1A, pp. 203-206.

Cannon, R.W., and Pentland, W.S., 1977. Geochemical and geophysical report, BEND 2R mineral claim; B.C. MIN. EN. MIN. PET. RES., Assessment Report 6329, 13p.

Gibson, G., 1981. Geological and geochemical report, RIFT, RIFT 2, OMEGA, MICA 5-18, and MICA 19 FR mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment report, 23p.

----------, 1982. Geological and geochemical report, MICA 20-36 mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment Report, 28p.

----------, 1983. Geochemical report, RIFT, RIFT 2, OMEGA, MICA 9-18, MICA 19 FR., MICA 39-40, MICA 47 and MICA 51-54 mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment report, 18p.

----------, 1984. Geological report, RIFT, RIFT 2, MICA 10, MICA 13-16 and MICA 19 FR. mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment report, 16p.

Gibson, G., and Hoy, T., 1985. RIFT, A zinc-lead massive sulfide deposit in southeastern British Columbia, in Geological Fieldwork - 1984; B.C. MIN. EN. MIN. PET. RES. Paper 1985-1, pp. 105-119.

Hoy, T., 1979. Geology of the Goldstream area; B.C. MIN. EN. MIN. PET. RES., Bull. 71, 49 p.

Hoy, T., Gibson, G. and Berg, N.W., 1984. Copper-zinc deposits associated with basic volcanism, Goldstream area, southeastern British Columbia; ECON. GEOL., Vol. 79, pp. 789-814.

Keevil, G.A. 1977. Geological, geochemical, and geophysical report, BEND 1, 2R and 3 mineral claims; B.C. MIN. EN. MIN. PET. RES., Assessment Report 6176, 24p.

Lewis, T.D., 1983. Geological and geophysical report, GR 1-4 mineral claims; MIN. EN. MIN. PET. RES., Assessment Report 11578, 4p.

Read, P.B., and Brown, R.L., 1981. Columbia River Fault Zone: southeastern margin of the Shuswap and Monashee Complexes, southern British Columbia; CAN. JOUR. EARTH SCI., vol. 18, pp. 1127-1145.

Statement of Costs

1.	**Wages** (Aug 09 - Oct 07,1986; see Timesheet)		
	Consulting geologist: 25 days @ $225	5,625	
	Geologist : 25 days @ $100	2,500	
			8,125
2.	**Food and Lodging** (Aug 09 - Oct 07, 1986)		
	25 man - days @ $35		875
3.	**Transportation**		
	Truck rental - 3/4T 4X4		
	1 month @ 600	600	
	Fuel	230	
			830
4.	**Drafting and Report Preparation**	500	
			500
			=======
	Total:		$10,330

Timesheet

Aug 09 - Oct 07, 1986

Consulting Geologist - G. Gibson

Aug	13,1986	1/2
	16	1/2
	17	1
	19 - 23	5
	27 - 28	2
	30 - 31	2
Sep	03 - 04	2
	06 - 07	2
	10 - 12	3
	18 - 21	4
	27	1
	29	1
Oct	02	1
		======
		25 days

Geologist - C. Wild

Aug	13, 1986	1/2
	16	1/2
	17	1
	19 - 24	6
	27 - 28	2
	30 - 31	2
Sep	03 - 04	2
	06 - 07	2
	10	1
	12	1
	18 - 21	4
	27	1
	29	1
Oct	02	1
		======
		25 days

Statement of Qualifications

I, Gordon Gibson, do hereby certify that:

1. I am a geologist with residence at 201-2020 West 2nd Avenue, Vancouver, British Columbia, V6J 1J4.

2. I am a graduate of the University of British Columbia with a Bachelor of Science degree in geology (1975).

3. I have practised in the field of mineral exploration since 1975.

4. I am a member of the Canadian Institute of Mining and Metallurgy.

5. I was employed as an independent consultant by Noranda Exploration Company, Limited (No Personal Liability), P.O. Box 2380, Vancouver, B.C. to manage the exploration program outlined in the accompanying report. I have no other financial or legal interest in the mineral properties described therein.

Respectfully submitted,

Gordon Gibson

Gordon Gibson, Geologist
G. GIBSON & ASSOCIATES

GOLDSTREAM

McGillis Creek

RIVER

Old Goldstream Creek

Creek

GR 4
1526(11)

GR 3
1525(11)

PAT 1100
29(10)

PAT 1200
30(10)

PAT 100
5(7)

PAT 49
11501N

PAT 48
11500N

PAT 47
11499N

PAT 46
11498N

PAT 44
11496N

PAT 36
11416M

PAT 35
11415M

PAT 26
11381E

PAT 45
11497N

PAT 43
11495N

PAT 42
11494N

PAT 38
11418M

PAT 37
11417M

PAT 28
11383E

PAT 41
11493N

PAT 40
11492N

PAT 39
11491N

PAT 30
11385E

2000 2500 3000 3500 4000 4500 5000 5500 6000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,484

Metres 200 0 200 400 600 800 1000 Metres

To accompany Geological Assessment Report on the GR 3,4, PAT 26,28,30,35-49,100,1100 & 1200 Mineral Claims; Revelstoke M.D. British Columbia by:

Gordon Gibson

G.Gibson
GEOLOGIST
Nov. 07/1986

REVISED

GOLDSTREAM

CLAIM MAP

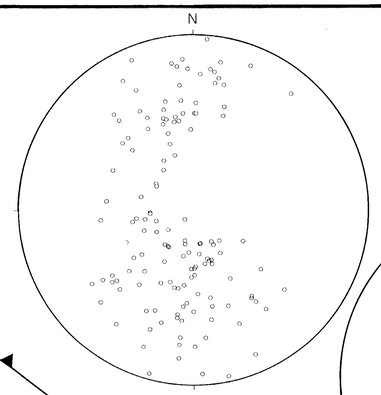
PROJ. No. 166 — SURVEY BY: G.Gibson — DATE: Jan./87

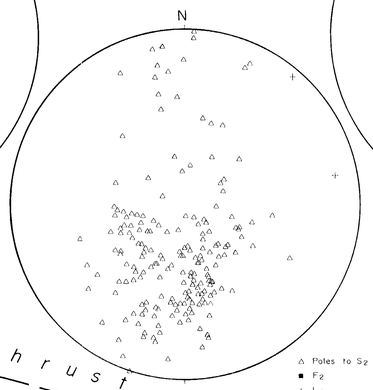
N.T.S. 82M/9&10 — DRAWN BY: DAttix — SCALE: 1:10,000

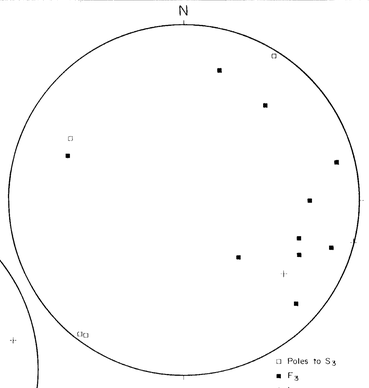
DWG. No. 3

NORANDA EXPLORATION

OFFICE: Vancouver







LEGEND

PLUTONIC ROCKS

Mesozoic and/or older

QUARTZ MONZONITE & GRANITE

- QMb — SILL COMPLEX
- QMa — STOCK
- QMa1 — BORDER PHASE; gneiss

METASEDIMENTARY & METAVOLCANIC ROCKS

Lower Paleozoic

LARDEAU GROUP [I & J]

- J — JOWETT FORMATION
  - Chlorite SCHIST, dolomitic MARBLE
- I — INDEX FORMATION
  - u — UPPER
    - q — 'Quartzite-Schist Div. & Calc-silicate Gneiss Div.'
      - 3 — Pelitic SCHIST ; kyanite
      - 2 — Calc-silicate GNEISS ; lesser amphibolite schist, marble
      - 1 — QUARTZITE ; lesser quartz-mica schist
    - m — 'Metavolcanic-Phyllite Div.'
      - * — MASSIVE SULFIDE LAYER
      - 9 — Spessartite-grunerite SCHIST; siliceous Mn-Fe exhalite
      - 8 — GREENSTONE
      - 7 — Talc SCHIST
      - 6 — Chlorite SCHIST
      - 5 — Dark banded SCHIST ; variably graphitic, calcareous
      - 4 — Quartz-muscovite-biotite SCHIST
      - 3 — Micaceous QUARTZITE
      - 2 — Dolomitic MARBLE
      - 1 — Calcitic MARBLE
  - l — LOWER
    - 1 — Quartz-muscovite-biotite SCHIST; lesser quartzite

Lower Cambrian

- B — BADSHOT FORMATION
  - 1 — Dolomitic MARBLE

SYMBOLS

- CONTACT; Defined, approximate, assumed
- FAULT; Normal, dot on downthrown side
- FAULT; Reverse, barb on upthrown side
- ANTIFORM - Phase 2 ; upright, overturned
- SYNFORM - Phase 2 ;
- ANTIFORM - Phase 3 ;
- SYNFORM - Phase 3 ;
- S_0 BEDDING, PRIMARY LAYERING; inclined, vert., horiz.
- S_2 FOLIATION, SCHISTOSITY
- S_3 CRENULATION
- F_2 FOLD AXIS; with vergence as viewed down-plunge
- F_3 FOLD AXIS;
- Phase 2 vergence from S-S relationship, as viewed toward N.E. of S2.
- L_2 LINEATION
- L_3 LINEATION
- EDGE OF MAPPING OR OUTCROP
- HAUL ROAD; loose surface

Gordon Gibson

To accompany Geological Assessment Report on the GR 3, 4, PAT 26, 28, 30, 35-49, 100, 1100 & 1200 Mineral Claims; Revelstoke M.D. British Columbia by:

G. Gibson
GEOLOGIST
Nov. 07/1986

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,484

SCALE 1:25,000

REVISED	GOLDSTREAM
	GEOLOGY
PROJ. No. 166	SURVEY BY: G. Gibson DATE: Jan./87
N.T.S. 82M/9, 10	DRAWN BY: J. Serwin SCALE: 1:25000
DWG. No. 4	NORANDA EXPLORATION
	OFFICE: Vancouver