REPORT OF 1991 GEOLOGICAL AND GEOCHEMICAL PROGRAMS
MOLLY GIBSON PROPERTY
GREENWOOD MINING DIVISION
BRITISH COLUMBIA

NTS 82E/1E

October 30, 1991
Coeur d'Alene, Idaho

Robert T. Fredericks
Pan Orvana Resources Inc.

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INTRODUCTION

The Molly Gibson property, located 15 km northeast of Christina Lake in south central British Columbia (Fig. 1) is the site of several small scale, high grade, inactive gold mines. These mines produced small tonnages prior to 1940. Production was from narrow zones of sulphides hosted on and near contacts between limestone, jasper (hornfels?), and syenite/monzonite dikes.

During September and October, 1991, Pan Orvana Resources, Inc. conducted a program of geologic mapping and rock and soil geochemical sampling/analysis on the Molly Gibson property. The objective of this program was to examine the mineralization, alteration, and geologic environment on the property to determine its potential for hosting a precious metal enriched skarn, and to further define an area of known soil geochemistry anomalous in arsenic.

PROPERTY

The Molly Gibson property consists of one four-post, sixteen unit claim, the Molly Gibson 1990 claim. The claim record number is 6104; its expiry date is November 2, 1991. It is owned by Mr. Herman Hoehn of Grand Forks, B.C.

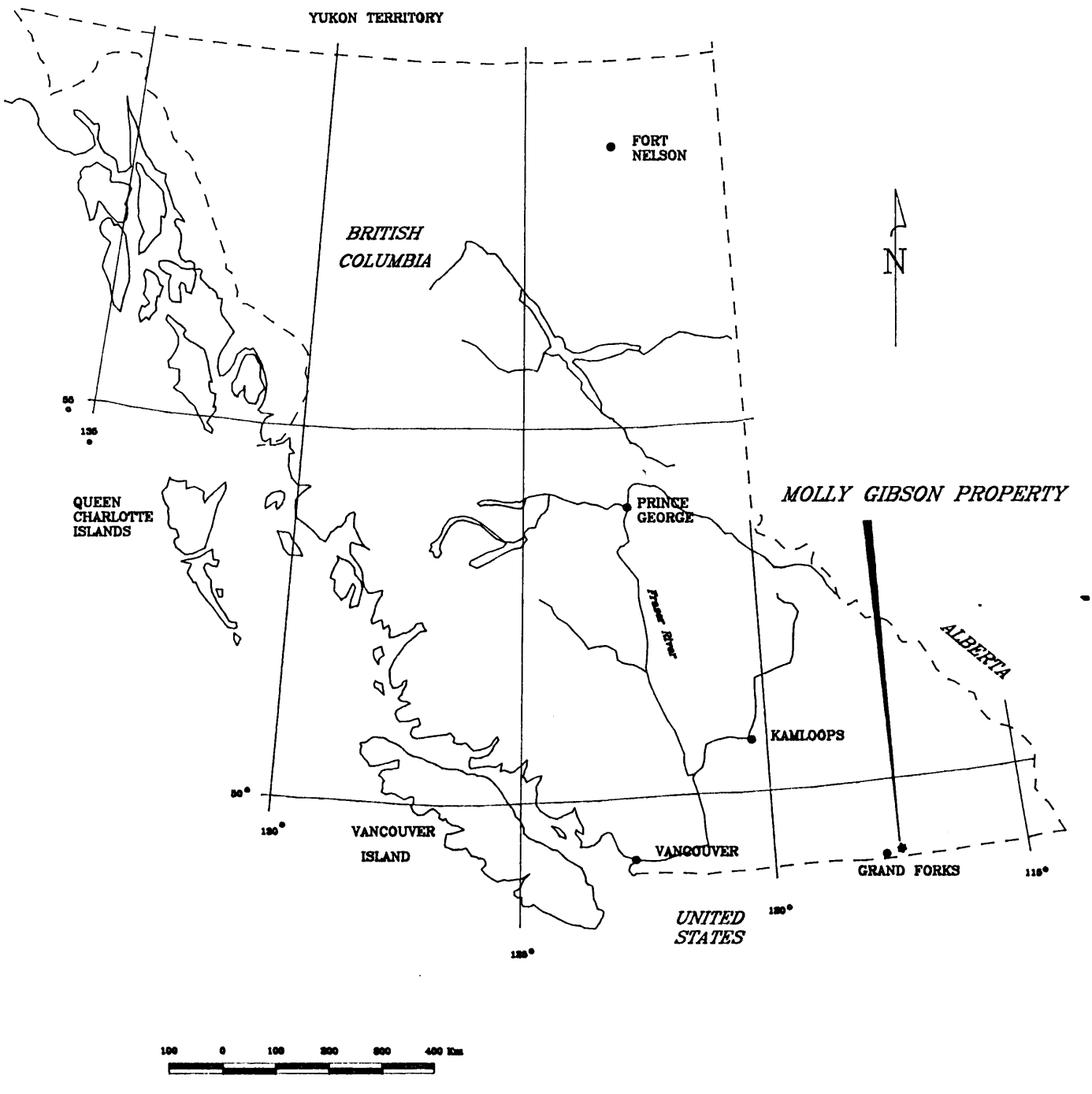
LOCATION AND ACCESS

The Molly Gibson property (Fig. 2) is located in the southeast portion of the Greenwood Mining Division of British Columbia, at Latitude $49^{o}10'$ North, Longitude $118^{o}8'$ West. It is approximately 26 km northeast of Christina Lake by road. It is reached by turning north off Highway 3 400 m southwest of the Paulson Bridge, proceeding 300 m on good gravel road, then turning west onto a primitive 4 wheel drive road and proceeding south approximately 3 km.

PHYSIOGRAPHY AND CLIMATE

The property is located in the Christina Range of mountains. Elevation on the property ranges from 3000 ft to in excess of 5000 ft. The northern part of the property covers moderate to steep timbered slopes. The southern and eastern part covers steep, rugged slopes that are sparsely timbered and are mostly exposed bluffs, bedrock and scree slopes. Several perennial water sources either traverse or flank the property. Mollie Creek drains the northern part of the property; it flows into Josh Creek which flows southwest past the west side of the property. McRae Creek flows along the eastern and southern flanks of the property.

The climate is moderate. Precipitation is typically low during the summer months and moderate throughout the rest of the year. Snowfall occurs from late October into April. Temperature range is approximately -20^{o} to 35^{o} C.



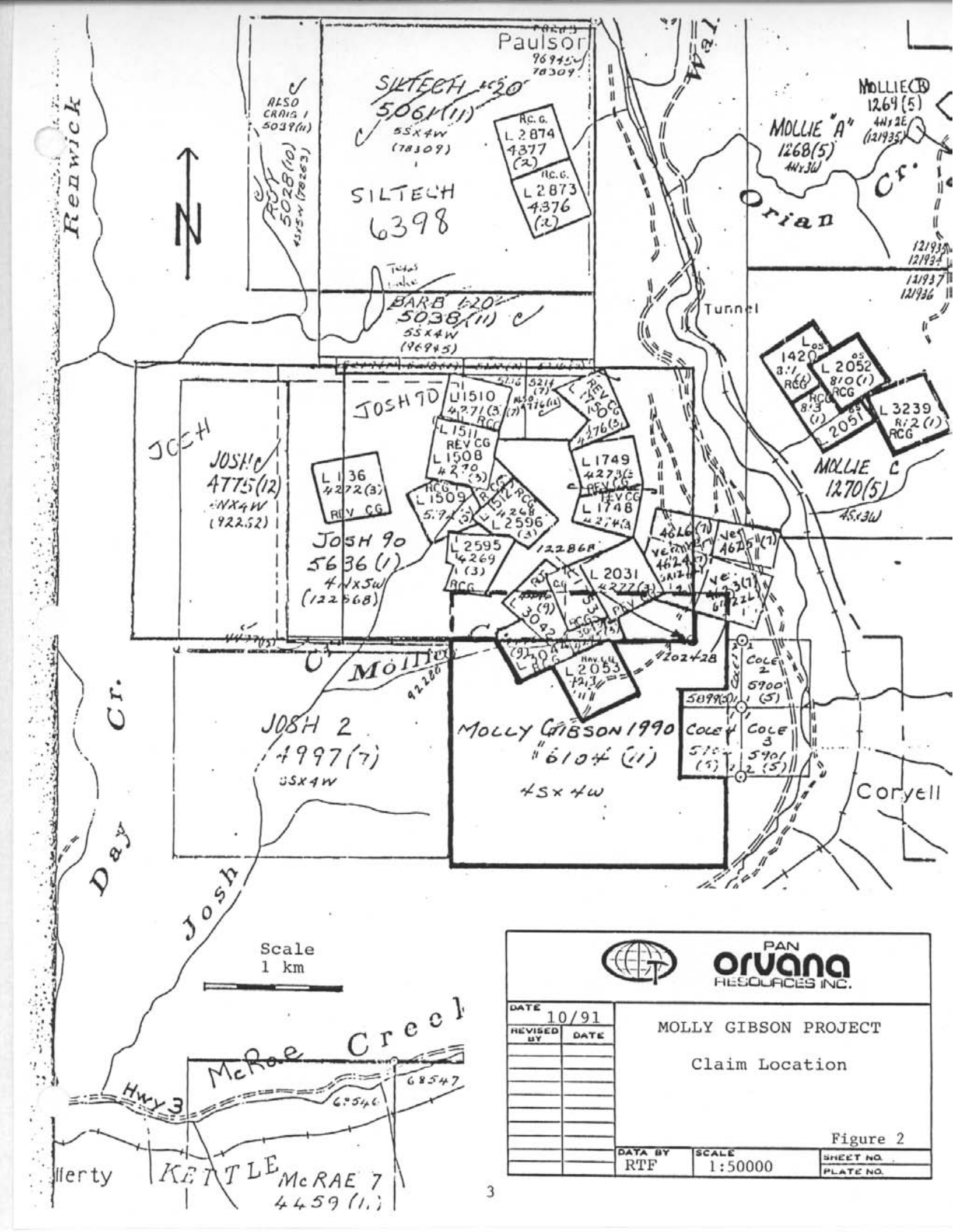
orvana RESOURCES

Figure 1

LOCATION MAP

OK SYNDICATE
Northeastern Washington and southern British Columbia

Oct. 91


Renwick
Paulsor
SILTECH 4C20
5061(11)
55X4W
(78309)
SILTECH
6398
ALSO CRAIG 1
5039(11)
ROY
5028(10)
45X5W (78263)
BARB 1-20
5038(11)
55X4W
(96945)
Orian Cr.
MOLLIE "A"
1268(5)
4WX3W
MOLLIE B
1269(5)
4W12E
(121935)
Tunnel
MOLLIE C
1270(5)
45X3W
JOSH 90
JOSH
4775(12)
4NX4W
(92252)
JOSH 90
5636(1)
4NX5W
(122868)
JOSH 2
4997(7)
55X4W
MOLLY GIBSON 1990
"610" (11)
45X4W
Molly Cr.
Day Cr.
Josh
Coryell
McRae Creek
Hwy 3
KETTLE
McRAE 7
4459(1)
Scale
1 km
PAN
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RESOURCES INC.
DATE 10/91
REVISED BY
DATE
MOLLY GIBSON PROJECT
Claim Location
Figure 2
DATA BY RTF
SCALE 1:50000
SHEET NO.
PLATE NO.

PREVIOUS WORK

Work on the Molly Gibson property dates back to the turn of the century. Exploration and mining were sporadic. Ore was shipped from the property in 1909, 1920, 1933, 1936, and 1939, totalling 310 tons, which contained 331 ounces of gold and 140 ounces of silver. Development consists of a 75 ft deep inclined shaft that joins a 260 ft long crosscut, several short adits, small open cuts, and numerous prospect pits.

Exploration within the past twenty years includes a VLF-EM survey and limited mining organized in 1974 by Herman Hoehn and Stan Ruzika, both prospectors from Grand Forks. In 1983 a short geologic mapping and sampling program was conducted by M. Fox, a geologist from Calgary, Alberta. In 1987 and 1988 an extensive program including soil geochemistry, geologic mapping, VLF-EM, magnetic, and induced polarization surveys was conducted under the supervision of Lawrence Sookochoff, P. Eng., of Vancouver, for Mollie Gibson Mines, Inc. A diamond drilling program was conducted subsequently; no report of this program has been located. Drill collars and core have been located at four sites near the top of the old surface and underground workings.

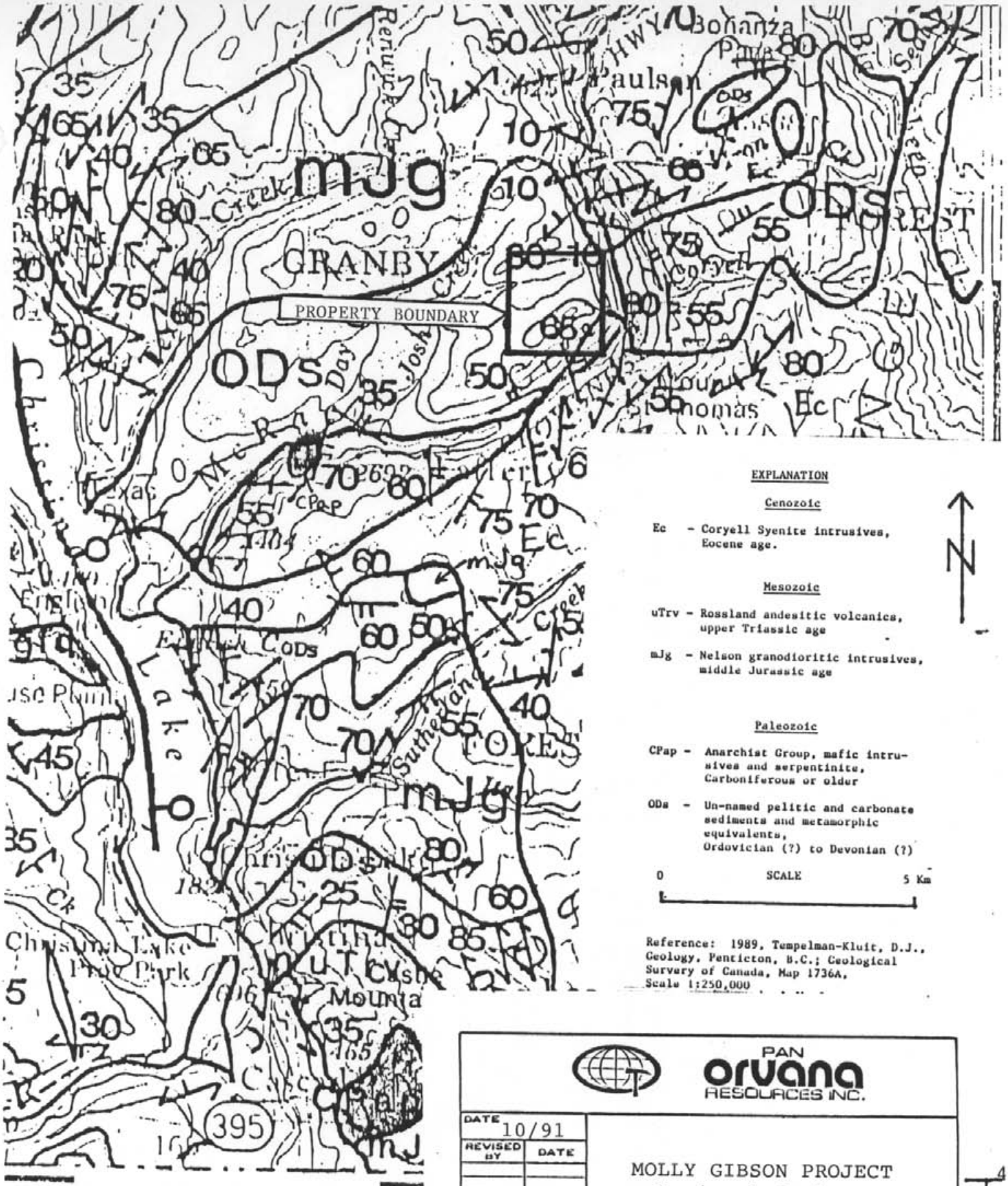
GEOLOGY

Regional Geology

West of Christina Lake is a large area of gneiss and pegmatite -- the Proterozoic Grand Forks Gneiss. East of Christina Lake are limestone, shale and their metamorphic equivalents that are variously mapped as Ordovician(?) to Devonian(?) age or Pennsylvania(?) to Permian(?) age (Mt. Roberts Formation), peridotite and serpentinite of the Anarchist Group (Carboniferous or earlier Paleozoic) and Rossland Group greenstone (upper Triassic/later Jurassic). Intruding these rocks are quartz diorite, granodiorite, and granite of the Nelson suite (middle Jurassic) and Okanogen Batholith (Cretaceous or Jurassic) and syenite and monzonite of the Coryell Syenite (Eocene)(Fig. 3).

Property Geology

Rocks mapped on the Molly Gibson property fall into two main categories: 1) interbedded limestone, siltstone, tuff, and andesitic to latitic volcaniclastic and volcanic rocks (all expressing some degree of metamorphism), and 2) intrusives ranging from massive bodies of monzonite to dikes and sills of monzonite and syenite porphyry (Fig. 4). The stratified rock occur over most of the property. Dikes, sills, and possibly small plugs or apophyses of the intrusive rocks occur in several areas within the sedimentary formation. In the southeast part of the property, massive porphyritic monzonite outcrops from Highway 3 to approximately 2/3 of the way up the hillside (elevation 4500 ft). The layered rocks are part of the Mt. Roberts Formation; the intrusives are probably part of the Coryell Syenite.



EXPLANATION

Cenozoic

Ec - Coryell Syenite intrusives, Eocene age.

Mesozoic

uTrv - Rossland andesitic volcanics, upper Triassic age

mJg - Nelson granodioritic intrusives, middle Jurassic age

Paleozoic

CPap - Anarchist Group, mafic intrusives and serpentinite, Carboniferous or older

ODs - Un-named pelitic and carbonate sediments and metamorphic equivalents, Ordovician (?) to Devonian (?)

0 SCALE 5 Km

Reference: 1989, Tempelman-Kluit, D.J., Geology, Penticton, B.C.; Geological Survey of Canada, Map 1736A, Scale 1:250,000

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DATE	10/91	
REVISED BY	DATE	

MOLLY GIBSON PROJECT
Regional Geology

Figure 3

DATA BY	SCALE	SHEET NO.
	1:100000	PLATE NO.

49° 0
118° 00'

Lithologies within the sedimentary/volcanic package include the following: 1) limestone - thin to thick-bedded, light to dark grey in color, varies from fairly massive and clean to laminated and gritty/tuffaceous, re-crystallized from
fine to medium-grained, 2) siltstone - thin to medium-bedded, tan, dark brown, light to dark grey (argillaceous) color, probably tuffaceous, extensively altered to hornfels, 3) tuff - thin to medium bedded, pale grey color, fine-grained, dense and siliceous (hornfels/silicified), 4) volcanics - dull greenish to brown, fine-grained, conformable to bedding, some vessicular (probably representing flows although sills are probably also present), some clastic texture with lapill-size fragments compositionally similar to the matrix, commonly biotitic.

Intrusive lithologies include fine to coarse-grained monzonite and syenite. The syenite occurs as porphyritic/aphanitic dikes or sills within the Mt. Roberts Formation. The monzonite includes a massive medium to coarse-grained porrphyritic/phaneritic, biotite-rich (up to 25% of mode) phase constituting the northern edge of a large pluton of Coryell Syenite that lies mostly south of McRae Creek. Small bodies of medium-grained, equigranular to porphyritic/phaneritic monzonite intrude the Mt. Roberts Formation. These intrusions may be small plugs or simply large sills/dikes. Additionally, sills of a fine-grained biotite porphyry (monzonitic to syenitic composition) are very common within the Mt. Roberts Formation.

Stratigraphy of the sedimentary/volcanic package generally strikes northwest and dips east. Local variations are common, especially within thinly bedded carbonate units where very ductile deformation is evinced by strongly contorted bedding. Fine-grained biotite (macroscopic) is developed in the clastic and volcanic units in the area directly south and west of the old workings. The biotite imparts a distinct schistocity which generally strikes northeast and dips vertically (crosscutting stratigraphy). These schistose zones are only 5-20m wide in the area south of the workings, along the ridge crest; they appear to grade into hornfels or volcanic units lacking directional fabric. West of the workings, down the ridge top, the biotite becomes coarser-grained, the schistocity more distinct and some amphibotite occurs.

Alteration and Mineralization

Alteration on the Molly Gibson property is probably most prominently displayed in the hornfels. The siltstone protolith is altered to a dense, siliceous assemblage that probably includes microcrystalline quartz, biotite, potassium feldspar, and diopside. Original compositional banding is well preserved in the hornfels. Additionally, crosscutting selvages of probable potassium feldspar and diopside replacing biotite hornfels represents a prograde metasomatic alteration assemblage.

Small areas of garnet-diopside skarn are found within carbonate beds near intrusive contacts. This skarn was not observed to demonstrate crosscutting relations with any other rock.

EXPLANATION

- Prospect pit
- Adit
- Shaft
- Outcrop
- Geologic contact
- Primative road
- Strike and dip of bedding
- Strike and dip of schistocity (vertical dip)

SCALE

500 m

Contour Interval = 100 feet

GEOLOGIC UNITS

Coryell - Eocene

Mz - Monzonite, commonly porphyritic, medium to coarse-grained, 10-20% biotite.

Sy - Syenite, porphyritic//aphanitic, dikes and sills.

Mount Roberts Fm - Pennsylvanian or Permian (?)

Sd - Marble, gritty limestone, tuff, hornfels, andesitic flows and sills, mostly thin-bedded but some thick-bedded.

bh - Biotite hornfels, thin-bedded, frequently interbedded with pyroxene or other hornfels, tuff, or marble.

bs - Biotite schist, very fine-grained, occurs in zones commonly only 5-20m wide, grades into hornfels or metavolcanics. Schistocity crosscuts stratigraphy.

mv - Metavolcanics, andesitic, some clastic texture, some subvolcanic/intrusive porphyritic texture.

sk - Skarn, includes fine- to medium-grained garnet, pyroxene, calcite; occurs in carbonate beds proximal to monzonite contacts.

Robert F. Friedrich

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MOLLY GIBSON PROJECT
Outcrop Geology

Figure 4

DATA BY	SCALE	SHEET NO.
R.T.F.	1:10000	PLATE NO.

Molly Gibson 1990 Claim Boundary

Josh Creek

Mollie Creek

4000

5000

3000

Hwy 3

McRae Creek

Historic production from the Molly Gibson was from massive to stringer zones of pyrite and pyrrhotite that occur along and near a contact between limestone and hornfels (possibly very fine-grained skarn). Porphyritic/aphanitic syenite dikes are present at the collars of several workings; their significance in ore localization is unknown, but seems likely. Sulphides on the dumps occur as stringers and bands of disseminated grains, principally in hornfels. These sulphides include pyrrhotite > pyrite >> chalcopyrite. The pyrrhotite is moderately magnetic. Greyish-white vein quartz occurs with some of the sulphides.

Disseminated pyrite and pyrrhotite are common in hornfels, tuff, and metavolcanics in other parts of the property, typically in only trace amounts. Volcanic beds host poddy, more massive pyrrhotite zones as well as disseminated sulphide. These more massive zones are only 1-5 m^2 in exposure, and are located in the southeastern portion of the property.

GEOCHEMISTRY

Rock Samples

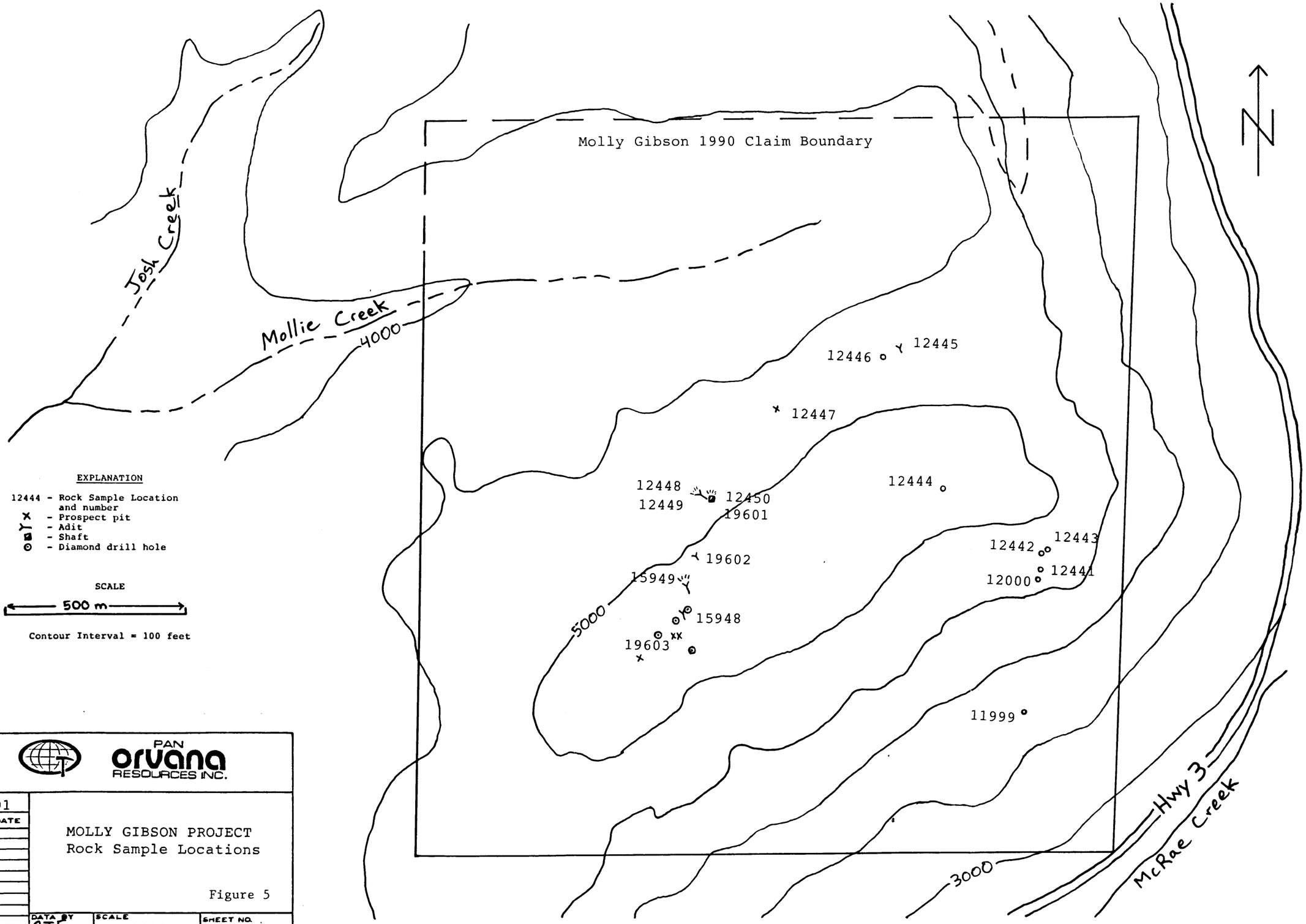
A total of 17 rock samples were collected for analysis. The samples include dump samples from the Molly Gibson workings and outcrop chip samples from various locations on the property (Fig. 5). Lithologies sampled include hornfels, limestone/marble, biotite porphyry/metavolcanic, biotite schist, and massive pyrrhotite and pyrite. Field observations were recorded in sample notebooks (Appendix 1).

The samples were analyzed at Silver Valley Laboratories, Kellogg, Idaho, for Au, Ag, Pb, Zn, Cu, As, Co, Bi, Te, Ni. Sample preparation was accomplished by first crushing the sample to 1/8 inch, then rolling to -10 mesh, splitting the sample and pulverizing to -140 mesh. For Au and Ag, a 30 gram aliquot was ignited using standard fire assay procedure. At the cupelation stage the bead was dissolved in aqua regia and the resulting solution analyzed by flame atomic absorption. The remaining elements were determined by digesting (incompletely) a 1 gram aliquot in aqua regia and then analyzing the solution by ICP emission spectroscopy.

Detection limits for elements using the above listed techniques are as follows:

Element	Lower Limit	Upper Limit
Au	<5 ppb	None
Ag	<0.1 ppm	>25 ppm
Pb,As,Ni	<5 ppm	>25000 ppm
Zn,Cu	<1 ppm	>10000 ppm
Co	<1 ppm	>50000 ppm
Bi	<2 ppm	>10000 ppm
Te	<5 ppm	None

Copies of the analytical results are presented in Appendix 3.



EXPLANATION

12444 - Rock Sample Location and number
X - Prospect pit
Y - Adit
■ - Shaft
⊙ - Diamond drill hole

SCALE

500 m

Contour Interval = 100 feet

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DATE 10/91	
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MOLLY GIBSON PROJECT
Rock Sample Locations

Figure 5

DATA BY	SCALE	SHEET NO.
R.T.F.	1:10000	PLATE NO.

Soil Samples

A total of 112 soil samples were collected over 5320 m of grid lines. The grid consists of a N-S base line, and E-W crosslines spaced 100 m apart. Soil samples were collected at 40 m intervals along the cross lines. The grid was located partly over an area of anomalous As soil geochemistry that had been defined by earlier operators. The present survey was facilitated by the use of a portion of the old, pre-existing grid which was easy to re-establish. This grid was extended to the south an additional 300 m. The objective of the soil geochemistry program was to provide values of gold in soil (not included in element suite in former programs), to enhance spatial definition of zones anomalous in other elements, and to extend the survey over the previously unsampled but prospective area to the south.

The soil samples were collected from the B horizon of the soil profile, typically 15-50 cm in depth. The soils are in general, spodosols, and B horizon development is relatively apparant, based on accumulation of orange iron oxides. The samples were assigned grid coordinate numbers to record their locations. Field observations made at each sample site and recorded in note form are included in Appendix 2.

Soil samples were shipped to Acme Analytical Laboratories, Vancouver, B.C., for preparation and analysis. The samples were prepared by drying and sieving to -80 mesh. Gold was determined using a 10 gram sample aliquot, ignited at 600° Celcius, digested with hot aqua regia, extracted using MIBK and determined by graphite furnace atomic absorption. The published detection limit is 0.3 ppb.

The elements Mo, Cu, Pb, An, Ag, Ni, Co, Mn, Fe, As, U, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K and W were determined simultaneously by ICP emission spectroscopy from a 0.5 gram sample aliquot digested with 3 ml of 3-2-1 HCL-HNO^3-H_2O at 95° Celsius for one hour, then diluted to 10cc with H_2O.

Detection limits for the ICP analysis are:

Ag	0.1 ppm
Cd, Co, Cr, Cu, Mo, Mn, Ni, Sr, Zn, W	1 ppm
As, B, Ba, Bi, La, Pb, Sb, Th, V	2 ppm
U	5 ppm
Al, Ca, Fe, K, Mg, Na, Ti	0.01%
P	0.001%

Copies of the analytical results are presented in Appendix 4.

RESULTS

Gold values in rock samples ranged <5-32490 ppb. Values of 4995, 5094, 20079, and 32490 ppb Au were obtained from sulphide-rich dump samples collected at the main Molly Gibson workings. Moderately anomalous trace element geochemistry includes (high values) Cu 1241 ppm, As 140 ppm, Co 66 ppm, Bi 132 ppm. Significant trace element values in rock samples

Molly Gibson 1990 Claim Boundary

N

Pan Orvana Resources Inc.
MOLLY GIBSON PROJECT.
Soil Geochemistry.
Gold in ppb.
RTF October, 1991.
(1:10,000)

SCALE 1 cm. = 100 meters

Figure 6

Molly Gibson 1990 Claim Boundary

22 25 35 26 31 22 43 46 37 46 40 77 37 42
26 38 41 34 44 32 40 30 59 44 42 33 50
36 29 39 24 37 33 32 26 20 13 19 27 18 27
31 49 29 21 25 21 18 10 16 11 23 18 16
35 26 29 21 115 24 39 21 44 20 23
19 23 26 31 21 25 21 22 21 23 27 38 42 32 26
46 23 23 19 32 25 33 67 104 71
33 37 21 38 19 38 66 41 35
23 28 29 33 33 50 52 46 60 37 92

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MOLLY GIBSON PROJECT.
Soil Geochemistry.
Copper in ppm.
RTF October, 1991.
(1:10,000)
SCALE 1 cm. = 100 meters

Figure 7

Molly Gibson 1990 Claim Boundary

Pan Orvana Resources Inc.
MOLLY GIBSON PROJECT.
Soil Geochemistry.
Arsenic in ppm.
RTF October, 1991.
(1:10,000)
SCALE 1 cm. = 100 meters

Figure 8

rock samples have a direct relation with high Au values. In general, Au mineralization at Molly Gibson is low in base metal and trace element geochemistry.

Gold values in soil samples ranged from below the detection limit to 73.4 ppb. Of the trace elements found to be coincidentally anomalous with Au in rock samples, Cu and As present enough relief in soils to potentially be useful in delineating zones of mineralization and/or metal zonation. Plots of Au, Cu, and As values in soil are presented in Figures 6, 7, and 8 respectively.

CONCLUSIONS

The Molly Gibson property has several features that are permissive of precious metal enriched skarn formation. A sedimentary package including interbedded limestone, dirty limestone, siltstone, tuff and volcanics constitutes a receptive host rock. Common sills and dikes are also considered favorable, and a monzonitic composition reasonably favorable. Potentially extensive metasomatic alteration as evinced by wide-spread hornfels, and the occurrence of garnet/pyroxene skarn is indicative of a hydrothermal system of some size.

The geochemical program was effective in delineating a northeast trending zone of anomalous Au, As, and Cu. A vague zonation is apparent within soils in the surveyed area: As on the west, Au in middle, and Cu on the east.

RECOMMENDATIONS

Additional work on the Molly Gibson property should be focused on determining more precisely the nature of mineralization known on the property as well as further defining alteration and mineralization outside the known area of production. An exploration program designed to accomplish this should include: 1) additional surface geologic mapping on a larger scale (at least 1:5000) with attention paid to alteration features, 2) underground mapping and sampling of the known workings, 3) petrography of selected samples to determine alteration mineralogy, and 4) prospect area of anomalous soil geochemistry in greater detail.

REFERENCES

Von Einsiedel, C.A., 1989, Prospecting Report Josh Claim Group, 26 pages, Sumatra Resources, Inc.

Sookochoff, L., 1988, Geochemical Assessment Report for Mollie Gibson Mines Inc. on the Mollie Gibson Claim Group, 56 pages.

Templeman-Kluit, D.J., 1989, Geology, Penticton, B.C., Geological Survey of Canada, Map 1736A, Scale 1:250,000.

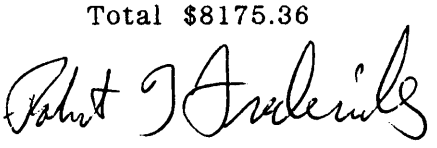
Von Einsiedel, C.A., 1987, Report on Phase I Exploration, Burnt Basin Property, Westrim Resources Inc.

Fox., M., 1983, Geological and Geochemical Report on the Molly Gibson Property.

Christopher, P.A., 1986, Geochemical, Geological, and Geophysical Report on the Burnt Basin Project, West Rim Resources, Inc.

STATEMENT OF COSTS

Field Cost	
Geologist 5 days @ $300	$1500.00
Grid installation & soil sampling (contract by Abbex Exploration)	3596.32
Compilation and Draughting	
6 days @ $250	1500.00
Geochemical Analysis and Shipping	
17 rock samples @ $17.70	300.00
112 soil samples @ $11.42	1279.04
Total	$8175.36



STATEMENT OF QUALIFICATIONS

I, Robert T. Fredericks, of Moscow, Idaho, U.S.A., certify that:

1. I am a geologist employed by Pan Orvana Resources Corporation, 710 - 1177 West Hastings Street, Vancouver, B.C. V6E 2K3, at their office located at 2005 Ironwood Parkway, Suite 222, Coeur d'Alene, Idaho 83814.

2. I am a graduate of the University of Idaho, Moscow, Idaho, and hold a B.Sc. degree in Geology.

3. I have been practicing my profession for the last four years.

4. I am registered as a Geologist in Training (GIT) with the Idaho State Board of Registration for Professional Geologists.

5. This report is based on field examinations during the period October 6-18, 1991, and on published technical data cited under references.

Robert T. Fredericks
Geologist, Pan Orvana Resources Inc.

STATEMENT OF QUALIFICATIONS

I, Ian Thomson of 1628 West 66 Avenue, Vancouver, British Columbia V6P 2S2 do hereby certify that:

1. I am a graduate (1967) of the University of London, England, with a Bachelor of Science degree in Geology and a graduate (1971) of the University of London, England, with a Doctor of Philosophy degree in Applied Geochemistry.

2. I am a registered Professional Geoscientist in the Province of British Columbia.

3. I have been continuously employed as a geologist-geochemist involved with mineral exploration for 20 years.

4. I hold the position of Chief Geologist with Pan Orvana Resources Inc.

5. The work on the Molly Gibson 1990 claim described in the report by Robert T. Fredericks and dated October 30, 1991, was carried out under by direction.

6. I am personally familiar with the area of the Molly Gibson 1990 claim having visited the property in August and September 1991.

Ian Thomson

APPENDIX 1

Rock Sample Field Descriptions

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 11999 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Traverse from hwy up hill on S side of mtn, el. 3700 ft

KIND OF SAMPLE float

DESCRIPTION Hornfels or siltstone? Dense med. grey-brown, glassy & granular. 5-10% disseminated fg. po, possibly sp? Also tr py on fx. Stg. FeOx stain (dk org/brn). Fairly common possible disseminated fg. brn garnet

Au	Ag
14ppb	0.3ppm

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 12000 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION 4610 ft. el. on S Molly G hillside traverse up from hwy

KIND OF SAMPLE grab over 15' horiz

DESCRIPTION Skarn. From contact zone, weakly banded. Includes red. brn garnet, calcite, pyroxene, wollastonite (or tremolite) & quartz. Pyx ± 20%, gt ± 10%. No sulphides.

Au	Ag
5ppb	0.2ppm

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 12441 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION 4690 ft el. on traverse from hwy up to S side Molly G

KIND OF SAMPLE 20' chip

DESCRIPTION Marble. Pale grey. Varies from c.g. to f.g. Minor gt skarn. Foliation @ 030°, 90°.

Au	Ag
10ppb	0.2ppm

ORVANA

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2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 12442 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION 4790 ft el on traverse up S Molly G hillside

KIND OF SAMPLE grab

DESCRIPTION Hornfels & siltstone. Grey to pale green, dense. Tr disseminated pyrrhotite. Mod. FeOx stain

Au	Ag
20	0.2

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 12443 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION 100 ft east of #442, on E side of small draw.

KIND OF SAMPLE grab over 30'

DESCRIPTION fine-grained med grey rock. Contains 2% biotite clots 1-2mm wide, 10% disseminated f.g. brown flaky shiny stuff (biotite) 5% disseminated po. Some finer-grained versions. Aphanitic groundmass. Stg FeOx stain on surfaces. ≈ 30 ft wide.

Au	Ag
24	0.2

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/6/91

№ 12444 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION S side of Molly ridge, 5300 ft elevation, ≈ 4740N, 5325E

KIND OF SAMPLE grab over 4' x 8'

DESCRIPTION Andesitic Volcanics. Hornfelsed, fairly strongly fractured & altered. 1-15% disseminated f.g. pyrrhotite. Very strong dk org/brn FeOx on all surfaces. Taken across 12 ft wide zone @ 010°, 40° NW.

Au	Ag
13	0.3

ORVANA

Orvana Resources Corp.
2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 667-6000

DATE 10/8/91

№ 12445 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Caved adit on rd up to Molly Gibson workings 5160N, 5140E,

KIND OF SAMPLE 5 ft horiz chip

DESCRIPTION Limestone. Met- dk grey; minor tan and pale siliceous tuffaceous beds 0.5-2cm thick. Thinly bedded (330° 30° SW). Some limestone is dolomitic, some tuffaceous. Includes 4in shear @ 360°, 75°W.

Au	Ag
<5ppb	0.1ppm

ORVANA

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2005 Ironwood Parkway
Coeur d'Alene, Idaho 83814
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DATE 10/8/91

№ 12446 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION 50m from #445 on az 250°, Molly Gibson access rd.

KIND OF SAMPLE 7 ft horiz chip

DESCRIPTION Altered biotite porphyry dike. DK purple-brown to grey, w/ biotite phenos 2mm diam. Some pale greenish grey alteration selvages on fx (1-6mm thru). Tr ~~py~~ po near/on fx. Stg FeOx stain on surfaces.

Au	Ag
8ppb	0.1ppm

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DATE 10/8/91

№ 12447 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Small cut in bank, Molly G. access rd, old grid 800S, 300W, ~~from~~ w/ roadcut

KIND OF SAMPLE grab, 10 ft

DESCRIPTION Hornfels, - both volcanic & sedimentary looking protoliths. Rock is dk brown to lt-med. grey. Minor dk mafic streaks - biotite? T-2% py as stringers (fx fillings) + dots. Stg FeOx on surfaces. Old 7/8" drill collar @ site.

Au	Ag
11	0.2

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LOCATION Adit dump 60m from 2nd elbow on access rd, on az 035° (Purcell?)

KIND OF SAMPLE dump character

DESCRIPTION Altered schist? Highly silicified pale grey & tan banded phyllitic rock. 25% vein qtz. (dull creamy color) 20% po as dissem in phyllite & stringers in qtz, 1% cpy as stringers in qtz. Mod. magnetic.

Au	Ag	Cu	Bi
20079	4.0	1241ppm	101ppm

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LOCATION same as #448

KIND OF SAMPLE dump character

DESCRIPTION Hornfels. Some has phyllitic fabric. Color is brown to pale greenish grey, often mottled. Excellent cross-cutting + bedding parallel replacement of biotite by diopside + possibly K-spar. Tr-5% po (dissem + stringers) tr py, tr cpy.

Au	Ag
83	0.3

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№ 12450 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Shaft uphill from adit sampled #12449 ± 40m on az 115° (Purcell shaft)

KIND OF SAMPLE dump character

DESCRIPTION Hornfels. Banded, mostly purple-brown biotite, some pale grey + green. 10-20% dissem. po (Stg magnetic), tr cpy stringers. No vein qtz sampled. Mostly biotite hornfels.

Au	Ag
4995ppb	1.9ppm

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DATE 6/13/91

№ 15948 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Twin adits below crest, near pile of core

KIND OF SAMPLE Chip over 7' horiz.

DESCRIPTION Biotite hornfels w/ some fyx. Brown to pale green. Tr - 1% dissem + stringers of py and po. Thinly bedded, @ 345° 90°

Au	Ag
176	0.7

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DATE 6/13/91

№ 15949 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Dump from main Molly Gibson adit

KIND OF SAMPLE dump char.

DESCRIPTION Biotite hornfels w/ quartz vein material (± 15%) and pyrrhotite + tr cpy. Po strongest in the qtz, although the hornfels has some blebs // bedding.

Au	Ag
32490 ppb	6.1 ppm

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№ 19601 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Purcell shaft dump, same as #12450, 40m on az 115° from Purcell adit

KIND OF SAMPLE dump character

DESCRIPTION Hornfels + vein qtz. 30% white vein qtz in banded biotite (purple-brn) >> pyroxene (pale greenish grey) hornfels. Massive po replacement of hornfels next to vein (15%) also X-cutting. Tr cpy.

Au	Ag
5094 ppb = 0.148 oz/t	2.0 ppm

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№ 19602 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Old powder mag? Adit w/ door, 60m up rd from 2nd elbow 60m below main adit.

KIND OF SAMPLE 8' horiz chip

DESCRIPTION Hornfels + gouge. Taken across span between andesitic feldspar porphyry dike, and shear 3 ft wide @ 030°, 90°. Mostly grey hornfels, also some mottled brown + green - possibly hornfelsed volcanic. Tr - 3% stringers of po. Wk magnetic.

Au	Ag
64	0.6

ORVANA

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DATE 10/8/91

№ 19603 SAMPLED BY RTF

OWNER OR CLAIM Molly Gibson

LOCATION Western of 2 old shaft dumps 30m W of access rd, 120m up from main adit.

KIND OF SAMPLE dump character

DESCRIPTION Hornfels. Banded to mottled, biotite > diopside = K-spar. Nice selvages of diopside surrounded by pale pinkish grey K-spar, all replacing biotite hornfels. Tr - 1% dissem + stringers of po. Wk magnetic

Au	Ag
69 ppb	0.2 ppm

APPENDIX 2

Soil Sample Field Descriptions

SOIL

VENTURE NUMBER | SUBGRID OR TRAVERSE | SAMPLED: DAY | MONTH | YEAR | BY | ASSTD. BY | E R | N T S | SHEET No. | of

I D E N

COMPANY | PROPERTY | A N D | S U B | P R O J E C T

I P R J

AZIMUTH OF +VE EAST OF | UTM COORDINATES OF GRID ORIGIN: NORTHING | EASTING | ELEVATION

S G R I D

SAMPLE NUMBER	X COORDINATE	Y COORDINATE	ELEVATION	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS	FACTORS AFFECTING CONDITIONS	DRAINAGE STATUS	PARENT MATERIAL	% RESIDUAL	SLOPE	SLOPE DIRECTION	ROCK TYPE
	4600 N	5000 E		SS				EX	TL		36	156	LM
		5040 E		SS				EX	TL		40	160	LM
	4960 E	4960		RC				EX	TL		0	0	LM
		4920		SS				FR	TL		20	315	
		4880		SS				IM	TL		28	305	
		4840		SS				FR	TL		35	330	
		4800		SS				FR	TL		35	320	
		4760		SS				FR	TL		28	310	
		4720		SS				IM	TL		28	330	
	4500 N	5000 E		SS	BO			EX	TL		45	125	LM
		5040		SS	BO			EX	TL		40	139	
		5080		SS	BO			EX	TL		40	100	
		5120		SS	BO			EX	TL		50	150	VOL
	4960	4960		SS	BO			EX	TL		46	145	
		4920		SS	BO	SL.DE		EX	TL		46	170	VOL
		4880		RC				EX	TL		0		LM
		4840		SS	BO			EX	TL		20	330	
		4800		SS				FR	TL		26	320	
		4760		SS	BO			FR	TL		26	348	
		4720		SS	BO	MI		FR	TL		20	[illegible]	VOL

VEGETATION TYPE	TYPE	TYPE	COATING	COATING	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANIC	MAX. PART. SIZE	% PARTICLES	ROUNDNESS	SHAPE	SORTING
			+	-	15 CM	BC	A 7 5	25	25	30	8	22					
				-	20 CM	BC	A 7 5	25	25	30	8	20					
				-	15 CM	BC	A 7 T	40	30	20	2	8					
				-	40 CM	BC	T 6 V	30	30	30	8	2					
				-	45 CM	B	U 6 0	30	40	20	8	2					
					50 CM	B	U 6 0	30	40	20	8	2					
					50 CM	B	U 6 0	40	30	20	8	2					
					50 CM	B	U 6 0	40	30	20	8	2					
					50 CM	B2	O 5 5	20	30	40	7	8					
			+	+	25 CM	B1	A 5 5	30	30	20	5	15					
			+	+	30 CM	B1	A 6 5	40	40	25	2	13					
			+	-	30 CM	B1	T 6 5	15	45	25	10	5					
			+		20	BC	O 5 5	15	20	40	20	10					
			+		20	BC	U 7 6	37	30	30	5	5					
					25	BC	U 7 5	30	30	30	5	5					
				FE	45	BC	U 7 6	35	40	15	5	5					
				-	40	B1	U 6 5	35	30	25	8	2					
				-	35	B	O 6 U	40	25	30	3	7					
				-	35	B	U 6 5	25	30	30	7	3					
				-	35	B	U 6 0	40	30	20	7	3					

SOIL | VENTURE NUMBER | SUBGRID OR TRAVERSE | SAMPLED: DAY | MONTH | YEAR | BY | ASSTD. BY | SHEET No. | of

IDEN | COMPANY | PROPERTY | ER | NTS | AND SUE PROJECT

IPRJ

SGRID | AZIMUTH OF +VE EAST OF | UTM COORDINATES OF GRID ORIGIN: NORTHING | EASTING | ELEVATION

SAMPLE NUMBER	X COORDINATE	Y COORDINATE	ELEVATION	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS	FACTORS AFFECTING CONDITIONS	DRAINAGE STATUS	PARENT MATERIAL	% RESIDUAL	SLOPE	SLOPE DIRECTION	ROCK TYPE	VEGETATION TYPE	VEGETATION TYPE	VEGETATION TYPE	COATING	COATING	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANIC	MAX. PART. SIZE	% PARTICLES	ROUNDNESS	SHAPE	SORTING
	5280N	5560E																													
	4980N	5000E		SS				FRTL			26°	340°						FE	30	CM	B	US	T	30	35	35	9	1					
		5040		SS				FRTL			27°	341°						FE	30	CM	B	U	6	30	25	35	9	1					
		5080		SS				FRTL			29°	342°						—	25	CM	B	U	6	30	20	40	9	1					
		5120		SS				FRTL			20°	350						FE	30	CM	B	U	6	30	30	30	9	1					
		5160		SS				FRTL			21°	344°						FE	40	CM	B	U	4	35	30	30	4	1					
		5200		SS				FRTL			15°	341°						FE	30	CM	B	U	6	30	30	30	9	1					
		5240		SS				FRTL			18°	25°						FE	30	CM	B	U	6	35	30	25	8	2					
		5280		SS				FRTL			22°	345°						FE	30	CM	B	T	6	30	25	35	9	1					
		5320		SS				FRTL			28°	12°						—	30	CM	B	U	6	30	25	35	9	1					
		5360		SS				FRTL			13°	350°						FE	30	CM	B	T	6	35	35	20	9	1					
		5400		SS				FRTL			13°	347°						FE	25	CM	B	U	6	30	25	35	9	1					
		5440		SS				FRTL			11°	351°						FE	25	CM	B	T	6	30	25	35	9	1					
		5480		TR				FRTL			10°	700						FE	30	CM	B	T	6	30	30	30	9	1					
	4860N	5120E		SS				FRTL			28°	71°						FE	35	CM	B	US		30	25	35	9	1					
		5160		SS	B	0		FRTL			37°	20°						FE	35	CM	B	US		25	25	30	19	1					
		5200		SS	B	0		EXTL			39°	19°						FE	30	CM	B	U	7	25	25	30	19	1					
		5240		SS				FRTL			37°	333°						FE	25	CM	B	T	6	30	25	35	9	1					
		5280		SS				FRTL			21	351°						FE	30	CM	B	T	7	30	30	30	9	1					
		5320		SS	B	0		EXTL			28°	45°						FE	30	CM	B	T	7	30	25	35	8	2					
		5360		SS	B	0		EXTL			29°	356°						FE	20	CM	B	T	6	35	30	30	3	7					
		5400		SS				FRTL			31°	60°						FE	30	CM	B	T	6	25	25	30	20	1					
	4780N	5120E		SS				FRTL			7°	90°						FE	20	CM	B	U	6	30	30	35	4	1					
		5080		SS				FRTL			18°	330°						FE	30	CM	B	T	6	30	30	30	9	1					
		5040		SS				FRTL			39°	290°						FE	30	CM	B	U	7	35	35	25	4	1					
		5000		SS				FRTL			35°	310°						FE	20	CM	B	T	6	30	30	30	9	1					
		5280																															

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

SOIL

VENTURE NUMBER	SUBGRID OR TRAVERSE	SAMPLED DAY	MONTH	YEAR	BY	ASSTD. BY	E R	N T S	SHEET No.	of

IDEN

COMPANY

PROPERTY AND SUB PROJECT

IPRJ

SGRID

AZIMUTH OF +VE EAST OF

UTM COORDINATES OF GRID ORIGIN

NORTHING

EASTING

ELEVATION

SAMPLE NUMBER	X COORDINATE	Y COORDINATE	ELEVATION	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS	FACTORS AFFECTING CONDITIONS	DRAINAGE STATUS	PARENT MATERIAL	%R.SIDUAL	SLOPE	SLOPE DIRECTION	ROCK TYPE	VEGETATION TYPE	VEGETATION TYPE	VEGETATION TYPE	COATING	COATING	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANIC	MAX. PART. SIZE	% PARTICLES	ROUNDNESS	SHAPE	SORTING
1 2 3 4 5 6	7 8 9 10 11	12 13 14 15 16	17 18 19 20	21 22	23 24	25 26	27 28	29 30	31 32	33	34 35	36 37 38	39 40	53 54	55 56	57 58	59 60	61 62	63 64 65	66 67	68 69 70	71 72	73 74	75	76	77	78	79	80
	4780N	4960E	-	SS				FR	TL		27°	318°						FE	30 C	MB	U6A	30	25	35	9	1					
		4920E	-	SS				FR	TL		29°	273°						FE	30 C	MB	U5A	35	25	35	4	1					
		4880E	-	SS				FR	TL		21°	331°						FE	30 C	MB	U6T	30	25	35	9	1					
		4840E	-	SS				FR	TL		26°	334°						FE	30 C	MB	U7T	30	25	35	9	1					
	4780N	5160E	-	SS	RB			FR	TL		4°	288°						FE	30 C	MB	T6A	35	30	25	9	1					
		5200	-	SS				FR	TL		36°	311°						FE	30 C	MB	U6A	40	25	25	9	1					
		5240	-	SS				FR	TL		25°	98°						FE	35 C	MB	U6A	30	25	35	9	1					
		5280	-	RC				FR	TL		4°	5°						FE	35 C	MB	U6B	35	35	25	4	1					
		5320	-	SS	BO			FR	TL		20°	11°						FE	35 C	MB	U7T	30	30	30	8	2					
		5360	-	RC				FR	TL		2°	6°						FE	30 C	MB	U7A	35	30	25	9	1					
		5400	-	RC				FR	TL		2°	15°						FE	30 C	MB	U6A	25	20	35	19	1					
	4700N	5160E	-	SS	BO			EX	TL		53	169°						FE	10 C	M XP	T6A	30	25	35	9	2					
	4700N	5120E	-	SS	BO			EX	TL		47°	125°						FE	10 C	M XP	U6A	25	20	35	17	3					
		5080	-	RC				FR	TL		5°	98°						FE	35 C	MB	U5A	25	20	40	14	1					
		5040	-	SS				FR	TL		28°	332°						FE	30 C	MB	T7A	30	25	35	9	1					
		5000	-	SS	BO			FR	TL		33°	306°						FE	30 C	MB	U7A	30	30	30	9	1					
		4960	-	SS				FR	TL		38°	333°						FE	30 C	MB	U6A	35	35	25	4	1					
		4920	-	SS				FR	TL		36°	337°						FE	35 C	MB	U7T	35	30	25	9	1					
		4880	-	SS				FR	TL		34°	335°						FE	30 C	MB	U7T	30	25	35	9	1					
		4840	-	SS				FR	TL		30°	318°						FE	30 C	MB	U5A	35	25	30	9	1					
		4800	-	SS				FR	TL		19°	321°						FE	30 C	MB	T6A	30	30	35	4	1					

VENTURE NAME | SAMPLED: DAY | MONTH | YEAR | BY | ASSTD. BY | WEATHER | N. T. S. | SHEET No. of

ANY PROPERTY OR PROJECT AND SUB PROJECT

AZIMUTH OF +VE EAST OF GRID TRUE NORTH 000

UTM CO-ORDINATES OF GRID ORIGIN: NORTHING | EASTING | ELEVATION

	NORTH CO-ORDINATE	EAST CO-ORDINATE	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS
1	510ON	500DE	SS	RB	—
		5040E	SS	—	—
		5080E	SS	—	—
	5080N	5120E	SS	—	—
5		5160E	SS	—	—
		5200E	SS	—	—
		5240E	SS		
		5280E	SS	RO	BR
		5320E	SS	—	—
10		5360E	TP	—	—
		5400E	SS	—	—
		5440E	SS	—	—
		5480E	RC	RO	DE
		5520E	SS	MN	—
15		TO STAGE 0			

	SITE DRAINAGE	VEGETATION	SLOPE	SLOPE DIRECTION	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANICS	MAX. PART. SIZE	% PARTICLES	COATINGS	COATINGS	ROCK FRAGMENTS TYPE 1	ROCK FRAGMENTS TYPE 2	ROCK FRAGMENTS TYPE 3	PARENT MATERIAL	% RESIDUAL
1	FR		30°	40°	25cm	BL	8UA	29	29	30	A	3								TL	
	FR		34°	28°	25cm	B	7UB	31	31	31	B	4			FE					TL	
	FR		35°	40°	25cm	B	7UB	29	30	31	B	2								TL	
	FR		28°	23°	25cm	B	6UO	31	31	33	B	1			FE					TL	
5	FR		30°	40°	30cm	B	7UB	28	30	32	B	2								TL	
	FR		30°	30°	55cm	B	7UB	30	31	31	B	2								TL	
	FR		28°	30°	25cm	B	7UB	29	30	31	B	3								TL	
	FR		36°	40°	20cm	B	7UB	29	30	31	B	3								TF	
	FR		18°	40°	30cm	B	7UB	31	31	38	B	1								TL	
10	FR		0°	—	30cm	B	8UO	31	31	31	B	2								TL	
	FR		28°	30°	35cm	B	7UO	31	31	32	B	4								TL	
	FR		40°	20°	40cm	B	5UB	31	31	31	B	2								TL	
	FR		30°	30°	40cm	B	7UO	33	33	32	B	1			FE					TL	
	FR		32°	360°	25cm	B	7UO	33	32	32	B	1			FE					TL	
15																					

VENTURE NAME | SAMPLED: DAY | MONTH | YEAR | BY | ASSTD. BY | WEATHER | N. T. S. | SHEET No. | of

ANY | PROPERTY | OR PROJECT AND SUB PROJECT

AZIMUTH OF +VE EAST OF GRID TRUE NORTH 000

UTM CO-ORDINATES OF GRID ORIGIN: NORTHING | EASTING | ELEVATION

	NORTH CO-ORDINATE	EAST CO-ORDINATE	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS
1	5200N	5000E	SS	—	—
		5040E	SS	—	—
		5080E	SS	—	—
	5180N	5120E	SS	—	—
5		5160E	SS	RB	—
		5200E	SS	—	—
		5240E	SS	—	—
		5280E	SS	—	—
		5320E	SS	RC	—
10		5360E	SS	RD	—
		5400	SS	RB	DG
		5440	SS	—	—
		5480	SS	—	—
		TO STREET			
15					
20					
25					

	SITE DRAINAGE	VEGETATION	SLOPE	SLOPE DIRECTION	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANICS	MAX. PART. SIZE	% PARTICLES	COATINGS	COATINGS	ROCK FRAGMENTS TYPE 1	ROCK FRAGMENTS TYPE 2	ROCK FRAGMENTS TYPE 3	PARENT MATERIAL	% RESIDUAL
1	FR		25°	40°	50cm	B	7 U [illegible]	30	[illegible]	[illegible]	4	1								T	L
	FR		40°	60°	30cm	B	6 U [illegible]	39	32	[illegible]	5	1								T	L
	FR		30°	35°	30cm	B	7 U [illegible]	29	33	[illegible]	5	1								T	L
	FR		30°	90°	25cm	B	7 U [illegible]	25	30	39	6	2								T	L
5	FR		30°	60°	20cm	B	7 U [illegible]	30	31	32	5	2								T	L
	FR		25°	38°	25cm	B	7 U [illegible]	31	31	31	5	2								T	L
	FR		12°	55°	25cm	B	6 U [illegible]	50	30	32	6	1								T	L
	FR		20°	40°	25cm	B	7 U [illegible]	34	34	28	14	1								T	L
	FR		18°	10°	15cm	B	6 U 0	30	30	39	51	1			FE					T	L
10	FR		18°	10°	15cm	B	7 U [illegible]	32	32	34	2	2								T	L
	FR		26°	50°	25cm	B	5 U 0	33	32	31	1	1								T	L
	FR		18°	70°	30cm	B	7 U [illegible]	30	31	32	5	2								T	L
	FR		18°	10°	35cm	B	6 U 0	30	30	32	5	2			FE					T	L
15																					
20																					
25																					

SOIL | VENTURE NUMBER | SUBGRID OR TRAVERSE | SAMPLED: DAY | MONTH | YEAR | BY | ASSTD. BY | SHEET No. | of

IDEN | COMPANY | PROPERTY | AND SUB PROJECT

IPRJ

SGRID

UTM COORDINATES OF GRID ORIGIN: NORTHING | EASTING | ELEVATION

AZIMUTH OF +VE EAST OF

SAMPLE NUMBER	X COORDINATE	Y COORDINATE	ELEVATION	LOCAL TERRAIN	SECONDARY ENVIRONMENT	FACTORS AFFECTING CONDITIONS	FACTORS AFFECTING CONDITIONS	DRAINAGE STATUS	PARENT MATERIAL	% RESIDUAL	SLOPE	SLOPE DIRECTION	ROCK TYPE
	5380N	5160E	—	15 S				F	R T L		5°	74° NW	
		5200	—	S S				F	R T L		5°	80° NW	
		5240	—	S S				F	R T L		5°	82° NW	
		5280	—	S S				F	R T L		4°	25° NW	
		5320	—	S S				F	R T L		6°	30° NW	
		5360	—	S S				F	R T L		18°	80° NW	
		5400	—	S S				F	R T L		10°	9° NW	
		5440	—	S S				F	R T L		8°	54° NW	
		5480	—	S S				F	R T L		12°	18° NW	
		5520	—	S S				F	R T L		8°	10° NE	
		5560	—	S S				F	R T L		27°	60° SE	
	5390N	5120E	— ?	S S				F	R T L		7°	320°	
	5300N	5000E	—	S S				F	R T L		15°	20° NE	
		5090E	—	S S				F	R T L		11°	N	
		5080	—	S S				F	R T L		7°	33° NW	
	5280N	5120	—	S S				F	R T L		13°	45° NW	
		5160	—	S S				F	R T L		15°	7° NW	
		5200	—	S S				F	R T L		14°	32° NW	
		5240	—	S S				F	R T L		16°	41° NW	
		5280	—	S S				F	R T L		25°	302°	
		5320	—	S S	B	0		F	R T L		22°	340°	
		5360	—	S S	D	G		F	R T L		12°	303°	
		5400	—	S S				F	R T L		7°	313°	
		5440	—	S S				F	R T L		15°	324°	
		5480	—	S S				F	R T L		17°	338°	
		5520	—	S S				F	R T L		32°	57°	

VEGETATION TYPE	TYPE	TYPE	COATING	COATING	SAMPLE DEPTH	HORIZON SAMPLED	COLOR	% CLAY	% SILT	% SAND	% GRAVEL	% ORGANIC	MAX. PART. SIZE	% PARTICLES	ROUNDNESS	SHAPE	SORTING
				—	25	C M	B	U 7 T	25	25	40	9	1				
				—	20	C M	B	T 6	25	35	35	4	1				
				—	20	C M	B	U 7 T	30	30	35	4	1				
				FE	30	C M	B	U 6	30	30	35	4	1				
				—	25	C M	B	U 6 T	25	35	35	4	1				
				—	30	C M	B	U 7	30	25	35	9	1				
				—	25	C M	B	U 6 T	30	25	40	4	1				
				—	30	C M	B	U 6 T	30	30	35	9	1				
				—	30	C M	B	U 5 T	30	30	35	4	1				
				—	40	C M	B	U 6 T	25	35	35	4	1				
				—	30	C M	B	U 7	25	25	40	9	1				
				—	25	C M	B	T 6	35	30	30	4	1				
				—	30	C M	B	A 6 $	40	30	25	8	1				
				—	35	C M	B	T 6 $	40	30	20	4	1				
				—	30	C M	B	U 6 A	30	25	30	14	1				
				—	25	C M	B	U 6 T	35	25	30	8	2				
				—	30	C M	B	U 6 T	30	25	35	9	1				
				—	25	C M	B	T 6 $	35	30	30	4	1				
				—	30	C M	B	U 6 A	30	25	35	9	1				
				FE	30	C M	B	U 6 $	30	25	35	9	1				
				FE	30	C M	B	T 6 $	35	25	30	9	1				
				FE	30	C M	B	U 8 $	30	30	30	9	1				
				FE	30	C M	B	T 6 $	30	30	35	4	1				
				FE	30	C M	B	T 6 $	30	25	35	9	1				
				FE	25	C M	B	U 7 T	30	30	30	9	1				
				FE	30	C M	B	T 7 $	35	30	30	4	1				

APPENDIX 3

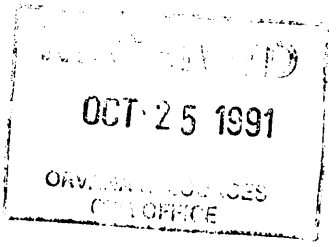
Rock Sample Assay Certificates

SILVER VALLEY LABORATORIES, INC.
P.O. Box 929 - One Gov't Gulch
Kellogg, Idaho 83837
(208) 784-1258

ORVANA RESOURCES - P.DIRCKSEN/R.FREDERICKS
2005 IRONWOOD PKWY #222
COEUR D'ALENE, ID 83814
CC: PAN ORVANA RESOURCES - VANCOUVER,BC
RE: SKARN PACKAGE

OCTOBER 24, 1991 X10R1102.282

TEST FOR:	Au	Ag	Pb	Zn	Cu	As	Co	Bi
METHOD:	FA+AA	FA+AA	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP
USED:	-	-	-	-	-	-	-	-
RESULTS IN:	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
11999	14	.3	13	62	89	<5	59	<2
12000	5	.2	9	59	21	<5	6	<2
12441	10	.2	<5	9	6	19	2	<2
12442	20	.2	7	25	42	<5	11	<2
12443	24	.2	11	48	26	9	19	<2
12444	13	.3	8	47	65	<5	30	<2
12445	<5	.1	<5	43	18	<5	6	<2
12446	8	.1	15	69	22	8	30	<2
12447	11	.2	13	22	34	<5	15	<2
12448	20079	4.0	28	40	1241	55	45	101
12449	83	.3	<5	36	198	<5	22	<2
12450	4995	1.9	5	57	899	43	64	27
19601	5094	2.0	9	34	583	40	42	25
19602	64	.6	7	44	361	<5	29	<2
19603	69	.2	<5	21	112	<5	28	<2
1[redacted]3	<5	<.1	<5	36	24	<5	13	<2
1[redacted]4	22	.2	<5	49	74	<5	19	<2
1[redacted]5	13	.1	<5	66	57	<5	22	<2
1[redacted]6	63	.1	<5	29	19	<5	14	<2
1[redacted]7	18	.2	<5	29	25	<5	19	<2
1[redacted]8	19	.2	<5	87	26	<5	14	<2
1[redacted]9	5	.5	<5	79	166	<5	50	<2



Excellence Begins Here...

SILVER VALLEY LABORATORIES, INC.
P.O. Box 929 - One Gov't Gulch
Kellogg, Idaho 83837
(208) 784-1258

ORVANA RESOURCES - P.DIRCKSEN/R.FREDERICKS
2005 IRONWOOD PKWY #222
COEUR D'ALENE, ID 83814
CC: PAN ORVANA RESOURCES - VANCOUVER,BC
RE: SKARN PACKAGE

OCTOBER 24, 1991 X10R1102.282

TEST FOR:	Te	W	Ni
METHOD:	ICAP	ICAP	ICAP
USED:	-	-	-
RESULTS IN:	ppm	ppm	ppm
11999	<5	***	55
12000	<5	***	10
12441	<5	***	10
12442	<5	***	26
12443	<5	***	10
12444	<5	***	17
12445	<5	***	20
12446	<5	***	18
12447	<5	***	5
12448	20	***	19
12449	<5	***	10
12450	<5	***	24
19601	<5	***	17
19602	<5	***	13
19603	<5	***	26
19[redacted]	<5	***	49
19[redacted]	<5	***	14
19[redacted]	<5	***	55
19[redacted]	<5	***	14
19[redacted]	<5	***	8
19[redacted]	<5	***	20
19[redacted]	<5	***	28

CHARGES $341.00

cm/W. Sorensen
Wayne Sorensen, Manager

SILVER VALLEY LABORATORIES, INC.
P.O. Box 929 - One Gov't Gulch
Kellogg, Idaho 83837
(208) 784-1258

ORVANA RESOURCES
2005 IRONWOOD PKWY #222
COEUR D'ALENE, ID 83814
ATTN: PAUL DIRCKSEN/R. FREDERICKS
RE: SKARN PACKAGE

OK-WA

JULY 12, 1991 X10R1501.173

TEST FOR:	Au	Ag	Pb	Zn	Cu	As	Co	Bi	Te	W	Ni	K	Mg	B
METHOD:	FA+AA	FA+AA	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP	ICAP
USED:	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RESULTS IN:	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
[redacted]	80	19	9681	>10000	66	428	6	15	<5	203	<5	4412	9758	106
	200	>25	>25000	>10000	18	285	8	7	<5	<10	<5	1586	5109	<5
	74	6.4	662	7091	327	382	5	3	<5	102	<5	3008	6826	142
15948	176	.7	118	264	204	<5	16	<2	<5	54	<5	14795	15214	<5
15949	32490	5.1	34	103	1146	140	66	132	<5	42	25	9100	8930	<5
[redacted]	51	.3	24	83	149	31	22	<2	<5	<10	<5	171	22840	<5
	29	>25	9	1343	>5000	56	64	67	<5	13	<5	795	10325	<5
	8	.6	11	82	52	27	8	<2	<5	16	<5	6261	15397	<5
	7	6.3	445	365	>5000	91	33	<2	<5	34	10	1310	9616	<5
	15	>25	>25000	>10000	370	118	14	627	53	96	10	104	7352	<5
	1800	>25	11721	>10000	>5000	13390	50	47	<5	<10	<5	<50	5530	<5
	10	1.4	144	266	92	32	8	<2	<5	11	<5	400	17097	<5
	134	1.9	51	251	1474	349	44	<2	<5	132	14	570	7729	149
	197	3.7	51	49	1543	401	22	<2	<5	62	<5	1055	5193	<5
	11	.4	8	58	140	14	25	<2	<5	<10	<5	525	16116	<5
	6	1.0	14	29	520	40	8	<2	<5	30	10	712	10298	<5
	49	2.8	24	43	3133	258	95	<2	<5	1380	41	60	2673	<5
	15	1.1	11	25	1898	138	58	<2	<5	569	102	1368	6601	<5
	21	.8	30	48	1722	267	46	4	<5	72	39	<50	2180	<5
	22	.8	18	24	814	157	46	<2	<5	40	9	715	8237	<5
	33	5.4	7	9	2296	213	135	<2	<5	76	87	687	3854	149
	10	1.6	26	52	>5000	392	116	<2	<5	337	18	378	4170	174
	78	1.3	21	22	2062	226	64	<2	<5	52	29	<50	620	<5
	11	.9	36	136	107	40	19	<2	<5	20	12	1191	16798	<5
	12	1.2	12	32	381	23	20	<2	<5	28	<5	1154	16259	<5
	6	.1	5	9	17	7	6	<2	<5	12	10	1896	6480	<5
	<5	.2	<5	7	190	8	12	<2	<5	<10	13	386	4268	<5
	93	>25	14	534	>5000	109	18	<2	<5	46	11	462	5737	<5
	13	7.7	58	226	3772	14	15	<2	<5	19	<5	830	8330	<5
	28	2.3	22	24	1585	165	112	<2	<5	20	10	92	1535	<5
	34	.7	21	6	83	104	59	<2	<5	24	951	<50	>50000	<5
	10	.5	<5	8	128	21	11	<2	<5	19	<5	5694	8487	<5
	19	>25	11668	9066	303	29	11	228	<5	1366	<5	<50	13192	<5
	7	.5	55	60	34	<5	6	<2	<5	<10	66	2620	3328	<5
	7	.8	61	84	81	11	12	<2	<5	14	51	2772	8581	<5
	11	13	5	60	>5000	28	15	<2	<5	20	50	3769	6123	<5
	212	>25	84	<1	3970	725	10	27	<5	325	47	429	786	240
	53	2.7	12	5	680	24	9	<2	<5	<10	<5	2021	2773	<5
	9	.1	<5	83	36	44	18	<2	<5	25	<5	9223	20422	<5
	11	.5	<5	82	615	14	21	<2	<5	<10	<5	2319	14593	<5
	12	.2	<5	6	86	<5	5	<2	<5	<10	<5	115	1758	<5
	7	.1	9	9	13	6	3	<2	<5	16	13	150	4341	<5
	8	.1	10	212	3	126	8	4	<5	701	<5	<50	>50000	5455
	5	.1	65	5	27	260	2	<2	<5	<10	7	435	2283	<5
	6	<.1	<5	7	58	<5	15	<2	<5	23	35	6925	9399	<5
	8	.8	35	159	58	190	15	4	<5	2143	<5	867	33175	<5
	14	.5	11	29	1544	12	5	<2	<5	31	6	561	25505	<5
	9	.5	<5	6	106	8	8	<2	<5	<10	12	1308	3799	<5
	28	5.6	<5	122	>5000	11	5	<2	<5	<10	<5	473	17499	<5
	16	7.0	29	155	>5000	21	37	<2	<5	22	53	<50	12449	<5

APPENDIX 4

Soil Sample Assay Certificates

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
[redacted]	1	41	15	85	.5	26	13	279	3.31	3	9	ND	8	53	.7	2	2	71	.40	.037	10	33	.65	88	.17	2	2.68	.03	.11	1	5.9
5300N 5000E	1	22	14	80	.2	19	10	375	2.91	3	5	ND	6	75	1.2	2	2	68	.58	.050	18	31	.58	76	.17	2	1.75	.05	.17	1	1.0
5300N 5040E	1	25	8	139	.4	14	7	763	2.26	8	5	ND	3	42	1.2	2	2	40	.30	.164	7	15	.25	107	.17	3	3.67	.04	.08	1	1.0
5300N 5080E	1	35	16	250	.5	75	11	403	2.94	28	5	ND	5	180	3.8	2	2	62	.82	.061	14	27	.77	90	.17	5	3.44	.11	.09	1	1.3
5280N 5120E	1	26	21	239	.5	32	11	466	2.80	12	8	ND	5	42	1.7	2	2	64	.37	.032	8	25	.44	72	.18	3	2.32	.04	.09	1	4.4
5280N 5160E	2	31	28	358	.6	58	14	415	3.44	29	5	ND	8	53	2.3	2	2	69	.42	.050	10	33	.55	171	.17	4	3.86	.04	.13	1	3.7
5280N 5200E	1	22	14	202	.3	21	8	509	2.39	22	5	ND	5	34	1.3	2	2	43	.24	.131	6	18	.24	114	.18	4	3.98	.04	.07	1	64.8
5280N 5240E	1	43	23	188	.5	28	14	497	3.57	9	5	ND	14	55	1.3	2	2	84	.50	.071	25	32	.64	130	.18	3	2.90	.04	.12	1	6.7
5280N 5280E	1	46	21	188	.2	43	16	330	4.02	16	5	ND	5	57	1.1	2	2	84	.44	.047	10	41	.85	131	.20	3	4.04	.03	.16	1	9.0
5280N 5320E	1	37	23	161	.3	33	14	484	3.53	20	5	ND	5	41	1.0	2	2	71	.35	.096	10	34	.63	158	.19	2	3.71	.03	.11	1	6.8
5280N 5360E	1	46	24	149	.2	41	17	427	4.15	17	5	ND	5	52	.8	2	2	93	.43	.056	12	45	1.27	234	.23	2	3.68	.03	.16	1	17.5
5280N 5400E	1	40	17	120	.3	26	12	546	3.13	9	5	ND	5	38	1.0	2	2	67	.30	.210	8	27	.59	140	.17	3	3.93	.03	.09	1	5.2
RE 5200N 5040E	1	30	80	171	.3	46	14	323	3.42	21	5	ND	6	104	1.5	2	2	67	.49	.082	16	34	.61	129	.19	4	4.14	.05	.16	1	5.0
5280N 5440E	1	77	27	126	.9	35	15	403	3.97	16	12	ND	10	96	1.1	2	2	90	.63	.046	22	36	.82	114	.19	2	3.22	.04	.18	1	3.5
5280N 5480E	2	37	17	143	.4	35	19	456	4.03	17	12	ND	6	48	1.3	2	3	54	.30	.128	10	19	.32	112	.15	3	4.44	.03	.07	1	.2
5280N 5520E	1	42	20	96	.3	22	14	288	3.97	8	5	ND	6	37	1.2	2	2	66	.21	.072	9	16	.49	132	.24	2	5.16	.03	.07	1	.9
5200N 5000E	1	26	19	255	.3	24	11	323	3.13	14	5	ND	5	41	1.9	2	2	63	.33	.176	10	25	.45	144	.16	4	3.34	.04	.10	1	3.5
5200N 5040E	1	30	82	177	.5	47	14	317	3.47	22	5	ND	7	107	1.6	2	2	68	.50	.082	18	34	.62	129	.20	3	4.18	.05	.14	1	3.8
5200N 5080E	1	41	38	200	.5	37	14	358	3.75	15	11	ND	8	59	1.4	2	4	80	.39	.068	13	34	.64	121	.19	4	3.66	.04	.11	1	6.0
5180N 5120E	1	34	58	250	.5	25	17	543	3.15	24	5	ND	6	64	1.7	2	2	61	.42	.099	9	25	.41	89	.17	3	2.37	.03	.11	1	6.5
5180N 5160E	1	44	104	282	.5	67	16	443	3.35	143	5	ND	4	77	5.6	2	2	67	.46	.145	14	26	.47	83	.16	3	4.06	.04	.08	1	2.6
5180N 5200E	1	32	27	192	.5	41	15	323	3.80	23	5	ND	7	63	1.6	2	2	85	.41	.059	10	36	.64	147	.20	2	4.21	.04	.13	1	2.2
5180N 5240E	1	40	37	108	.1	54	16	600	4.19	9	5	ND	3	107	1.5	2	2	45	.79	.117	11	21	.60	157	.12	4	5.49	.07	.07	1	3.1
5180N 5280E	1	30	328	97	.3	31	10	556	2.93	17	5	ND	5	53	1.0	2	2	54	.34	.092	11	23	.41	125	.19	3	4.63	.04	.08	1	1.0
5180N 5320E	2	59	48	81	.3	51	16	293	3.81	19	20	ND	8	39	1.1	2	2	32	.46	.196	12	12	.10	46	.12	2	4.62	.05	.04	1	1.5
5180N 5360E	1	44	23	115	.7	50	17	469	3.72	14	6	ND	10	56	1.5	3	2	74	.46	.159	15	50	.86	203	.25	4	4.47	.03	.19	1	1.6
5180N 5400E	1	42	23	108	.5	74	15	643	3.57	13	5	ND	3	449	2.6	2	2	44	1.71	.163	20	24	.59	149	.13	6	3.82	.06	.07	1	3.3
5180N 5440E	1	33	14	142	.3	62	17	472	3.04	6	5	ND	3	55	1.2	2	2	59	.35	.074	7	44	.77	262	.25	4	3.47	.03	.17	1	8.9
5180N 5480E	1	50	15	125	.5	87	25	381	4.35	10	5	ND	8	60	.8	2	2	87	.47	.214	12	74	1.14	432	.32	2	4.47	.04	.27	1	3.5
5100N 5000E	1	36	23	184	.4	60	20	351	4.42	15	6	ND	8	79	1.5	2	2	78	.61	.082	15	62	1.15	200	.35	2	3.90	.03	.41	1	2.5
5100N 5040E	1	29	25	226	.3	46	28	1005	3.42	16	14	ND	4	77	1.9	2	2	59	.41	.090	10	31	.58	183	.26	4	3.38	.05	.20	1	2.3
5100N 5080E	1	39	31	286	.2	58	14	411	3.57	15	5	ND	8	95	2.6	2	2	69	.47	.090	9	29	.40	137	.15	4	3.58	.06	.08	1	6.6
5080N 5120E	1	24	30	190	.2	28	17	392	3.39	25	5	ND	5	62	1.7	2	2	62	.35	.266	8	30	.45	118	.21	2	3.05	.04	.07	1	2.4
5080N 5160E	1	37	33	188	.2	49	17	413	3.72	18	9	ND	7	98	2.2	2	2	69	.68	.180	21	30	.77	156	.25	3	3.85	.06	.13	1	1.2
5080N 5200E	1	33	23	179	.2	37	14	614	3.06	19	5	ND	5	58	1.3	2	2	64	.33	.111	10	28	.58	169	.18	2	3.54	.05	.08	1	2.5
5080N 5240E	1	32	22	188	.2	42	13	855	3.13	16	5	ND	5	51	1.7	3	2	63	.38	.187	8	29	.47	131	.16	3	2.90	.03	.08	1	3.8
5080N 5280E	1	26	25	87	.3	73	18	931	3.44	19	5	ND	6	64	1.2	3	2	58	.52	.132	14	27	.59	106	.18	5	4.85	.04	.06	1	4.4
STANDARD C/AU-S	20	62	43	131	6.9	73	31	1029	3.93	42	18	7	39	53	17.6	18	21	59	.47	.090	39	56	.86	175	.09	34	1.88	.06	.15	11	48.2

Samples beginning 'RE' are duplicate samples.

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
5080N 5320E	1	20	25	126	.3	69	16	410	3.43	14	5	ND	6	65	.9	2	2	62	.64	.110	14	40	.66	123	.25	2	4.04	.04	.10	1	28.6
5080N 5360E	1	13	15	56	.2	36	11	513	3.25	2	5	ND	2	84	1.0	2	2	25	.57	.098	5	13	.16	104	.14	2	3.87	.03	.05	1	3.1
5080N 5400E	1	19	68	230	.3	36	13	449	2.70	3	5	ND	3	71	1.9	2	2	45	.57	.106	8	31	.41	137	.22	2	3.16	.03	.11	1	1.8
5080N 5440E	2	27	32	478	.2	67	15	348	3.43	7	5	ND	3	83	4.1	2	2	81	.64	.116	15	34	.34	96	.14	2	3.74	.03	.08	3	2.8
5080N 5480E	2	18	21	88	.4	38	12	523	2.96	6	5	ND	2	82	2.4	2	2	28	.63	.096	10	10	.13	96	.14	3	3.55	.05	.05	1	2.1
5080N 5520E	1	27	21	126	.3	57	18	760	3.45	3	5	ND	2	122	2.0	2	2	44	.77	.176	10	29	.42	133	.14	2	3.61	.06	.14	1	2.9
4980N 5000E	1	31	58	252	.3	45	20	547	3.62	9	5	ND	4	62	1.5	2	2	74	.52	.151	15	48	.77	109	.24	2	3.31	.03	.15	1	4.6
4980N 5040E	1	49	32	151	.4	79	25	398	3.80	10	5	ND	5	60	.8	2	2	78	.65	.232	18	72	1.29	128	.31	2	3.22	.03	.20	1	7.7
4980N 5080E	1	29	35	183	.3	45	20	533	3.54	12	5	ND	4	66	1.1	2	2	78	.59	.176	13	46	.77	186	.24	2	2.65	.03	.16	1	16.0
4980N 5120E	1	21	26	186	.2	29	12	444	2.42	15	5	ND	2	31	2.3	2	2	48	.24	.121	6	25	.36	108	.21	2	3.25	.03	.07	1	73.4
4980N 5160E	1	25	12	128	.3	37	15	608	3.19	12	5	ND	1	66	1.5	2	2	55	.60	.079	10	24	.42	88	.16	4	2.93	.07	.08	1	.5
4980N 5200E	1	21	22	111	.1	35	15	762	3.60	16	5	ND	1	48	.7	2	2	59	.44	.134	8	35	.86	140	.24	2	3.74	.03	.10	1	2.0
4980N 5240E	1	18	18	97	.3	35	12	460	2.61	16	5	ND	2	48	1.6	2	2	38	.44	.107	10	21	.52	121	.18	3	4.35	.04	.07	1	.4
4980N 5280E	1	10	16	110	.2	26	8	493	2.02	7	5	ND	1	27	2.0	2	2	32	.31	.106	4	13	.14	58	.22	2	3.53	.03	.06	1	.2
4980N 5320E	1	16	14	144	.3	22	16	941	3.43	4	5	ND	3	50	1.4	2	3	61	.38	.201	14	45	.82	176	.36	2	2.69	.03	.29	1	.3
4980N 5360E	1	11	10	108	.3	22	9	347	2.11	9	5	ND	3	35	1.6	2	2	34	.21	.075	5	13	.16	101	.24	2	3.57	.04	.06	1	5.9
4980N 5400E	1	23	19	169	.3	29	15	533	4.10	5	5	ND	2	51	.6	2	2	76	.40	.158	11	45	.70	124	.25	2	3.07	.03	.13	1	6.0
RE 4980N 5040E	1	25	25	130	.2	28	14	342	3.33	42	5	ND	3	41	1.1	2	2	58	.29	.120	11	28	.50	109	.23	2	3.49	.02	.08	1	5.9
4980N 5440E	1	18	14	125	.3	21	11	689	3.01	9	5	ND	3	50	1.1	2	2	54	.30	.083	11	28	.46	149	.25	2	3.28	.03	.16	1	.9
4980N 5480E	1	16	28	165	.3	45	17	468	3.38	16	5	ND	3	62	1.1	2	2	64	.42	.107	10	37	.56	122	.26	3	3.72	.03	.10	2	1.4
4880N 5000E	1	35	63	291	.2	43	17	459	3.72	26	5	ND	4	53	1.8	2	5	71	.60	.107	11	39	.64	106	.23	2	3.58	.03	.10	1	5.5
4880N 5040E	1	26	28	138	.3	30	15	356	3.39	46	5	ND	4	41	1.1	2	4	60	.32	.132	12	29	.54	106	.23	2	3.65	.02	.08	1	7.7
4880N 5080E	1	29	19	159	.2	38	15	580	3.13	12	5	ND	3	51	2.6	2	2	67	.47	.156	9	35	.48	101	.15	2	3.03	.03	.07	1	2.7
4880N 5120E	1	21	21	224	.2	42	14	807	2.58	7	5	ND	2	147	7.0	2	2	44	.61	.125	8	22	.22	106	.13	5	3.37	.07	.06	1	2.4
4880N 5160E	1	115	32	114	.7	44	31	1568	4.62	11	5	ND	1	78	2.1	2	3	81	2.49	.250	12	44	.94	171	.26	7	3.85	.08	.14	1	7.3
4880N 5200E	1	24	16	110	.2	20	21	949	2.63	6	5	ND	1	54	.8	2	2	44	.43	.096	5	15	.29	141	.25	2	3.11	.04	.10	1	10.0
4880N 5240E	1	39	20	140	.4	27	21	830	3.17	6	5	ND	2	61	1.5	2	2	49	.50	.089	7	22	.33	106	.24	3	2.95	.04	.11	1	.5
4880N 5280E	1	21	21	164	.4	21	15	2516	2.43	11	5	ND	1	35	2.5	2	2	44	.32	.179	7	19	.37	226	.23	3	2.60	.03	.09	1	8.2
4880N 5320E	1	44	27	126	.5	27	20	452	3.67	13	5	ND	3	31	.9	2	2	61	.26	.219	7	25	.43	144	.24	6	4.00	.03	.08	1	.2
4880N 5360E	1	20	29	215	.3	28	12	1910	3.88	9	5	ND	3	53	2.3	2	2	65	1.70	.848	20	35	.53	238	.23	2	3.48	.05	.12	1	1.1
4880N 5400E	1	23	24	217	.3	59	15	507	4.41	8	5	ND	2	110	.9	2	2	84	.90	.097	8	58	1.28	152	.23	2	4.18	.02	.16	1	.5
4780N 4840E	1	19	94	381	.6	26	13	487	3.24	12	5	ND	4	26	1.4	2	2	64	.24	.081	12	30	.45	95	.22	3	3.03	.02	.06	2	4.4
4780N 4880E	1	23	47	329	.6	37	17	1085	3.37	35	5	ND	4	59	2.7	2	3	59	.47	.332	12	30	.48	182	.21	7	3.01	.03	.12	2	.5
4780N 4920E	1	26	26	152	.4	59	15	474	3.01	7	5	ND	3	372	4.1	2	2	31	1.77	.110	17	15	.20	89	.12	16	3.52	.17	.09	1	.7
4780N 4960E	1	31	27	135	.3	52	20	372	3.56	13	5	ND	4	169	1.9	2	4	58	.86	.074	21	29	.51	126	.23	6	3.43	.09	.08	1	.5
4780N 5000E	1	21	29	209	.3	91	22	740	3.41	24	5	ND	4	56	2.7	2	3	56	.49	.090	11	94	1.15	136	.26	2	2.82	.03	.13	1	.5
4780N 5040E	1	18	19	96	.7	24	10	271	2.18	20	6	ND	4	35	1.0	4	2	37	.26	.126	10	19	.28	85	.24	7	3.54	.03	.08	1	.3
STANDARD C/AU-S	19	57	43	131	6.9	69	32	1027	3.92	40	17	7	36	48	17.0	15	18	54	.49	.088	35	58	.86	174	.09	34	1.86	.05	.15	11	46.2

Samples beginning 'RE' are duplicate samples.

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
4780N 5080E	1	21	17	107	.2	31	11	529	2.43	12	5	ND	5	39	1.5	3	2	46	.32	.083	9	25	.44	149	.18	3	3.13	.03	.07	1	4.0
4780N 5120E	1	22	22	160	.3	18	9	744	2.65	9	5	ND	3	23	1.5	2	2	49	.20	.148	6	19	.30	131	.18	2	3.65	.03	.07	1	2.1
4780N 5160E	1	21	13	93	.5	14	10	372	2.46	3	5	ND	3	19	1.0	5	2	45	.18	.094	6	16	.15	106	.19	2	3.88	.03	.03	1	1.4
4780N 5200E	1	23	11	95	.1	15	13	329	3.70	2	5	ND	2	27	.6	2	2	80	.20	.066	5	16	.64	159	.28	3	3.97	.04	.06	1	4.3
4780N 5240E	1	27	7	78	.1	18	18	255	3.89	3	7	ND	1	34	.5	2	2	54	.23	.064	3	12	.30	148	.18	3	3.19	.04	.08	1	1.0
4780N 5280E	1	38	13	83	.1	22	14	534	3.03	8	5	ND	3	33	1.0	2	2	61	.25	.142	8	18	.46	142	.22	2	4.38	.03	.08	1	1.4
4780N 5320E	1	42	10	93	.1	16	14	574	4.12	6	5	ND	3	35	1.1	2	2	101	.21	.104	7	20	.89	242	.33	3	4.18	.03	.14	1	1.8
4780N 5360E	1	32	11	166	.1	21	16	913	3.48	7	5	ND	1	60	1.6	2	2	76	.41	.166	6	22	.72	229	.26	3	3.36	.05	.19	1	1.4
4780N 5400E	1	26	21	313	.1	58	14	738	2.49	11	5	ND	1	92	4.7	2	2	38	.93	.177	6	21	.26	145	.10	3	2.74	.04	.11	1	.8
4700N 4800E	1	46	247	563	.4	57	16	521	4.14	14	5	ND	8	57	2.3	3	2	71	.47	.121	16	32	.43	121	.13	6	3.66	.03	.06	1	9.5
4700N 4840E	1	23	44	181	.5	49	15	1087	3.41	8	5	ND	1	331	3.5	2	2	33	1.40	.100	12	14	.08	79	.10	14	4.69	.15	.04	1	2.2
4700N 4880E	1	23	35	150	.3	28	15	368	3.61	23	5	ND	4	46	1.1	2	2	68	.28	.094	15	29	.50	114	.22	3	3.97	.03	.12	1	15.3
4700N 4920E	1	19	48	102	.2	51	10	184	1.98	188	5	ND	2	70	3.1	3	2	28	.43	.067	5	12	.12	69	.16	5	4.21	.07	.05	1	3.2
RE 4700N 5120E	1	98	92	132	.2	37	42	1144	3.51	19	5	ND	1	100	2.6	2	2	67	.96	.094	7	25	.70	170	.20	4	3.51	.06	.26	1	3.0
4700N 4960E	1	32	15	123	.2	49	24	622	3.72	29	5	ND	4	150	2.4	2	2	66	.59	.141	13	40	.81	150	.31	5	3.44	.08	.17	1	1.8
4700N 5000E	1	25	17	132	.1	40	16	636	2.97	24	5	ND	4	42	2.3	3	2	60	.37	.063	8	28	.38	142	.20	4	2.98	.04	.09	1	32.7
4700N 5040E	1	33	22	99	.1	44	14	535	3.06	26	5	ND	3	40	1.4	2	2	58	.34	.063	8	26	.46	135	.21	5	3.87	.03	.08	1	2.8
4700N 5080E	1	67	15	106	.5	99	21	224	3.54	6	5	ND	3	375	6.5	2	2	31	2.22	.094	21	16	.28	50	.10	10	4.19	.20	.05	1	3.0
4700N 5120E	1	104	91	133	.2	39	44	1171	3.62	12	5	ND	1	111	3.0	5	2	69	1.03	.097	8	26	.73	172	.20	6	3.57	.06	.28	1	2.2
4700N 5160E	1	71	41	101	.1	29	23	705	3.68	11	5	ND	1	69	1.8	2	2	88	.87	.095	10	31	.75	154	.30	4	4.25	.11	.18	1	2.1
4600N 4720E	1	33	34	212	.3	47	14	416	3.20	13	5	ND	5	82	2.3	4	2	58	.54	.117	18	24	.31	105	.17	6	3.72	.07	.10	1	2.7
4600N 4760E	1	37	75	301	.5	56	15	385	3.45	14	5	ND	5	186	3.5	2	2	52	.80	.110	16	25	.28	99	.14	9	3.92	.10	.08	1	7.9
4600N 4800E	1	21	61	379	.3	51	16	359	3.44	83	5	ND	4	54	2.8	4	2	64	.42	.092	8	27	.41	86	.19	5	3.60	.03	.11	1	4.4
4600N 4840E	1	38	23	167	.1	53	15	340	3.60	8	5	ND	6	56	1.8	2	2	67	.51	.078	18	31	.43	82	.15	2	4.15	.04	.07	1	3.1
4600N 4880E	1	19	16	144	.2	36	11	543	2.65	9	5	ND	3	35	2.3	3	2	50	.34	.072	9	21	.24	82	.16	3	3.19	.03	.06	1	1.6
4600N 4920E	1	38	12	199	.2	56	15	386	3.46	11	5	ND	3	127	4.4	2	2	53	.67	.116	22	23	.26	95	.14	4	3.89	.10	.08	1	2.7
4600N 4960E	1	66	41	139	.4	24	24	789	4.66	37	5	ND	1	207	3.8	2	2	137	1.28	.098	9	11	1.37	156	.37	5	2.76	.08	.61	1	10.5
4600N 5000E	1	41	60	110	.5	34	21	723	3.31	28	5	ND	1	283	4.6	2	2	57	1.62	.122	22	29	.66	128	.21	12	2.44	.12	.49	1	47.4
4600N 5040E	1	35	25	100	.4	34	20	530	3.45	14	5	ND	4	265	3.3	2	2	50	1.86	.131	26	25	.76	124	.25	11	2.35	.12	.54	1	3.4
4500N 4720E	1	23	447	592	1.4	21	10	917	3.08	18	5	ND	4	48	2.7	2	2	50	.36	.226	12	22	.29	121	.17	4	2.96	.04	.12	1	9.2
4500N 4760E	1	28	53	248	.3	46	13	942	2.47	42	5	ND	1	120	5.2	2	2	42	.58	.145	6	19	.30	114	.15	6	3.00	.08	.09	1	.9
4500N 4800E	1	29	36	150	.2	43	13	642	2.74	41	5	ND	3	47	3.4	5	2	48	.37	.148	14	21	.28	120	.19	4	4.25	.05	.10	1	1.3
4500N 4840E	1	33	17	137	.2	39	16	674	3.22	7	5	ND	4	54	2.3	4	2	62	.48	.110	15	29	.59	125	.20	4	3.06	.04	.13	1	2.1
4500N 4880E	1	33	18	112	.1	79	19	436	3.54	5	5	ND	1	97	2.6	2	2	105	.83	.032	9	52	.86	99	.26	3	3.99	.05	.15	1	.8
4500N 4920E	1	50	45	225	.1	68	22	817	4.02	4	5	ND	4	175	6.4	2	2	77	1.57	.087	34	34	.66	83	.16	6	3.06	.07	.33	1	.9
4500N 4960E	1	52	27	197	.1	63	25	660	4.33	4	5	ND	4	141	5.4	3	3	103	1.06	.101	26	54	.87	132	.29	5	3.21	.07	.64	1	1.1
4500N 5000E	1	46	24	195	.1	61	21	566	3.75	11	5	ND	1	147	6.0	2	2	81	1.19	.109	21	43	.74	132	.23	7	3.02	.08	.50	1	.6
STANDARD C/AU-S	20	65	40	130	7.5	71	32	1047	3.96	42	22	8	39	54	17.4	18	23	60	.47	.090	40	60	.88	178	.09	33	1.92	.06	.13	11	47.7

Samples beginning 'RE' are duplicate samples.

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
4500N 5040E	1	60	11	179	.5	72	20	502	3.76	7	5	ND	3	167	5.5	2	2	60	1.36	.068	21	32	.55	101	.22	8	2.32	.09	.29	1	5.8
4500N 5080E	2	37	18	257	.4	59	20	684	4.69	5	5	ND	6	161	5.3	2	2	110	1.21	.069	25	58	.68	129	.26	8	3.07	.10	.27	1	1.3
4500N 5120E	2	91	16	273	.5	125	41	551	6.48	5	5	ND	4	224	7.8	2	2	76	1.48	.137	21	38	.77	56	.24	6	1.98	.07	.19	1	2.4
MO NUMBER	1	36	12	127	.6	17	13	590	4.40	4	5	ND	4	53	.2	2	2	66	.48	.263	11	21	1.02	165	.29	4	5.23	.02	.26	1	1.9
RE 4500N 5120E	2	92	15	274	.4	125	42	565	6.42	9	5	ND	3	224	7.9	2	2	77	1.49	.139	21	38	.77	57	.24	4	2.00	.07	.19	1	1.1
STANDARD C/AU-S	19	55	36	131	7.1	70	31	1029	3.90	38	18	7	39	52	18.6	15	19	57	.48	.088	38	57	.87	175	.09	33	1.86	.06	.15	11	51.3

Samples beginning 'RE' are duplicate samples.