

DUKE PROPERTY

**ASSESSMENT REPORT
ON
DIAMOND DRILLING**

**N.T.S.
0921015,016**

LATITUDE 50° 11' N, LONGITUDE 121° 12' W

**NICOLA MINING DIVISION,
BRITISH COLUMBIA**

Prepared for:

**Freegold Ventures Limited
2303 West 41st Avenue
VANCOUVER, British Columbia
V6M 2A3**

By:

**David J. Pawliuk, P. Geo.
Nanoose Geoservices**

January 28, 2005

**GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**

27,82

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SUMMARY

Diamond drilling was performed on the DUKE PROPERTY in central British Columbia. The field work was carried out between November 25 and December 11, 2004 on behalf of Freegold Ventures Limited (Freegold) of Vancouver, British Columbia.

The Duke property is approximately 31 km west of the town of Merritt. The property is comprised of one 42-cell (869.071ha) map converted mineral claim, tenure number 510583. The prior legacy claim was a 20-unit, 4-post mineral claim, tenure number 239493 – the WOW #1 claim. Freegold has an option to acquire up to a 70% interest in the property from Southern Rio Resources Ltd.

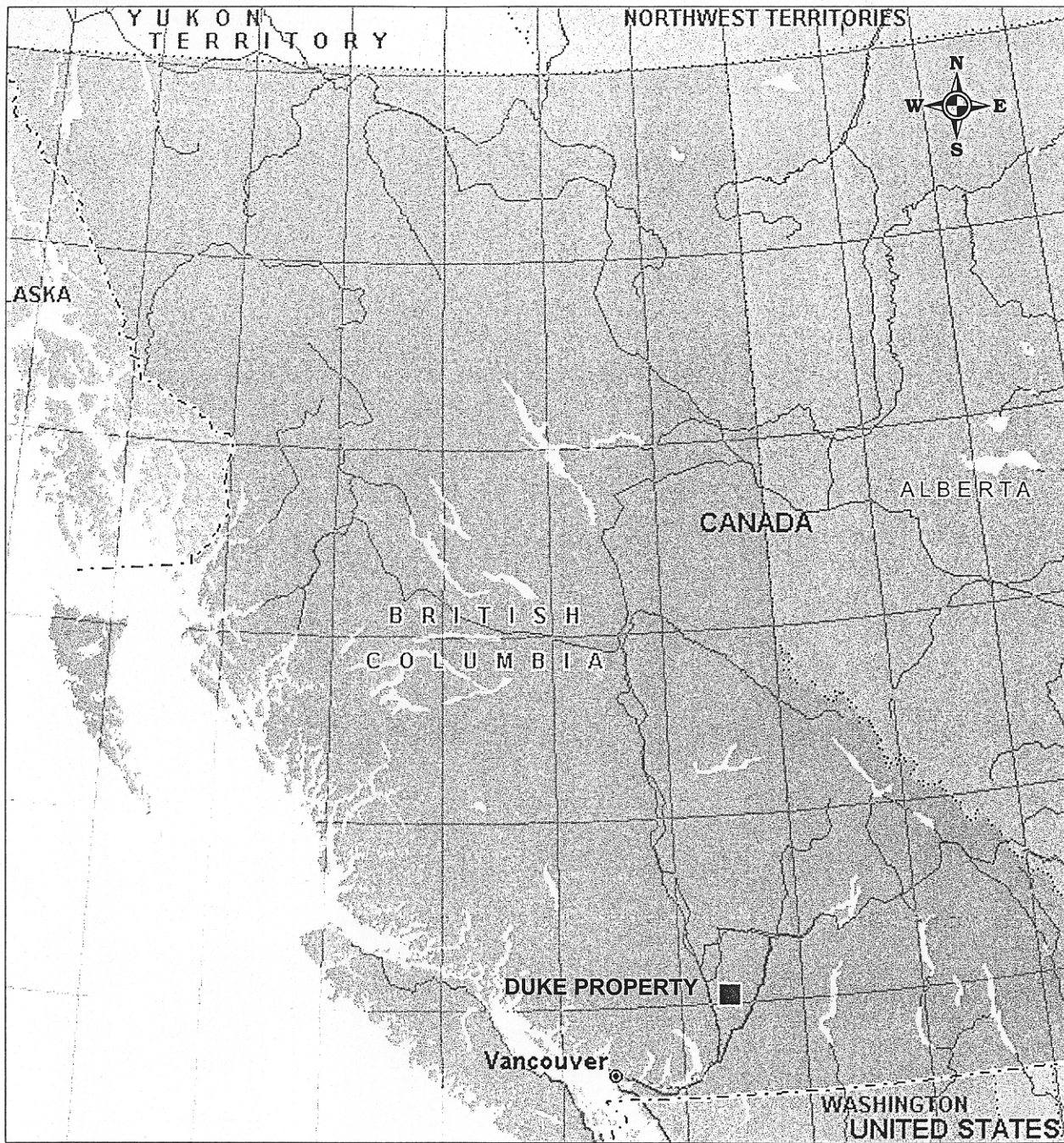
Hurley River Mines Ltd. found mineralized quartz feldspar porphyry at the Main Showing during 1962. The Duke property has undergone sporadic exploration, including geological mapping, geophysical and geochemical surveys and diamond drilling, since that time. A total of 1,524 metres of diamond drilling in 12 holes was completed during 1962 and 1963.

The Duke property is located in the Nicoamen Plateau, which forms part of the Cascade Mountains of southern British Columbia. Stratified volcanic and sedimentary rocks of the the Mid to Late Cretaceous Spences Bridge Group are intruded by small Late Cretaceous or Eocene porphyritic intrusives of mafic or intermediate composition. Isolated remnants of Eocene Kamloops Group volcanics cap parts of the area.

The Main Showing at the Duke property contains primary disseminated chalcopryite mineralisation hosted within quartz veins which cut a quartz feldspar porphyry (?) intrusive. At surface, secondary copper minerals (malachite with minor azurite) are evident. Pyrite and low grade disseminated copper mineralization also occurs within the surrounding andesites.

A total of 75.85 metres of diamond drilling was completed in two holes between November 16 and December 11, 2004. The planned drilling program was not completed because of difficult weather and adverse drilling conditions. Diamond drilling should be resumed when weather conditions and access are more favourable.

The results of the diamond drilling program support the presence of a large fault structure likely underlying the valley of Copper Canyon Creek, as interpreted by some earlier workers (Lariche, 1990).



SOUTHERN RIO RESOURCES LTD.

Date: 10/10/2002

Author: G.T.

Office:

Drawing:

Scale: N.T.S.

DUKE PROPERTY
LOCATION MAP

Projection: NAD83 - Zone 10

FIGURE: 1

INTRODUCTION AND TERMS OF REFERENCE

This report describes diamond drilling performed on the Duke Property in central British Columbia. This work was carried out on behalf of Freegold Ventures Ltd. (Freegold) of Vancouver, British Columbia.

Freegold has an option to acquire up to a 70% interest in the Duke property from Southern Rio Resources Ltd. (Southern Rio) of Vancouver, British Columbia.

Mr. Lindsay Bottomer, President of Southern Rio, contracted the writer to supervise the diamond drilling. The writer personally supervised and performed geological core logging and sampling on the property between November 20 and December 4, 2004.

PROPERTY DESCRIPTION AND LOCATION

The Duke Property is located approximately 31 km west of the town of Merritt in southern British Columbia (Figure 1). The project area is centred at 50° 11' N latitude and 121° 12' W longitude. The property is comprised of one 42-cell (869.071ha) map converted mineral claim, tenure number 510583 (Figure 2). The prior legacy claim was a 20-unit, 4-post mineral claim, tenure number 239493 – the WOW #1 claim. This mineral claim has not been legally surveyed.

The diamond drilling that is the subject of this assessment report was performed within the 510583 (WOW #1) mineral claim.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

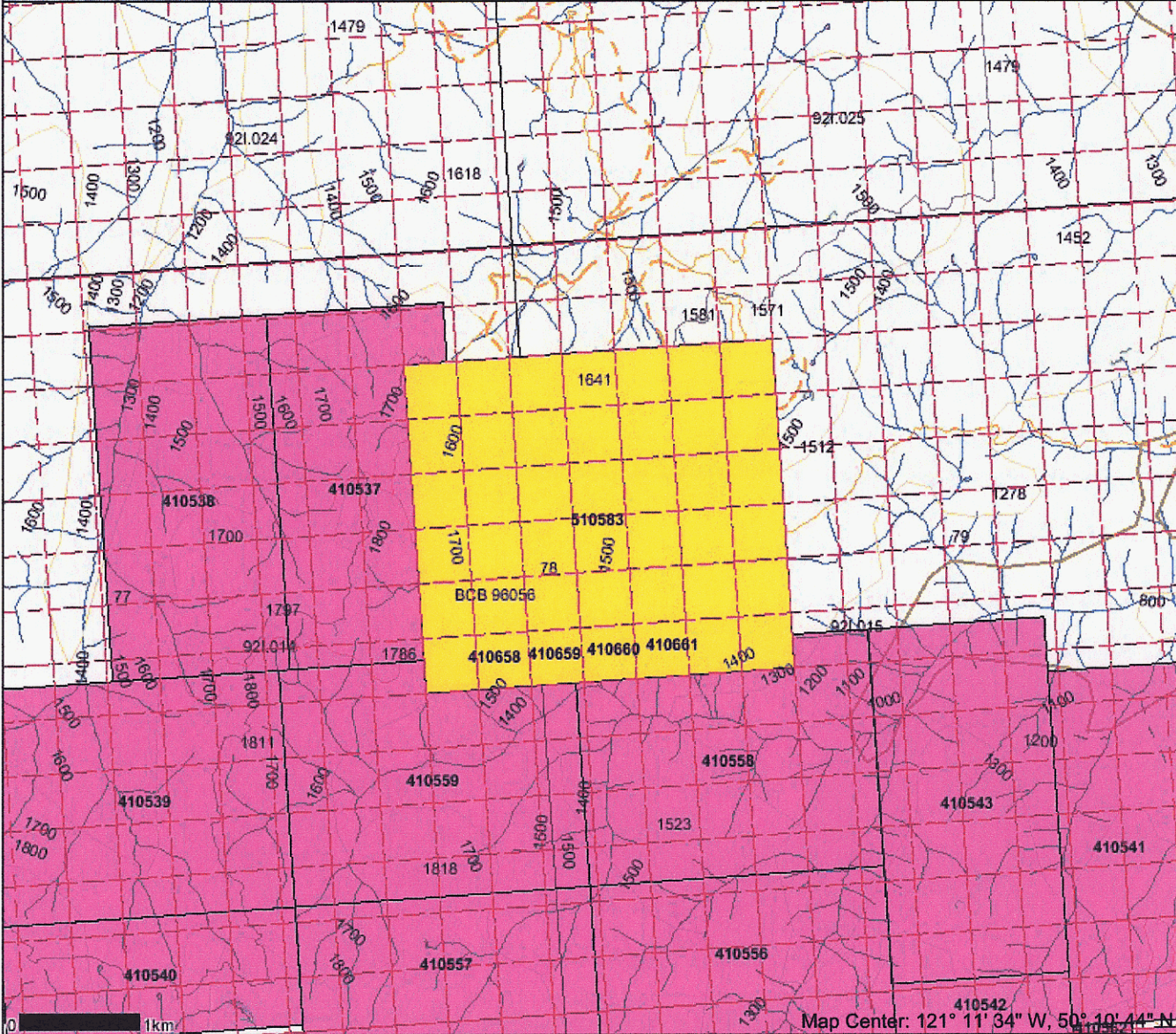
The Duke Property is located in southern British Columbia, approximately 31 km west of the town of Merritt (Figure 1).

Logging roads and an old drill road provide local access to the property. Highway 8 is followed from Merritt westwards 30 km until a left turn is made onto the Dot Creek Ranch Cut Off Road. A left turn is made from the Cut Off Road onto the Manning Road; the Manning Road is then followed southwards to a point 200 metres beyond the 22 km marker, where a left turn is made onto a logging spur road. This spur road is followed for 0.8 km, at which point the old drill access road into the property leads to the right. The old drill access road is followed for a further 3.8 km southward and westward into the central property area.

The project is within the Nicoamen Plateau of southern British Columbia. Elevations on the property range from about 1,370 metres to about 1,710 metres a.s.l. The terrain consists of a rolling plateau dissected by creeks with steep-sided valleys. Pine, fir, spruce, aspen, willow and alder trees grow in the property area. Many of the pine trees are dying because of the mountain pine beetle infestation. A veneer of glacial till covers the bedrock in most places, and outcrop exposure is sparse. Soils are poorly developed. Summer weather is dry with occasional showers, and winters are cold with moderate snow accumulations.

Figure 2: DUKE PROPERTY CLAIM MAP

Legend



- Indian Reserves
- National Parks
- Parks
- Mineral Titles Grid
- Mineral Tenures Reserves (Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Divisions
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Transportation - Points (TRIM)
- Transportation - Lines (TRIM)
- Helipad
- Airfield
- Airport
- Airstrip
- Airport/Abandoned
- Ferry Route
- Road (Gravel Undivided) - 1 Lane
- Road (Gravel Undivided) - 2 Lanes
- Road (Gravel Undivided) - U/C - 1 Lane
- Road (Gravel Undivided) - U/C - 2 Lanes
- Road (Paved Divided) - Not Elevated - 1 Lane Each Way
- Road (Paved Divided) - Not Elevated - 2 Lanes Each Way
- Road (Paved Divided) - U/C - Not Elevated - 2 Lanes Each Way
- Road (Paved Undivided) - Not Elevated - 1 Lane
- Road (Paved Undivided) - Not Elevated - 2 Lanes
- Road (Paved Undivided) - Not Elevated - 4 Lanes
- Road (Paved Undivided) - U/C - Not Elevated - 4 Lanes
- Road (Unimproved)
- Cut (Roadway)
- Embankment/Fill (Roadway)
- Trail
- Bridge - Foot
- Bridge - Trestle
- Tunnel
- Bridge
- Rail Line (Double Track)
- Rail Line (Multiple Track)
- Rail Line (Single Track)

Scale: 1:52,830

DO NOT USE FOR NAVIGATION

0 1km

Map Center: 121° 11' 34" W, 50° 10' 44" N

HISTORY

The first claims covering the Duke copper showing were staked in the early 1960's by L Fournier. Interest in the area had increased around that time due to the discovery of the Craigmont copper deposit near Merritt. Between 1962 and 1963, Hurley River Mines Ltd. drilled 12 diamond holes totalling approximately 1524 metres around Copper Canyon Creek. Geological mapping, soil sampling and magnetic and electromagnetic geophysical surveys were also completed. The drilling returned several intervals of >0.5% copper over lengths of >30 metres. None of the core from this drilling has survived through to the present.

In 1969, New Cinch Uranium Mines Ltd. conducted soil sampling and a magnetometer survey.

Noranda Exploration restaked the ground in 1979 and subsequently carried out geological mapping, soil geochemical surveys, and magnetic and electromagnetic geophysical surveys (Mathieson, 1980).

Pacific Sentinel Gold Corp. performed geochemical soil, silt and rock sampling on the MIME property in 1990. They delineated two copper-in-soil anomalies within the central property area. Eleven geochemical rock samples collected within the areas of anomalous copper-in-soil concentrations contain from 158 to greater than 10,000 parts per million copper (Leriché, 1990). The central MIME property area is currently covered by the Duke property.

Robert Weicker staked the WOW #1 mineral claim over the Main Zone at the Duke property in September, 2000. Southern Rio Resources Ltd. subsequently purchased a 100% interest in this claim.

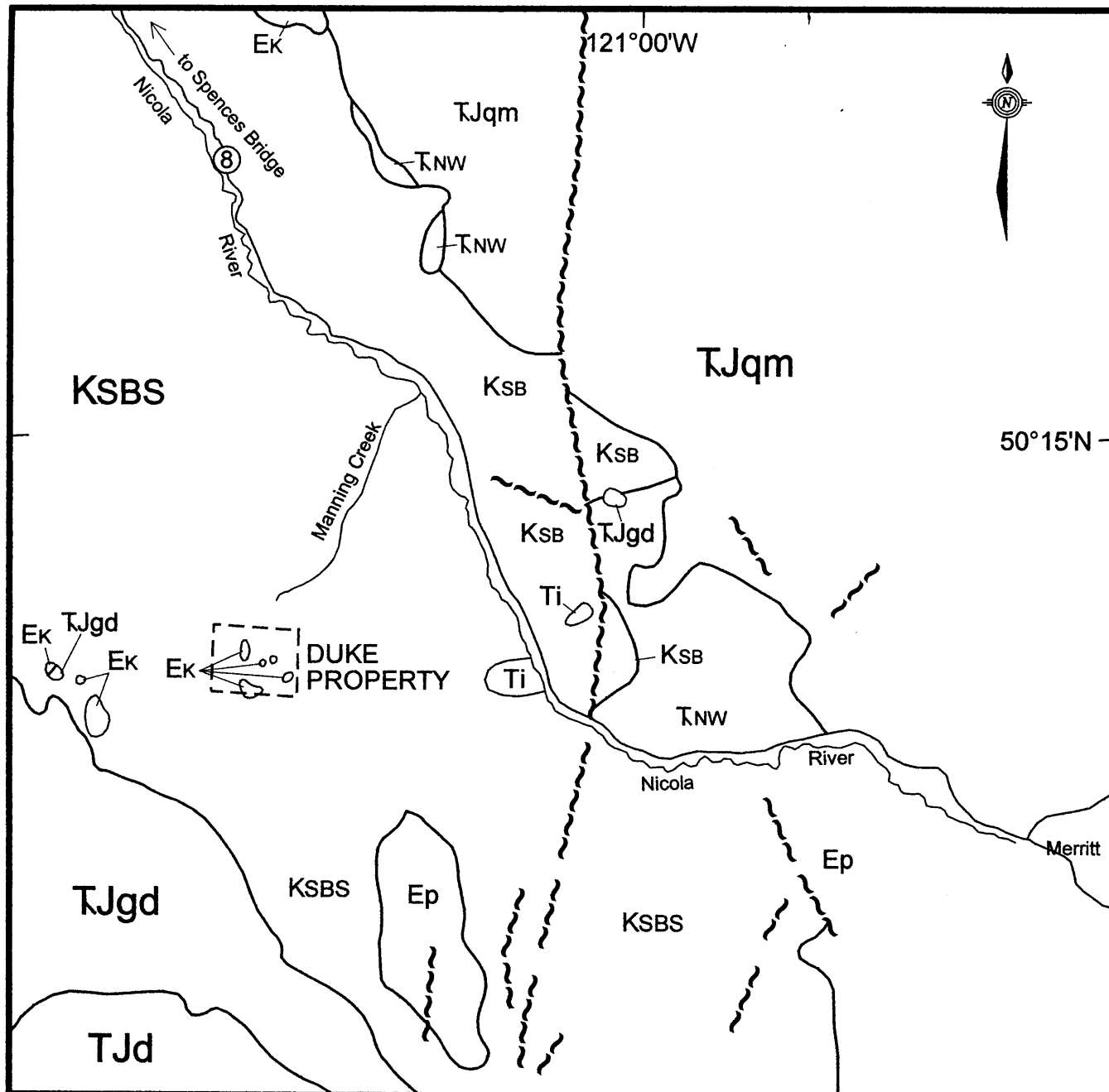
In 2002, Thomson carried out a program of geological mapping and collected a number of geochemical soil, stream and rock samples (Thomson, 2002) on behalf of Southern Rio Resources. He recommended follow-up induced polarisation geophysical surveying and diamond drilling.

REGIONAL GEOLOGY

The Duke Property is located within the Intermontane Belt, and forms part of the Quesnel Terrane. Igneous and sedimentary rocks of Triassic to Tertiary age underlie the region. The geology, taken from Monger and McMillan (1989), is shown on Figure 3.

Regionally extensive, stratified volcanic and volcanic-derived sedimentary rocks ranging in age from Late Triassic to Eocene cover much of the area. In the area of the Duke property, the volcanic rocks are assigned to Mid to Late Cretaceous Spius Creek Formation within the Spences Bridge Group. These are intruded by later (? Late Cretaceous or Eocene) prophyritic andesite-dacite stocks which host the Duke copper showing.

The region hosts a number of major copper deposits in the Highland Valley 35 km to the north, and at the Craigmont Mine immediately west of Merritt. Both of these deposits are thought to be associated with the Late Triassic to Early Jurassic Guichon Creek Batholith (Casselman et al., 1995; Carr, 1966).



LEGEND

MIOCENE? OR OLDER

Ti Intrusives of intermediate composition

~~~~~ Fault

**EOCENE**

**EK** Kamloops Group basalt

~~~~~ Geologic Contact

Ep Princeton Group volcanics

Ⓢ Highway

MIDDLE AND LATE CRETACEOUS - SPENCES BRIDGE GROUP

KSB Intermediate volcanics, sediments

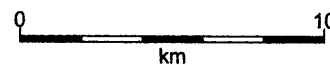
KSBS Spilus Creek Fm mafic volcanics

TRIASSIC AND/OR JURASSIC

Tjgd, qm, d Granodiorite, quartz monzonite, diorite

Tjnw Nicola Volcanics

Scale 1:250,000



FREEGOLD VENTURES LTD.

**DUKE PROPERTY
REGIONAL GEOLOGY MAP**

Scale: 1:250,000

NTS: 92 I

Date: Jan. 2005

Figure: 3

Note: Geology after Monger and McMillan (1989)

Glacial ice movement in the property region was from north to south (Bobrowsky et al., 2002).

PROPERTY GEOLOGY

Andesitic volcanics and feldspar (-quartz) porphyritic intrusives of andesite to dacite composition are the main rock units within the Duke Property. Monger and McMillan (1989) assign the volcanic rocks to the Mid-Late Cretaceous Spius Creek Formation within the Spences Bridge Group, while the intrusives are of ? Late Cretaceous or Eocene age.

The andesite is medium to dark greenish grey, somewhat porphyritic and locally magnetic; it contains up to 2 % pistachio green epidote as spots up to 2 mm across, or as faint veinlets up to 1.5 mm wide. The andesite contains traces to 2 % disseminated pyrite as blebby masses up to 3 mm across; limonite commonly occurs along weathered fracture surfaces. Local traces of disseminated chalcopyrite occur within the andesite.

Feldspar-quartz porphyry of ? Late Cretaceous or Eocene age intrudes the andesitic volcanics within the property area, most notably at the Main Showing.

MINERALIZATION

Disseminated chalcopyrite, pyrite and magnetite occur within the dacitic feldspar-quartz porphyry in the Main Showing area, as well as in quartz veins cutting the dacite porphyry. In places, the veining has a sheeted appearance. Secondary malachite and azurite coat fracture surfaces in the rock outcrops at the Main Showing area.

Local traces of disseminated chalcopyrite also occur within wallrock andesite nearby the Main Showing.

DRILLING

A total of 75.85 metres of diamond drilling was completed in two holes at the Duke Property between November 25 and December 11, 2004. SDS Drilling Ltd. of Kamloops, British Columbia, performed the drilling using a Boyles JKS 1000 diamond drill rig. NQ-sized drill core was recovered.

The drill cores are stored in labelled wooden boxes that are stacked inside a storage facility in Lower Nicola, British Columbia.

The writer and Robert Weicker, P.Geol. supervised the diamond drilling.

Drill hole DK-04-01

Hole DK04-01 was drilled to test the rocks adjacent to an interpreted southeasterly trending fault underlying Copper Canyon Creek, near an earlier (historic) intersection of 0.61 % copper across 33.5 m in Hurley River Mines drillhole 6 (Figure 4). DK-04-01 was drilled at

an inclination of minus 50 degrees towards an azimuth of 240⁰.

Drill hole DK-04-01 intersected andesite from 8.84 m to the end of the hole at 28.35 m depth. The andesite is steel grey, fine grained and weakly to moderately magnetic. Green-black clots of chlorite and magnetite a few mm across are rimmed by pale greyish green epidote(?), giving the andesite a mottled appearance. These mottled spots form 3 to 4 % of the rock volume. Pale grey calcite forms rare hairline veinlets throughout. An off-white quartz(95 %) – calcite(5 %) vein 4.5 cm wide at 32 degrees to the core axis occurs at 28.10 m depth. The andesite contains 0.5 to 1 % pyrite mainly as spots coating fracture surfaces; local traces of very finely disseminated chalcopyrite(?) occur throughout (Appendix B). Drill hole DK04-01 was abandoned at 28.35 m depth because of difficult drilling conditions. Poor core recovery was obtained with generally rounded core pieces that were drilled more than once; there was abundant caved material within the hole. The poor ground conditions encountered are probably due to the presence of broken rock associated with the interpreted fault zone underlying the valley of Copper Canyon Creek (Figure 4).

The interval from 8.84 to 28.35 metres averaged 351 parts per million (ppm) copper, with a peak value of 551 ppm over 3 metres (Appendices A and B). Due to the generally poor core recovery, these values should be regarded as indicative only.

Drill hole DK-04-02

This hole was drilled to confirm the reported intersection of 0.61 % copper across 33.5 m in Hurley River Mines drill hole 6. DK-04-02 was a vertical hole collared approximately 25 m upslope from the site of Hurley River Mines hole 6 (Figure 4).

Drill hole DK-04-02 intersected andesite from 5.79 m to the end of the hole at 47.55 m depth. From 5.79 to 26.40 m, grey-brown, fine to medium grained, weakly to moderately magnetic andesite was cored. Below 26.40 m, the core has a spotted appearance due to the presence of dark green chlorite clots. Pyrite content overall 1%, with occasional chalcopyrite disseminated and along hairline fractures.

The interval from 26.40 to 47.55 metres averaged 368 ppm copper, with a peak value of 745 ppm over 1.5 metres (Appendices A and B).

SAMPLE PREPARATION, ANALYSES AND SECURITY

The writer and Robert Weicker geologically logged the drill core samples. Selected intervals of core were then split lengthwise using a Longyear wheel-type coresplitter. The core samples were bagged, and then shipped via bus to Acme Analytical Laboratories Ltd. in Vancouver, British Columbia.

The samples were analyzed for copper, silver and gold by geochemical fire assay. Subsamples of 30 grams were analyzed.

Analytical certificates form Appendix A. Geological logs of the diamond drill cores are presented in Appendix B.

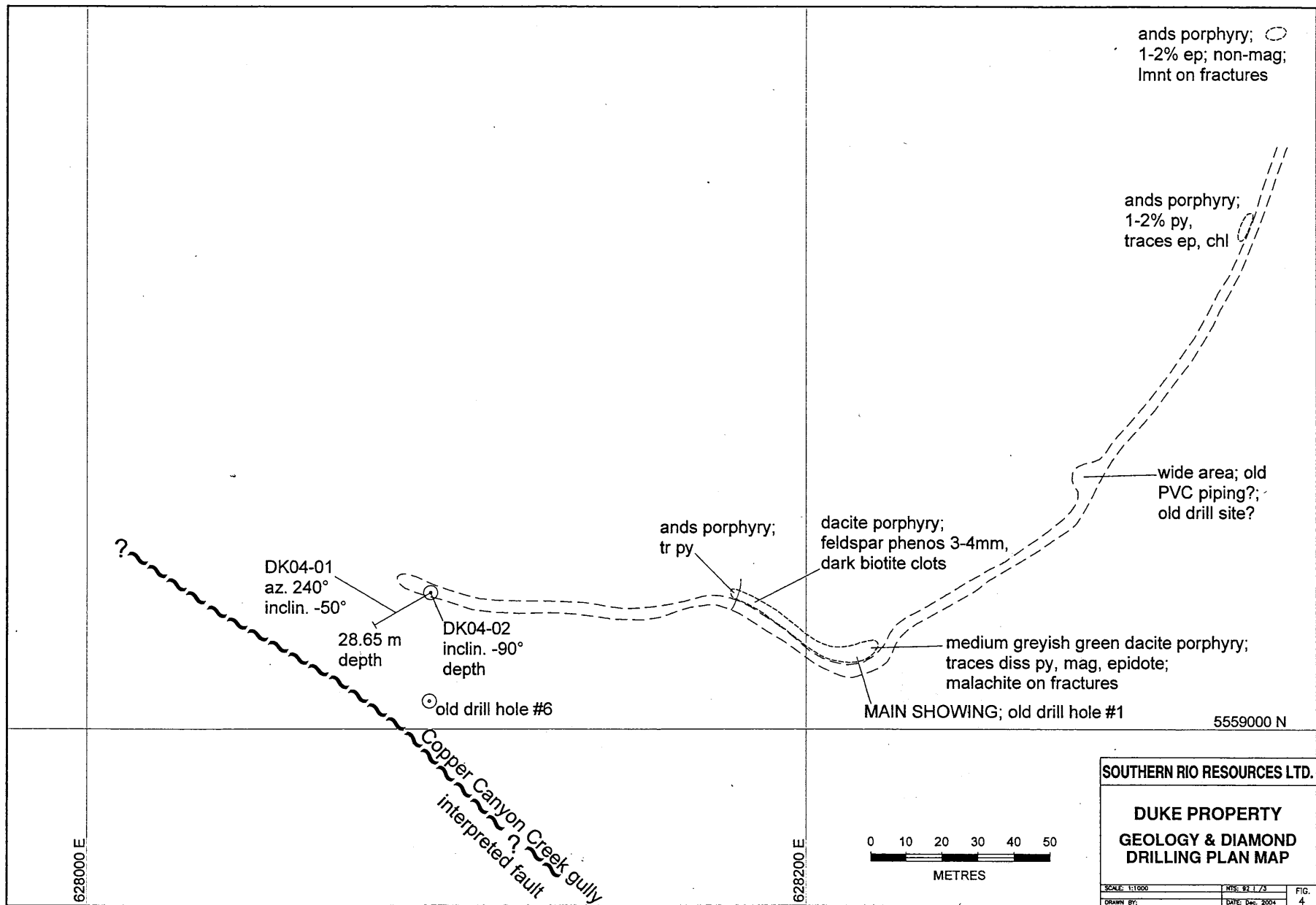


Table 1. Duplicate sample results

| Sample | Cu (ppm) | Ag (ppm) | Au (g/t) |
|----------------------------|----------|----------|----------|
| | 0.05 | 0.6 | |
| 22059 (duplicate of 22058) | 0.04 | 0.6 | |
| 22098 | 0.14 | 4.6 | |
| 22099 (duplicate of 22098) | 0.18 | 4.2 | |
| 22178 | 0.07 | 0.2 | |
| 22179 (duplicate of 22178) | 0.06 | 0.2 | |
| 22078 | 0.05 | 1.3 | |
| 22079 (duplicate of 22078) | 0.04 | 1.0 | |
| 22118 | <0.03 | <0.1 | |
| 22119 (duplicate of 22118) | <0.03 | 0.1 | |
| 22138 | 1.24 | 38.6 | |
| 22139 (duplicate of 22138) | 0.95 | 25.6 | |
| 22158 | 0.09 | 0.4 | |
| 22159 (duplicate of 22158) | 0.36 | | 0.8 |
| 22199 | 0.18 | | 0.1 |
| 22201 (duplicate of 22199) | 0.10 | | 0.1 |
| 22219 | <0.03 | | 0.1 |
| 22220 (duplicate of 22219) | <0.03 | | 0.1 |
| 22238 | 0.06 | | <0.1 |
| 22239 (duplicate of 22238) | 0.07 | | <0.1 |

DATA VERIFICATION

Routine duplicate and blank samples were inserted into the sample stream every 20 samples. Due to the early termination of the drill program, insufficient data was obtained from which to draw any meaningful conclusions.

Gabbro collected from a road cut exposure located at approximately the 5.2 km point along the Manning Road was used for the blank samples in the sampling program. The one sample analyzed as part of the check program returned a value of 36 ppm copper.

INTERPRETATION AND CONCLUSIONS

The results of the diamond drilling program, while limited, support the presence of a large fault structure underlying the valley of Copper Canyon Creek, as interpreted by earlier workers (Leriché 1990).

Anomalous copper values were intersected within chlorite-altered andesitic volcanics of the Spences Bridge Group. At the nearby Main Showing, copper mineralisation is hosted in ?Late Cretaceous or Eocene porphyritic dacite intrusives.

The planned drilling program at the Duke property was not completed because of difficult weather, drilling conditions and cost constraints.

RECOMMENDATIONS

Diamond drilling should be resumed at the Duke property when weather conditions are more favorable and a local source of water for drilling is available.

Drilling should be performed early in the summer, when spring runoff water flow in creeks near the drillsites should be sufficient for drilling purposes. The main objective of the program remains to replicate some of the reported copper-bearing intersections from the drilling in the early 1960s.

Respectfully submitted,

“David J Pawliuk”

David J. Pawliuk, P. Geo.

CERTIFICATE of AUTHOR

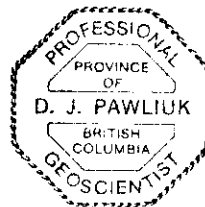
I, David J. Pawliuk, P.Geol. do hereby certify that:

1. I am currently employed as a consulting geologist by:
Nanoose Geoservices
2960 Anchor Way
Nanoose Bay, British Columbia, Canada
V9P 9G2
2. I graduated with a degree of Bachelor of Science with Specialization in Geology from the University of Alberta in 1975.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, and of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. I have worked as a geologist for more than 20 years since my graduation from university.
5. I am responsible for the preparation of this assessment report. I was on-site at the Duke property from November 21 to December 4, 2004, and performed and supervised the geological core logging and sampling.

Dated this 28th Day of January, 2005.



David J. Pawliuk, P.Geol.



REFERENCES

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- Thomson, G R, 2002. Geological and geochemical report on the WOW #1 mineral claim, for Southern Rio Resources Ltd.

STATEMENT OF EXPENDITURES

| | | | |
|---|--|----------------------|------------------|
| Professional Fees/Salaries
<i>Nanoose Geoservices/Meldrum and Associates</i> | | | \$ 8,493.75 |
| Camp: food, cook, fuel, rent
<i>Nanoose Geoservices</i> | | | \$ 2,169.53 |
| Travel | | | \$ 1,753.37 |
| Drilling: | <i>669856 B.C. Ltd.</i> | \$ 51,684.00 | |
| | <i>Support Contractors</i> | \$ 21,990.47 | |
| | <i>Misc. Field Supplies</i> | \$ 2,826.63 | \$ 76,501.10 |
| Assays | <i>Acme Analytical Laboratories Ltd.</i> | | \$ 1,116.88 |
| Freight | | | \$ 792.89 |
| Drafting/Report Preparation | | | <u>\$ 166.00</u> |
| | | Total Project Costs: | \$ 90,993.52 |

Note: The costs for this diamond drilling program are high because water for drilling purposes had to be hauled from the Nicola River to the drillsites. The river is 27 road kilometres from the drillsites (one – way), and the elevation of the drillsites is about 1200 metres above the elevation of the Nicola River. Thus, each round trip with the water truck required five or six hours. Only one short shift of six to eight hours (depending on the rate of water consumption) could be drilled every 24 hours, instead of two shifts of twelve hours each.

APPENDIX A

ANALYTICAL CERTIFICATES



GEOCHEMICAL ANALYSIS CERTIFICATE

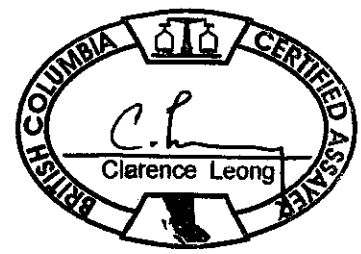
Southern Rio Resources Ltd. PROJECT DUKE File # A407551

P.O. Box 11584, 1410 - 65, Vancouver BC V6B 4N8 Submitted by: David Pawliuk

| SAMPLE# | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | U | Au | Th | Sr | Cd | Sb | Bi | V | Ca | P | Le | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Ag** | Au** |
|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|------|-----|------|----|------|------|------|-----|-------|-------|
| | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | % | ppm | ppm | % | ppm | % | % | % | % | % | ppm | gm/mt | gm/mt |
| SI | <1 | 1 | 3 | <1 | <.3 | <1 | <1 | 2 | .03 | <2 | <8 | <2 | <2 | 2 | <.5 | <3 | <3 | <1 | .10 | <.001 | <1 | <1 | <.01 | 2 | <.01 | <3 | .01 | .39 | <.01 | <2 | <2 | <.01 |
| 51501 | <1 | 190 | 4 | 60 | .5 | 34 | 12 | 388 | 3.72 | 3 | <8 | <2 | 2 | 103 | <.5 | <3 | 3 | 122 | .90 | .133 | 13 | 61 | 1.63 | 287 | .22 | 4 | 2.02 | .20 | .54 | <2 | <2 | <.01 |
| 51502 | 3 | 254 | 5 | 78 | .9 | 32 | 9 | 482 | 3.94 | 6 | 13 | <2 | 3 | 96 | <.5 | <3 | 3 | 144 | .96 | .126 | 12 | 76 | 2.08 | 265 | .21 | <3 | 2.96 | .24 | .74 | <2 | <2 | <.01 |
| 51503 | 1 | 369 | 6 | 77 | .7 | 36 | 18 | 537 | 4.37 | <2 | 12 | <2 | 2 | 214 | <.5 | <3 | <3 | 149 | 1.07 | .128 | 13 | 79 | 2.12 | 353 | .21 | <3 | 3.08 | .24 | .82 | <2 | <2 | .04 |
| 51504 | 3 | 551 | 3 | 66 | .8 | 38 | 18 | 483 | 4.39 | 4 | <8 | <2 | 2 | 282 | <.5 | <3 | 7 | 147 | 1.13 | .132 | 14 | 79 | 2.32 | 280 | .18 | <3 | 3.11 | .23 | .65 | <2 | <2 | .01 |
| 51505 | 4 | 479 | <3 | 70 | 2.3 | 36 | 17 | 457 | 3.82 | 5 | <8 | <2 | 2 | 221 | <.5 | <3 | <3 | 126 | 1.24 | .119 | 10 | 62 | 1.87 | 286 | .15 | 3 | 3.04 | .27 | .58 | <2 | 5 | <.01 |
| 51506 | 1 | 214 | 4 | 84 | .4 | 38 | 20 | 448 | 3.96 | 5 | 8 | <2 | <2 | 129 | <.5 | <3 | 4 | 142 | 1.38 | .136 | 10 | 68 | 1.98 | 282 | .22 | <3 | 2.94 | .35 | .71 | 2 | <2 | <.01 |
| 51507 | 4 | 294 | 10 | 70 | .8 | 30 | 16 | 574 | 3.76 | 8 | 15 | <2 | 2 | 150 | <.5 | 4 | <3 | 114 | 2.78 | .115 | 10 | 54 | 1.55 | 237 | .10 | 4 | 2.77 | .31 | .47 | <2 | <2 | <.01 |
| 51508 | 1 | 156 | 3 | 62 | .7 | 32 | 12 | 286 | 3.96 | 3 | 11 | <2 | 2 | 213 | <.5 | <3 | 6 | 134 | 1.85 | .136 | 13 | 60 | 1.14 | 248 | .21 | <3 | 3.26 | .48 | .47 | <2 | <2 | <.01 |
| 51509 | 1 | 209 | 6 | 70 | .4 | 34 | 15 | 347 | 3.96 | <2 | 8 | <2 | <2 | 256 | <.5 | <3 | 3 | 141 | 1.39 | .132 | 12 | 62 | 1.54 | 332 | .23 | <3 | 2.82 | .37 | .61 | <2 | <2 | <.01 |
| 51510 | 2 | 283 | 4 | 85 | 1.6 | 42 | 19 | 487 | 4.52 | <2 | <8 | <2 | 2 | 98 | <.5 | <3 | 3 | 165 | 1.07 | .140 | 13 | 86 | 2.25 | 307 | .27 | <3 | 2.61 | .26 | .74 | 2 | <2 | <.01 |
| 51511 | 5 | 359 | <3 | 78 | 2.8 | 41 | 22 | 545 | 4.74 | <2 | <8 | <2 | 2 | 105 | <.5 | <3 | 7 | 163 | .89 | .137 | 12 | 87 | 2.51 | 314 | .20 | <3 | 2.56 | .20 | .60 | 2 | <2 | .01 |
| 51512 | 2 | 315 | <3 | 65 | .6 | 39 | 20 | 431 | 4.37 | 3 | <8 | <2 | 2 | 229 | <.5 | <3 | <3 | 154 | 1.14 | .123 | 12 | 86 | 2.25 | 418 | .25 | <3 | 2.55 | .24 | .78 | <2 | <2 | <.01 |
| RE 51512 | 4 | 306 | 3 | 64 | .5 | 38 | 19 | 420 | 4.26 | 2 | 14 | <2 | 2 | 224 | <.5 | <3 | 4 | 149 | 1.10 | .121 | 12 | 84 | 2.19 | 407 | .24 | <3 | 2.44 | .23 | .76 | <2 | <2 | <.01 |
| RRE 51512 | 4 | 297 | 3 | 64 | .9 | 39 | 19 | 419 | 4.31 | 3 | <8 | <2 | 2 | 222 | <.5 | <3 | 3 | 150 | 1.10 | .121 | 12 | 82 | 2.20 | 407 | .24 | <3 | 2.48 | .23 | .77 | <2 | <2 | <.01 |
| 51513 | 3 | 207 | 6 | 53 | <.3 | 36 | 18 | 378 | 4.20 | 2 | 11 | <2 | 2 | 122 | <.5 | <3 | <3 | 148 | 1.08 | .129 | 12 | 79 | 2.10 | 268 | .20 | <3 | 2.34 | .24 | .63 | <2 | <2 | <.01 |
| 51514 | 7 | 262 | <3 | 55 | .6 | 37 | 18 | 407 | 4.25 | 3 | 9 | <2 | 2 | 134 | <.5 | <3 | <3 | 149 | 1.11 | .130 | 12 | 80 | 2.20 | 264 | .20 | <3 | 2.30 | .21 | .64 | <2 | <2 | <.01 |
| 51515 | 5 | 436 | 3 | 72 | .3 | 39 | 20 | 537 | 4.44 | 3 | 21 | <2 | <2 | 255 | <.5 | <3 | 7 | 137 | 2.16 | .125 | 10 | 83 | 2.13 | 360 | .24 | <3 | 3.72 | .45 | .82 | <2 | <2 | <.01 |
| 51516 | 10 | 446 | <3 | 78 | .4 | 39 | 21 | 523 | 4.15 | 2 | 9 | <2 | 2 | 140 | <.5 | <3 | 4 | 138 | 1.28 | .130 | 11 | 85 | 2.53 | 308 | .22 | <3 | 3.56 | .34 | .99 | <2 | <2 | <.01 |
| 51517 ROCK | 1 | 36 | <3 | 53 | .4 | 97 | 25 | 941 | 4.64 | 10 | 20 | <2 | 2 | 653 | <.5 | 4 | <3 | 133 | 3.79 | .150 | 20 | 82 | 3.51 | 80 | .46 | <3 | 4.78 | 2.65 | .04 | <2 | <2 | <.01 |
| 51518 | 5 | 316 | 3 | 120 | .3 | 40 | 20 | 669 | 4.17 | 4 | <8 | <2 | 2 | 157 | <.5 | <3 | <3 | 127 | 1.67 | .134 | 10 | 81 | 2.27 | 370 | .24 | <3 | 3.69 | .39 | 1.11 | <2 | <2 | .01 |
| 51519 | 2 | 165 | 7 | 98 | .4 | 38 | 21 | 520 | 4.15 | 7 | <8 | <2 | 2 | 134 | <.5 | <3 | 3 | 152 | 1.71 | .132 | 8 | 86 | 2.36 | 247 | .28 | <3 | 3.53 | .40 | .97 | <2 | <2 | <.01 |
| STANDARD DS6/R-2a/AU-1 | 12 | 121 | 30 | 141 | .7 | 24 | 10 | 690 | 2.86 | 22 | <8 | <2 | 3 | 39 | 5.8 | 5 | 5 | 55 | .83 | .079 | 14 | 185 | .58 | 166 | .08 | 16 | 1.85 | .07 | .16 | 4 | 156 | 3.36 |

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
 (>) CONCENTRATION EXCEEDS UPPER LIMITS. SOME MINERALS MAY BE PARTIALLY ATTACKED. REFRACTORY AND GRAPHITIC SAMPLES CAN LIMIT AU SOLUBILITY.
 AG** & AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
 - SAMPLE TYPE: CORE R150 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data 1 FA _____ DATE RECEIVED: DEC 8 2004 DATE REPORT MAILED: Dec 21/04



Duke

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
Southern Rio Resources Ltd.

Acme file # A500081 Received: JAN 10 2005 * 17 samples in this disk file.

Analysis: GROUP 1D - 0.50 GM

AG** & AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.

| ELEMENT Mo
SAMPLES 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 |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| 51520 | 1 | 299 | 23 | 107 | 0.7 | 40 | 23 | 487 | 4.38 | 9 <8 | <2 | | 2 | 311 | 0.5 <3 |
| 51521 | 7 | 578 | 25 | 103 | 0.5 | 44 | 24 | 602 | 4.82 | 9 <8 | <2 | <2 | | 252 | 0.5 <3 |
| 51522 | 6 | 292 | 19 | 138 | 0.3 | 42 | 24 | 874 | 4.92 | 5 <8 | <2 | | 2 | 169 <.5 | <3 |
| 51523 | 9 | 248 | 10 | 98 <.3 | | 39 | 21 | 785 | 4.78 <2 | <8 | <2 | <2 | | 142 <.5 | <3 |
| 51524 | 5 | 254 | 7 | 86 | 0.4 | 38 | 24 | 558 | 4.72 | 2 <8 | <2 | | 2 | 228 <.5 | |
| 51525 | 4 | 273 | 17 | 116 | 0.5 | 37 | 19 | 593 | 4.33 | 9 <8 | <2 | | 2 | 188 <.5 | <3 |
| 51526 | 5 | 745 <3 | | 72 | 0.4 | 42 | 25 | 481 | 4.2 | 2 <8 | <2 | | 3 | 228 <.5 | <3 |
| 51527 | 9 | 329 | 18 | 70 <.3 | | 36 | 14 | 219 | 3.6 | 5 <8 | <2 | | 2 | 227 <.5 | <3 |
| 51528 | 8 | 199 | 6 | 83 <.3 | | 42 | 18 | 437 | 4.64 <2 | <8 | <2 | <2 | | 224 <.5 | <3 |
| RE 51528 | 9 | 199 | 4 | 85 <.3 | | 42 | 18 | 435 | 4.6 <2 | <8 | <2 | | 2 | 222 <.5 | <3 |
| RRE 51528 | 10 | 201 <3 | | 87 <.3 | | 44 | 18 | 444 | 4.72 | 4 <8 | <2 | | 2 | 225 <.5 | <3 |
| 51529 | 6 | 303 | 3 | 88 | 0.4 | 48 | 20 | 475 | 4.35 | 2 <8 | <2 | | 2 | 113 <.5 | <3 |
| 51530 | 3 | 359 | 8 | 98 <.3 | | 53 | 27 | 529 | 4.86 | 2 <8 | <2 | <2 | | 140 <.5 | <3 |
| 51531 <1 | | 167 | 10 | 107 <.3 | | 54 | 23 | 483 | 4.36 | 2 <8 | <2 | <2 | | 134 <.5 | <3 |
| 51532 | 10 | 584 | 12 | 125 | 0.8 | 58 | 32 | 563 | 5.64 <2 | <8 | <2 | <2 | | 254 <.5 | <3 |
| 51533 | 3 | 438 | 17 | 174 | 0.7 | 61 | 40 | 530 | 5.66 <2 | <8 | <2 | <2 | | 447 <.5 | <3 |
| 51534 | 9 | 308 | 13 | 122 | 0.4 | 62 | 30 | 773 | 4.28 <2 | <8 | <2 | <2 | | 192 <.5 | <3 |
| STANDAR | 12 | 122 | 29 | 143 <.3 | | 25 | 11 | 711 | 2.88 | 24 <8 | <2 | | 3 | 40 | 6 |

| Bi
ppm | V
ppm | Ca
% | P
% | La
ppm | Cr
ppm | Mg
% | Ba
ppm | Ti
% | B
ppm | Al
% | Na
% | K
% | W
ppm | Ag**
gm/mt | Au**
gm/mt | Sample
kg |
|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|---------------|---------------|--------------|
| <3 | | 136 | 3.31 | 0.131 | 9 | 92 | 1.66 | 160 | 0.21 | 4 | 5.16 | 0.62 | 0.44 | 2 <2 | 0.01 | 3.8 |
| <3 | | 123 | 2.9 | 0.121 | 7 | 77 | 1.67 | 106 | 0.17 | 4 | 4.44 | 0.31 | 0.55 | 2 <2 | 0.03 | 3.72 |
| <3 | | 154 | 3.12 | 0.133 | 8 | 94 | 2.03 | 175 | 0.26 | 4 | 5.16 | 0.24 | 1.03 <2 | <2 | 0.03 | 2.73 |
| | 3 | 151 | 2.46 | 0.129 | 9 | 92 | 2.37 | 210 | 0.27 <3 | | 4.55 | 0.43 | 1.13 <2 | <2 | 0.01 | 3.42 |
| <3 | | 149 | 1.87 | 0.134 | 9 | 91 | 2.1 | 170 | 0.24 | 4 | 3.48 | 0.38 | 0.7 <2 | <2 | 0.01 | 3.02 |
| <3 | | 146 | 1.34 | 0.124 | 13 | 91 | 2.13 | 199 | 0.16 <3 | | 2.45 | 0.16 | 0.46 <2 | <2 | 0.01 | 2.63 |
| <3 | | 160 | 1.5 | 0.135 | 12 | 91 | 2.15 | 202 | 0.18 | 8 | 2.94 | 0.26 | 0.48 <2 | <2 | 0.01 | 3.09 |
| <3 | | 148 | 1.84 | 0.137 | 11 | 75 | 1.16 | 179 | 0.17 <3 | | 3.17 | 0.49 | 0.36 <2 | <2 | 0.01 | 3.68 |
| <3 | | 168 | 1.49 | 0.129 | 12 | 105 | 2.36 | 248 | 0.25 <3 | | 3.14 | 0.33 | 0.78 <2 | <2 | <.01 | 3.08 |
| <3 | | 167 | 1.49 | 0.13 | 13 | 102 | 2.36 | 246 | 0.25 | 7 | 3.13 | 0.33 | 0.78 <2 | <2 | 0.01 | - |
| <3 | | 172 | 1.51 | 0.132 | 13 | 107 | 2.42 | 252 | 0.25 | 3 | 3.17 | 0.33 | 0.8 <2 | <2 | 0.01 | - |
| <3 | | 175 | 1.47 | 0.122 | 11 | 119 | 2.38 | 161 | 0.24 | 6 | 3.12 | 0.36 | 0.71 <2 | <2 | 0.01 | 2.2 |
| <3 | | 170 | 1.27 | 0.126 | 9 | 123 | 2.76 | 203 | 0.22 <3 | | 3.38 | 0.3 | 0.77 <2 | <2 | 0.02 | 1.6 |
| <3 | | 160 | 1.55 | 0.127 | 10 | 117 | 2.38 | 152 | 0.2 <3 | | 3.44 | 0.38 | 0.55 <2 | <2 | 0.02 | 3.65 |
| <3 | | 173 | 1.8 | 0.127 | 8 | 115 | 2.9 | 206 | 0.21 | 3 | 4.26 | 0.37 | 1.01 <2 | <2 | 0.03 | 4.33 |
| <3 | | 177 | 2.2 | 0.132 | 8 | 112 | 2.58 | 236 | 0.2 <3 | | 4.87 | 0.4 | 0.99 <2 | <2 | 0.03 | 3.85 |
| <3 | | 116 | 2.1 | 0.115 | 8 | 87 | 2.09 | 196 | 0.12 <3 | | 3.74 | 0.25 | 0.79 <2 | <2 | 0.03 | 4.32 |
| | 5 | 58 | 0.85 | 0.079 | 15 | 184 | 0.59 | 166 | 0.09 | 17 | 1.91 | 0.08 | 0.15 | 3 | 158 | 3.36 - |

APPENDIX B

DIAMOND DRILL LOGS

| | |
|-----------------------------------|----------------------------------|
| DK 04-01 | Duke Property - Near Merrit B.C. |
| Orientation 240° inclination -50° | North 555,938 m |
| no acid test completed. | Easting 628,095 m |

| Interval | From (m) | To (m) | Description |
|----------|----------|--------|---|
| Major | 0 | 8.84 | CASING |
| Major | 8.84 | 28.35 | ANDESITE; Dark greenish gray fine grained, weakly to moderately magnetic, weakly chlorite-altered. Mottled; pale green epidote (?) rimmed green-black clots of chlorite and magnetite (?) few millimeters across forming say 3-4% rock volume. Say 0.5-1.0% pyrite spotty coating along fractures and finely disseminated. Likely traces very finely disseminated chalcopyrite - difficult to discern with hand lense. Some patchy limonite along fracture surfaces to 27.9 m depth. Traces pale gray calcite rare hairline veinlets. Badly broken ground. Poor core recovery. Hole abandoned before target depth of 125 m because of difficult drilling conditions. Core pieces generally rounded, gravelly material drilled more than once. |
| Sample | 8.84 | 10.84 | 51501 |
| Sample | 10.84 | 15.24 | 51502 |
| Sample | 15.24 | 17.24 | 51503 |
| Sample | 17.24 | 20.24 | 51504 |
| Sample | 20.24 | 24.24 | 51505 |
| Sample | 24.24 | 26.24 | 51506 |
| Sample | 26.24 | 28.35 | 51507 |
| Point | 28.1 | | Mottled off-white quartz (95%)-calcite (5%) vein 4.5 cm wide @ 52°. |
| Point | 28.35 | | EOH |

| | |
|----------------------------------|----------------------------------|
| DK 04-02 | Duke Property - Near Merrit B.C. |
| Orientation -°; inclination -90° | North 555,938 m |
| no acid test completed. | Easting 628,095 m |

| Interval | From (m) | To (m) | Description |
|----------|----------|--------|---|
| Major | 0.00 | 5.79 | CASING |
| Minor | 0.00 | 20.00 | Generally poor core recovery with moderately broken and ground core |
| Major | 5.79 | 28.04 | ANDESITE; medium grayish brown to bluish brown, median grained, weak to locally mod. magnetic. Rock mottled by green-black chlorite (? and magnetite) clots average say 3.5 mm across forming 3% rock volume. These clots generally have pale bleached alteration rims ~0.5 - 1mm wide. Rock is more brownish, bleached below 12.3 m depth. Brown mineral possibly biotite - potassically altered. Pyrite within chlorite clots throughout; clots at bottom of hole contained up to ~50% pyrite versus trace of sulfide in clots @ top of hole. Overall 1% pyrite. Local traces calcite as hairline veinlets often @ shallow angle to core axis. Traces chalcopyrite mainly along healed hairline fracture/veinlets with bleached margins @ 35-60° to core axis also chalcopyrite very finely disseminated throughout. Generally soft core rather easily scratched with scribe. Darker bluish brown andesite from 5.79-12.3 m depth contains 2-3%? finely disseminated magnetite. Moderately magnetic throughout. Probable fault contact with underlying more biotite-altered andesite. |
| Sample | 5.79 | 8.00 | 51508 |
| Sample | 8.00 | 10.00 | 51509 |
| Sample | 10.00 | 12.30 | 51510 |
| Minor | 11.92 | 16.46 | FAULT (?); finely broken and ground core with light green-brown silty coating. Material appears similar to till within the property area. Cannot determine orientation. |
| Sample | 12.30 | 16.46 | 51511 |
| Sample | 16.46 | 18.50 | 51512 |
| Point | 17.73 | | Chalcopyrite disseminated irregular masses within dark blue magnetite veinlets. |
| Sample | 18.50 | 20.50 | 51513 |
| Sample | 18.50 | 20.50 | 51514, duplicate of 51513 |
| Minor | 20.00 | 47.55 | Good core recovery. |
| Sample | 20.50 | 22.50 | 51515 |
| Sample | 22.50 | 24.50 | 51516 |
| Sample | 24.50 | 26.50 | 51518 |
| Sample | 26.40 | 27.00 | 51520, resume Dec 9, 04 at 26.4m |
| Major | 26.40 | 47.55 | ANDESITE; medium gray to gray brown; medium grained, weakly magnetic, spotted due to chlorite centers with lightly bleached rims to bleached phenocrysts 2-5mm; Good core recovery. |

| Interval | From (m) | To (m) | Description |
|----------|----------|--------|--|
| Minor | 26.40 | 28.04 | It appears that this interval was redrilled based on drill stem meterage. The drill suffered severe mechanical difficulties at 28.04m. It was nessecary to pull out of the hole and take the rig off site. When the rig returned and went down hole it began to recover core at 26.40m. We are unsure how the drill deviated into the side of the hole but this seems the most likely explanation for the discrepency. |
| Sample | 26.50 | 28.04 | 51519, hole stopped Dec 3 /04 drill broken down |
| Minor | 27.00 | 29.00 | light greenish bleached, sheared with chlorite on slips - 35° to core axis. Core broken into 1 -1.5 inch pieces |
| Sample | 27.00 | 29.00 | 51521 |
| Sample | 29.00 | 30.00 | 51522 |
| Minor | 29.90 | 30.40 | weakly bleached quartz carbonate and hairline stringers < 2% parallel to core axis, irregular. |
| Sample | 30.00 | 31.50 | 51523 |
| Minor | 30.40 | 30.95 | dark gray color, fine grained; 3% fine pyrite. |
| Minor | 30.95 | 35.36 | darker, sharp angular contacts and pieces due to drilling, not structural 5-7% fine pyrite. Rare to sparse chalcopyrite blebs; Sulfides abundant on fractures 35.36 end of run. |
| Sample | 31.50 | 33.00 | 51524 |
| Sample | 33.00 | 34.50 | 51525 |
| Sample | 34.50 | 36.00 | 51526 |
| Minor | 35.36 | 38.60 | dark gray green chloritic phenocrysts 1-2%; very fine pyrite |
| Sample | 36.00 | 37.50 | 51527 |
| Sample | 37.50 | 39.00 | 51528 |
| Minor | 37.60 | 37.70 | brecciated quartz fragments 30% in andesite matrix. |
| Minor | 37.70 | 39.20 | chlorite/biotite phenocrysts rimmed/bleached in carbonate @ 39-39.2m; irregular quartz carbonate fracture fillings and clots. |
| Sample | 39.00 | 40.50 | 51529 |
| Minor | 39.20 | 42.50 | highly broken core 3-5% fine sulfides -->pyrite; fine sulfides dusting and mud on numerous fractures and slips, possible fault. |
| Sample | 40.50 | 41.50 | 51530 |
| Sample | 41.50 | 43.00 | 51531 |
| Minor | 42.50 | 43.20 | light gray siliceous intervals, 1-2% disseminated pyrite, 1-2% irregular quartz fracture fillings and veinlets. |
| Sample | 43.00 | 44.50 | 51532 |
| Minor | 43.20 | 46.50 | brownish gray andesite-biotite-carbonate fracture fill 15-20 ° to core axis, fine pyrite along fractures 0.5-1% pyrite. |
| Sample | 44.50 | 46.00 | 51533 |
| Sample | 46.00 | 47.55 | 51534 |

| Interval | From (m) | To (m) | Description |
|----------|----------|--------|---|
| Minor | 46.50 | 47.55 | light gray moderately bleached carbonate and chlorite slips |
| Minor | 46.90 | 47.55 | siliceous gray bands |
| Point | 47.55 | | EOH |
| Sample | - | - | 51517, blank |