

TTGS → TAM/TAKEN

Southern Rio Resources Ltd.

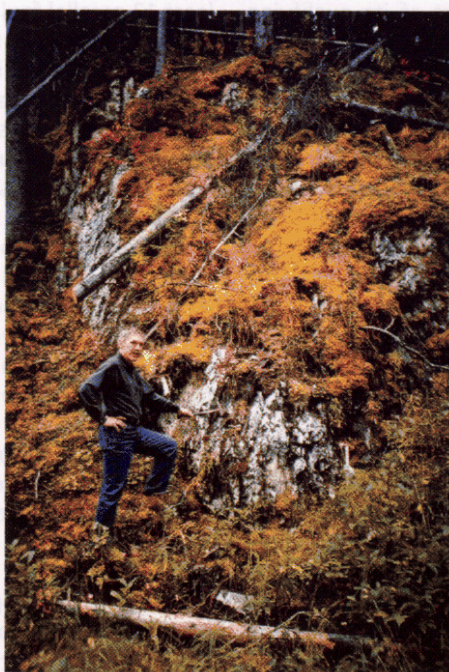
Southern Rio Expanding New Gold-Silver Zone

After exploring in South America for about 10 years, **Southern Rio Resources Ltd.** [SNZ-TSXV] underwent a management change in the summer of 2001 and concluded there was no place like home. Headed by Lindsay Bottomer, P.Geo., president/CEO, the company has four mineral projects in central British Columbia, the 3T's, Dani, Trout and Sam, one in southern BC, the Duke, and one in northwest Ontario called the Minnitaki. The 3T's property, the company's primary focus, has generated encouraging exploration results from last year's and this spring's work and is currently the subject of an exploration program designed to expand the known gold/silver zones.

Located at the southern end of the Nechako Plateau about 200 km southwest of Prince George, the 3T's project comprises the Tsacha, Taken and Tam claim groups encompassing an area of some 34 square km. A total of nine mineralized veins have been discovered on the three claim groups with more veins likely lurking beneath the cover of the glacial till. While both the Tsacha and Tam claims are known to host low sulphidation epithermal gold/silver veins, the current work is following up last fall's good drill results on the Ted Vein, located on the 100%-owned Tam claims (1% net smelter return royalty).

In October 2002, a four-hole diamond drill program on the Ted Vein returned 26.90 metres grading 1.29 grams gold/tonne and 237.2 grams silver/tonne in hole TT-10 that included two higher-grade sections, the first of which returned 1.9 grams gold/tonne and 358 grams silver/tonne and the second assaying 2.12 grams gold/tonne and 426.3 grams silver/tonne over 3.2 metres. This works out to a gold equivalent of 4.68 grams/tonne for the entire 26.90-metre intercept. Drill hole TT-11 returned 11.4 metres grading 1.4 grams gold/tonne and 341 grams silver/tonne and hole TT-13 returned 12.2 metres of 2.8 grams gold/tonne and 55 grams silver/tonne.

The most recent program has yielded even better assays from the Ted Vein. Drill hole TT-16 intersected 28 metres (true width



Lindsay Bottomer, president of Southern Rio Resources, examines the Ted Vein outcrop on the Tam claim group at the 3T's property.

Photo courtesy Southern Rio Resources Ltd.

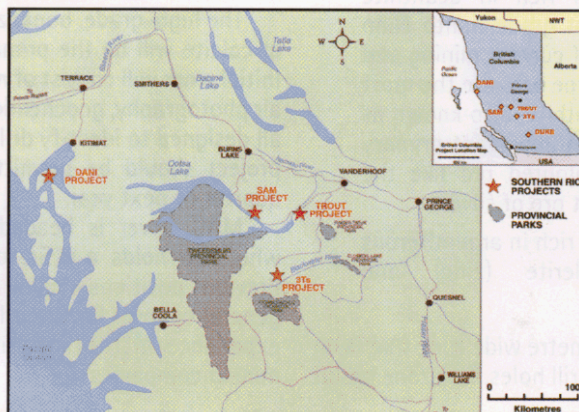
approximately 12 metres) averaging 3.78 grams gold/tonne and 137.5 grams silver/tonne that began at a down-hole depth of about 100 metres. This intercept has a higher-grade section that assayed 5.96 grams gold/tonne and 136.6 grams silver/tonne over 16 metres (true with 6.9 metres). These good widths open the possibility to develop an open pit mining operation.

The Tam claim group was drill-tested back in 1996 by Phelps Dodge which, in a limited drilling program, cut 8.5 grams gold/tonne and 383 grams silver/tonne over 23 metres in hole DDH-9. Although Phelps Dodge dropped the project due to the low gold prices at the time and a mining-unfriendly provincial government, today's higher prices and a mining-friendly government means further exploration is now warranted. Exploration on the 3T's claim groups by previous operators totals about \$2.5 million. Larry Diakow, a geologist working for the BC Geological Survey first discovered mineralization on the 3T's property in 1993.

The steeply-dipping Ted Vein, located on the southern part of the Tam property, has now been traced for over 300 metres with true widths ranging from eight to 12 metres and remains open along strike to the north, the south and to depth.

In the central part of the Tam property, the Mint Zone has also returned encouraging metal values. Six shallow holes were drilled in two "fences" in an area where numerous mineralized "float" boulders occur on surface. The drill holes encountered wide zones of quartz veins in altered rhyolite (an extrusive igneous rock) host rocks. Drill hole TT-27 returned 2.0 metres grading 8.08 grams gold/tonne and 80.4 grams silver/tonne over 2.0 metres, for a gold equivalent grade of 9.42 grams/tonne. One hundred metres further south, hole TT-25 returned 2.0 metres grading 5.48 grams gold/tonne and 127.3 grams silver/tonne for a gold equivalent grade of 7.6 grams/tonne. The Mint Zone remains open along strike and to depth.

The Tsacha property, which mostly surrounds the Tam property,



MAG Silver Corp.

MAG Silver Drilling Mexican Project

Having recently raised \$5.75 million as part of its qualifying transaction, **MAG Silver Corp.** [MAG-TSXV], which just started trading April 22, is now utilizing these funds to finance a 3,500-metre drilling program at the Juanicipio property in central Mexico. Located about six km west of the city of Fresnillo, Zacatecas state, the project lies three km from the world's largest silver mine – the Fresnillo Mine of Industrias Peñoles S.A. The Fresnillo Mine produces 12% of the world's silver from high-grade veins that average about 23 oz. silver/ton and 0.1 oz. gold/ton. The Spanish Conquistadors began mining silver at the Fresnillo Mine in 1560 and, since then, overall production plus reserves total about 1 billion ounces of silver with some 400 million ounces having been mined since 1976 when the veins now in production were discovered.

MAG Silver has a 100% beneficial ownership of Minera Las Lagartos, S.A. de C.V., a Mexican company which holds options to earn 100% interests in three exploration properties in Mexico – the Juanicipio, Guigui and Don Fippi. Under the terms of agreement MAG Silver is required to pay CDN \$14,000 in taxes and spend CDN \$954,000 on exploration by the end of 2003.

The 8,000-hectare Juanicipio property is viewed as prospective since the structures being drill-tested are aligned with the major veins currently in production, or under advanced exploration, at the Fresnillo Mine. There has been sporadic, small-scale prospecting by individuals over the last several hundred years; however, no production has taken place. Minera Sunshine de Mexico performed some systematic exploration between 1999 and 2001 that included geological mapping, geochemical sampling and geophysical surveys. The geological environment at Juanicipio is similar to that at the Fresnillo Mine. Six geological structures have been identified and permitted for drilling.

Three ore types are known to exist in the Fresnillo District:

- Oxide ores rich in silver
- Light sulphide mineralization rich in acanthite and ruby silvers – the highest grade Santo Niño type ores that are the focus of current mining and exploration. The Santo Niño type ores are the most economically significant. Acanthite, also known as argentite or silver glance, is an important primary ore of silver. Ruby silver, coloured red like the gemstone, is also an important ore of silver.
- Heavy sulphide mineralization rich in argentiferous galena (silver/lead), sphalerite (zinc) and pyrite (iron).

The first drill hole is testing a 150-metre wide zone that is on trend with a string of over 10 Peñoles drill holes. This zone has at

least 12 parallel fault strands characterized by strong pyrite and hematite mineralization with geochemical signatures similar to other veins in the district. It has been gleaned from geological data that the mineralization target is expected to be about 500 metres in depth. This first hole of 750 metres will be drilled at an angle designed to cut as many of the structures as possible. Drill results will be released when available.


At the Guigui silver project in Chihuahua the summer work program is focusing on finding the source zone of the Santa Eulalia District, an area that hosts a large carbonate replacement-type deposit that has produced over 450 million ounces of silver averaging 11 oz. silver/ton. The district has also produced some 8 million tons of lead and zinc since the early 1700s from what appears to be the outer zones of the system.

The source of the silver deposits is covered; however, various geologic, mineralization and geochemical zoning features and geophysics have indicated its location. MAG Silver will conduct advanced fieldwork to identify promising drill targets in the third quarter this year.

At The Don Fippi property, also in Chihuahua, the mineral land package has been recently reconsolidated since mining and exploration in the region ceased in 1983.

The Don Fippi property covers most of the historic Batopilas District that produced over 300 million ounces of silver between 1630 and 1913 when the mines shut down due to the Mexican revolution.

The high-grade, bonanza silver ores grading up to 70% silver in calcite will be the primary exploration focus of MAG Silver. Initial work will consist of mine rehabilitation, geologic mapping, air photography, geochemical sampling and geophysical surveys, all designed to identify drill targets. It is expected the Don Fippi project should be permitted and ready to drill by the third quarter of next year.

MAG Silver is headed by George S. Young, an attorney who also holds a B.Sc. degree in Metallurgical Engineering. Previous positions include president of Oro Belle Resources and general counsel for Bond International Gold. He has significant experience in the acquisition, financing and development of mining companies. 

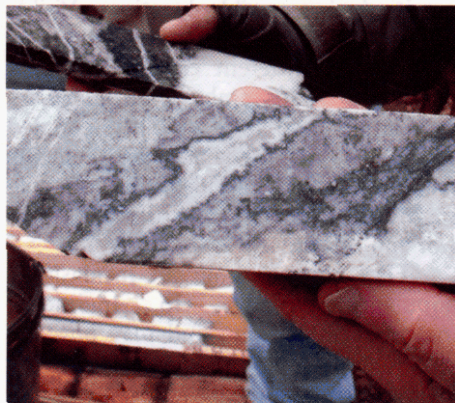


An example of the rare and very valuable native silver from the Batopilas Mine in central Mexico.

Photo courtesy MAG Silver Corp.



mining stocks to watch



A half-section of diamond drill core from hole TT-16 showing typical high-grade gold-silver mineralization from the Ted Vein. This hole returned 28 metres grading 3.78 grams gold/tonne and 137.5 grams silver/tonne.

Photo courtesy Southern Rio Resources Ltd.

hosts multiple gold/silver epithermal veins in a geological environment similar to that at the Blackdome Mine to the south as well as veins at the Midas Mine in Nevada and the El Penon Mine in Chile. Southern Rio may earn a 100% interest in the Tsacha claim group from Teck Cominco by spending \$1.2 million on exploration over three years. Previously, Teck Cominco (then Teck Corp.) had drilled over 16,000 metres on the Tsacha property and identified seven mineralized veins. The Tommy Vein has an inferred resource of 470,000 tonnes grading 7.40 grams gold/tonne and 65.22 grams silver/tonne for a gold equivalent of 8.33 grams/tonne. This resource represents 112,000 contained ounces of gold and 987,000 contained ounces of silver down to a depth of about 150 metres. Last fall, drilling by Southern Rio extended the Tommy Vein for 400 metres to the north, bringing the known length of the Tommy Vein to nearly one km while remaining open to the north.


The Taken property, located in the northeast part of the 3T's claim groups, is subject to an option agreement whereby Southern Rio can earn a 100% interest from Phelps Dodge Corp. by spending \$250,000 on exploration over three years. Earlier prospecting by Phelps Dodge located mineralized float boulders grading up to 19.2 grams gold/tonne and 148 grams silver/tonne. This property has yet to be drilled.

The summer exploration program at

the 3T's property will include geological mapping, prospecting and geophysical surveys. This work will lead to a late summer or fall drilling program that will target various prospective areas on the large property.

The 100%-owned Trout and Sam properties are also located in the Nechako Plateau region and, again, Southern Rio is seeking economic epithermal gold/silver targets. Located 60 km and 100 km southwest of Vanderhoof, respectively, the Trout and Sam properties have seen some past drill programs that provided

encouraging assays. The Trout claims returned 3.82 grams gold/tonne over 20.0 metres and the Sam claims returned 7.12 grams gold/tonne and 27.5 grams silver/tonne over 1.5 metres. The company is planning an initial exploration program on the Trout and Sam claim groups for this summer.

"The entire district on the Nechako Plateau is prospective for mineralization," says Robert Weike, P.Geo., consulting geologist for Southern Rio. "We are looking at other attractive mineral property acquisitions in the district." 



International KRL Resources Corp. is a well financed, dynamic exploration company with a talented management group and high-caliber technical team.

Timmins and Kirkland Lake gold camps have produced more than 75 million ounces of gold.

Company controls large land position in Abitibi Greenstone belt 100 km south of Timmins, Ontario, Canada. Property offers significant opportunity for medium to high grade, bulk tonnage gold deposits.

Twenty-five drill holes in two gold showings all returned wide intervals of significant grade, near surface, open pittable, gold mineralization. Drilling is currently underway.

Numerous other gold showings will be upgraded for drilling in 2003.



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Illumination for the Future

50 CARMANAH TECHNOLOGIES

by Kristina Walcott



Able to withstand the rigorous demands of lighting at a mining operation, the Carmanah LED's have no wiring and can therefore be mounted anywhere. The 501 is visible up to 0.5 miles, the 601 can be seen for up to one mile and the 201 hazard marking light has a visibility up to 1.6km. Photos courtesy Carmanah Technologies Corporation.

51 UNITED ZEOLITE PRODUCTS LTD.

Headquartered in Victoria, BC, Carmanah Technologies Corporation [CMH-TSXV] is a world leader in navigational and hazard lighting. Carmanah's technology was originally developed for the marine industry but has found many other applications. Research and development commenced in 1996 and on July 6th, 2001, Carmanah Technologies began trading on the Canadian Venture Exchange. The company has continued to grow, and in 2002 reached a significant milestone as it celebrated the installation of over 50,000 LED (light emitting diode) units. Currently, the technology is in use in more than 110 countries, with annual sales of over CDN \$6.4 million. The year 2002 also represented the first time Carmanah achieved profitability as a public company. This was a considerable achievement as it also expanded its production facilities threefold during the year.

Most recently this innovative company has focused its attention towards the natural resource industry by launching a specialized line of lighting products directed toward mining applications, in particular the gravel and aggregates industry.

Mining quarries have long struggled with a variety of safety issues. Moving vehicles, poorly marked pedestrian pathways and hazards have all affected their safety record. Carmanah's unique solar powered, LED lights and in particular the 201, 501, and 601 Series, featured below, offer a cost effective alternative which will permit the quarry manager to further enhance safety in the workplace.

In addition to effectively utilizing LED technology, Carmanah has combined it with the use of solar powered technology, as holders of the "Sealed - Solar-Powered Assembly" patent. This patent integrates high-powered LEDs, and efficient solar panels combined with a power management system all encased in a sealed unit that is virtually indestructible. Carmanah's technology is unique in that the solar panels are encased in a polymer, which is built into each side of the light, allowing the sunlight to be trapped from any direction. This, combined with a sophisticated internal power management system, permits the units to function continuously with as little as 1.5

hours of daylight.

Requiring no cabling, or wiring, the lights are installable in a variety of previously inaccessible locations. Visible up to two miles, they are available in a variety of different colours including green, red, white, amber and blue. Easy installation, and high visibility, coupled with low maintenance requirements makes these lights an ideal solution, able to withstand the rigorous demands of a working quarry.

LED's have become an increasingly popular alternative to traditional incandescent lighting and may one day represent a significant portion of the \$12 billion global illumination market. An LED is a semi-conductor chip that emits light when electricity passes through it. The LED is nearly 100x more energy efficient than its traditional counterpart, the incandescent bulb, in which nearly 85% of the electricity consumed is dissipated as heat. LED's were originally only used as indicator lights; however, recent technological advancements have increased both their brightness and range of colour availability thereby increasing their applications. LED's are now used in traffic lights, brake lights, navigation lighting and most recently their application in household lighting is being investigated, where they could cut hydro bills by up to 90%, representing a substantial costs savings to consumers.

LED's, although only now gaining popularity with consumers, have in fact been in existence for over 30 years, with sales increasing at a phenomenal rate of 58% per year for the past five years. The primary element in the manufacturing of LED's is gallium. US demand for gallium increased nearly 300% between 1991 and 2000 and demand is expected to continue to increase. Gallium is found as a trace mineral in bauxite (the primary ore of aluminum) and coal. To date, no stand-alone gallium mines exist, although Gold Canyon Resources is exploring a gallium prospect in Nevada. In fact, nearly 95% of all gallium produced is a by-product of bauxite. The major producers of gallium as a by-product are Australia, Russia, Hungary, China, India, France and Kazakhstan.

Carmanah is continuing to make significant strides in bringing LED technology to mass market, and expects to see continued growth in its operations in the years to come.