

# CARMACKS COPPER PROPERTY

## Western Copper Corp.

President and Chief Executive Officer: Dale Corman

### Corporate headquarters

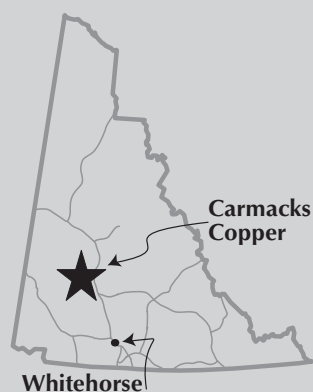
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Stock symbol: WRN (Toronto Stock Exchange)

## PROJECT STATUS

Permitting; feasibility stage



### Location

38 km northwest of Carmacks, 220 km north of Whitehorse

### Ownership

Western Copper Corporation

### Commodity

Copper, silver, gold

### Ore type

Oxide main ore type, sulphide reserve also available

### Oxide resource\*

Measured and Indicated (0.25% total copper cutoff): 11.98 million tonnes grading 1.07% total Cu (0.86% oxide Cu), 0.46 g/t Au and 4.6 g/t Ag

\*NI 43-101-compliant technical report by Wardrop, January, 2008

### Sulphide resource\*

Measured and Indicated (0.25% total copper cutoff): 4.3 million tonnes grading 0.75% total Cu (0.03% oxide Cu), 0.22 g/t Au and 2.37 g/t Ag

\*NI 43-101-compliant technical report by Wardrop, January, 2008

### Mining method

Open-pit, solvent extraction electrowinning (SX/EW)

### Mine life

6 years (may be extended by exploration)

### Capital cost

\$152 million

### Operating costs\*

CDN\$0.98/lb. of copper produced  
\*Feasibility study by M3 Engineering and Technology Corp., May, 2007

### Copper production per year

14 500 tonnes LME grade copper cathode, considering maximum extraction of 85%

### Estimated number of employees\*

100 (average for mine life)  
\*Feasibility study by M3 Engineering and Technology Corp., May, 2007

### Power

Carmacks-Stewart transmission line is located 11 km from property

## HISTORY

Copper was first discovered in the Carmacks Copper area in the late 1800s, but it was not until the late 1960s that the property was staked by G. Wing of Whitehorse. Subsequent exploration was carried out by the Dawson Range Joint Venture (Straus Exploration Inc., Great Plains Developments of Canada Ltd., Trojan Consolidated Minerals Ltd. and Molybdenum Corporation of America). Archer Cathro and Associates Limited acted as manager and earned the right to acquire abandoned properties. The G. Wing residual interest was acquired by A. Arsenault in 1971; the Arsenault interest is held under an option agreement to Archer Cathro and Associates (1981) Ltd. In 1989, the property, including the rights to the Arsenault Option, was optioned by Archer Cathro and Associates to Western Copper Holdings Ltd. which farmed-out a 50% interest to Thermal Exploration Co. (Western Copper and Thermal Exploration Co. merged in 1996.) Archer Cathro and Associates retain a 3.0% net smelter royalty to a maximum of CDN\$2.5 million. An advance annual royalty of \$100 000 is due only if the average price of copper for the calendar year exceeds US\$1.10/lb.

A total of 12 900 m (43,000 feet) of drilling in 80 diamond-drill holes and 11 reverse-circulation drill holes has been completed on the property, mostly in the No. 1 zone. In addition, several kilometres of surface trenching has been carried out across the main deposit.

In February, 2003, Western Copper changed its name to Western Silver Corporation.

On May 3, 2006, Western Silver was acquired by Glamis Gold. Western Copper became a spin-off company in the transaction maintaining control of the Carmacks Copper project, as well as the Sierra Almoloya property in Mexico, as well as approximately CDN\$38 million in cash.

In June 2005, Western Copper submitted a Project Description to the Yukon government (YTG) for review, pursuant to the *Yukon Environmental Assessment Act* (YEA).

A 2006 exploration program consisted of 7204 m of diamond drilling in 34 holes and 742 m of percussion drilling. The program successfully indicated additional mineralization at both the No. 1 zone and the newly discovered No. 13 zone. Zone 13 is located approximately 1 km southeast of Zone 1 and its mineralization is similar, however, with the exception of near surface occurrences

on the north end of the zone, the mineralized hornblende gneiss host appears to have remained largely unoxidized.

In February, 2007, a parallel review under the *Yukon Environmental and Socioeconomic Assessment Act* (YESAA) was initiated with the submission of the Proposal for the Carmacks Copper Project to the Yukon Environmental and Socioeconomic Assessment Board.

In May, 2007, M3 Engineering released a new feasibility study, which examines the development of the oxide mineralization in the No.1 Zone and the associated resource and reserve estimates.

In 2007, 122 drill holes totalling 17 830 m were drilled on the property, the bulk of which were into the mineral resource. Additional drilling occurred outside the resource area, for example, drillhole WC-130, located approximately 600 m east of Zone 13, intercepted a 60-m zone of sulphide mineralization of which the bottom 8.8 m graded 1.39% Cu and 226 ppm Mo.

A new NI 43-101-compliant resource was calculated for the property by Wardrop in January, 2008. In September, 2008, the company received a positive decision from the Yukon Environmental and Socio-economic Assessment Board and is now applying for a Quartz Mining License from the Government of Yukon.

## PROJECT SUMMARY

The Carmacks Copper project covers 232 contiguous mineral claims (4270 hectares). Access is by a 43-km gravel road from Carmacks, which is 175 km north of Whitehorse. Access to tidewater and port facilities is available through the port of Skagway, Alaska. The project is expected to be a low-cost producer of cathode copper, employing solvent extraction and electrowinning techniques to recover oxide copper. The mine operation will employ approximately 100 people, the majority of whom will reside in the town of Carmacks.

Western Copper Corporation is continuing discussions with government officials relative to the permitting process so that it will be in a position to advance the project quickly once copper prices have reached a level that would provide appropriate returns.

### Geology, mineralogy and ore reserves

The Carmacks copper-gold deposit lies within the Yukon-Tanana Terrane. The deposit area is underlain by intrusive and meta-intrusive rocks of the Jurassic Granite Mountain

intrusion. Compositions range from granodiorite to diorite. These rocks are equigranular to porphyritic, and massive to moderately foliated. The porphyritic phases contain phenocrysts of K- (potassium) feldspar, plagioclase and/or quartz. Post mineralization granitic pegmatite and aplite dykes are widespread in the area. Hornblende is present in dioritic intrusive rocks and locally in the granodioritic phases. Quartz, K-feldspar, and plagioclase are present in all intrusive phases. Plagioclase is subhedral and very locally displays growth zoning.

The host rocks for copper and gold mineralization at the No. 1 zone can be divided into three types: 1) biotite-rich gneiss and quartzofeldspathic gneiss; 2) 'siliceous ore'; and 3) fine-grained 'amphibolite' and biotite schist. In addition, 14 identified zones containing copper mineralization are known on, or in, the immediate vicinity of the property.

The copper deposits are zoned mineralogically with copper oxide and copper carbonate minerals at surface, and mixed oxide and sulphide minerals at depth. The primary copper mineral is malachite with lesser azurite, cuprite and covellite, as well as other copper minerals. The No. 1 zone has been defined by trenching and drilling over a 700-m strike length and down-dip for 450 m. The average width of the deposit is 34 m.

The M3 feasibility study, completed in 2007, supports the development of the mine and estimates a new reserve of 10.6 million tonnes and a six-year ore production life. The operating environment allows for open pit mining and processing 1.76 million tonnes of ore per year.

The solvent extraction/electrowinning (SX/EW) recovery envisaged by the feasibility study is year-round with production of approximately 33.8 million lb (15.3 million kg) per year of pure copper cathode.

The following table defines the mineral reserve for the project and converts the measured and indicated mineral resources in the design pit to proven and probable mineral reserves, respectively.

Class	Tonnes (000s)	Total Cu (%)	Oxide Cu (%)	Non-oxide Cu (%)	Au (g/t)	Ag (g/t)
<b>Proven</b>	3189	1.227	1.028	0.199	0.659	6.20
<b>Probable</b>	7422	0.965	0.822	0.144	0.408	3.94
<b>Total</b>	10 611	1.044	>0.884	0.160	0.483	4.62

Metallurgical test work on various ore samples started in 1989 and has been ongoing since that time. These tests include:

- 27 bottle roll tests;
- 45 column tests;
- 1 crib test near site;
- SX/EW testing by a manufacturer.

Confirmatory test work continues at present to assist with detailed design. Based on a careful review of the results of these tests the overall copper recovery has been estimated at 85% of the total copper content of the ore. For cash flow purposes, 80% recovery is assumed to occur in the first year the ore is placed on the pad, a further 2.5% recovery is assumed to have occurred at the end of year 3, and the balance is realized during the heap rinsing phase. Tests most closely representing the planned operating condition indicate that acid consumption will be 25 kg per tonne of ore or better.

### Infrastructure

The mine facility will consist of, or have the following: an ultimate leach pad, processing facilities, open pit(s) and waste dump(s), water and power distribution services, propane storage and distribution services, fire protection, diesel fuel storage, communications, sewage treatment, trailers for offices, change-house, operations camp, gate-house and first-aid station, and pre-engineered buildings for warehouse and shops, laboratory, water supply and distribution pump-houses. Off-site infrastructure includes 13-km of property access road (the road has been cleared and surveyed), 45 km of 138 kV overhead transmission line, and 10 000 tonnes of acid storage facilities at Skagway to accommodate ocean shipping schedules and transportation to site.

The process facilities, ultimate leach pad, open pit and waste dump will occupy an area of approximately 100 hectares. Crushing and pad loading will only take place during 200 days of the year. Leaching of ore will be year-round with solution heating during winter operation. Copper will be recovered from the oxide ore by sulphuric acid heap leaching of crushed minus-19-mm agglomerated ore. Pregnant leach solution (PLS) will be treated in a solvent-extraction plant to purify and concentrate the weak leach solution to a more concentrated solution suitable for electrowinning. High-purity copper cathodes will be produced in an electrowinning plant for shipment from the ice-free port of Skagway. A pilot test plant, partially funded under the Canada-Yukon Mineral Development Agreement, operated from October, 1993 to February, 1994 and produced positive test results. A

Reserves/resources are from a variety of sources and may not be compliant with National Instrument 43-101 Standards, unless specified.

220-ton bulk sample was crushed and placed in a 25-foot (7.6-m) -high crib for leaching. The test confirmed that copper can be recovered by solvent extraction during the colder winter months.

The first phase of the leach pad area has been cleared to ensure permafrost is thawed and to clarify the foundation condition.

### Production

The open-pit mine plan calls for a stripping ratio of 4.25 tonnes waste to 1 tonne ore. The project will treat on average 1 763 700 tonnes of oxide ore per year, to produce 14 310 tonnes of copper cathodes per year over 8.5 years, at a recovery rate of 80%.

Production capital costs for the plant and equipment are estimated at \$48.6 million (US\$35.4 million), with \$9.7 million (US\$7.1 million) for indirect costs (i.e., engineering and construction management) and \$5.1 million (US\$3.7 million) for contingency, for a total of \$63.4 million (US\$46.3 million). Working capital requirements are estimated at \$4 million (US\$2.9 million). Operating costs over the life of the project are estimated to be between \$0.88 and \$0.90/lb. Cu (US\$0.64 and US\$0.66). The operating cost per pound does not include depreciation and amortization of capital costs. Based on recoverable copper of approximately 252 lb. (114 kg) over a productive life of 8.5 years, the capital cost per pound is approximately US\$0.28/lb. Any additions to the ore reserves would lower the capital cost per pound. Discussions with appropriate regulatory agencies are on-going regarding bonding for reclamation. No amount has yet been determined.

The Carmacks Copper property is post-feasibility study and in the permitting phase with a Q4 2009 production target. M3 recommends that WCC proceed with the development of this project, which is planned as an open-pit oxide mine with acid heap leach and solvent extraction/electrowinning process facilities producing cathode copper. The project will employ conventional, well tested technology throughout. Initial capital investment in the project is estimated to be CDN\$152 million with an additional CDN\$7.3 million for owner's costs. A further CDN\$21 million of sustaining capital is required over the life of the mine. The life-of-mine operating costs are estimated to be CDN\$0.98 (US\$0.84) per pound of copper produced. The base-case cash flow model, assuming 100% equity returns an IRR of 21.0% and an NPV of CDN\$69 million at 5% discount. This model uses a

copper price of US\$2.32 which is derived from a three-year historical, two-year future rolling average as of the end of March, 2007. An exchange rate of CDN\$1.00 = US\$0.85 has been used throughout this study.

The Carmacks Copper Project will be developed as an open-pit mine with an acid heap leach and a solvent extraction/electrowinning (SX/EW) process facility producing, on average, approximately 14 500 tonnes of LME Grade A cathode copper annually. The mining operation is designed to produce an average 1.73 million tonnes of ore per year or approximately 28 400 tonnes (ore and waste) per day on a seven day per week, 24 hours per day operation. The mine will be operated year-round, but may temporarily suspend operations when winter temperatures are extreme. Ore production will likely be suspended in the coldest winter months, but waste operations will continue. The mine will use a conventional spread of mining equipment, the main units comprising 10.5 cubic metre hydraulic excavators, 11.5 cubic metre loaders and 91-tonne haul trucks. Ore will be hauled by truck and dumped directly into the primary crusher, from where it will be conveyed to secondary and tertiary crushers. The final product will have a maximum size of 19 mm and a P80 of 13 mm. The crushed product will first be agglomerated with sulphuric acid and water and then conveyed by a series of overland (grasshopper) conveyors to a lined valley fill leach pad where it will be placed by means of a radial stacker. An Events Pond is located down gradient from the leach pad to provide capacity for an emergency drain down of the pad and to manage the plant water balance during various storm events. The crushed ore on the leach pad will be irrigated with dilute sulphuric acid to leach copper from the ore. Pregnant leach solution will be collected and pumped to the solvent extraction plant where the dissolved copper in the solution will be concentrated. This concentrated solution passes to the electrowinning plant where the dissolved copper is plated onto cathodes. Copper is stripped from the cathode and is then transported to market. Sulphuric acid is produced on site by means of a 131-tonne-per-day sulphuric acid plant. The plant will burn sulphur which will be transported to site in liquid form. Storage tanks will be provided for liquid sulphur to accommodate potential supply interruptions and for the concentrated acid to accommodate variations in demand for acid and allow for plant maintenance shutdowns.

Western Copper Corp. (WCC) anticipates Yukon Energy, the regional electrical utility company, will serve the mine from the new Carmacks-Stewart 138 kV transmission

line project being built along the existing Klondike highway. A tap in the vicinity of McGregor Creek would feed an 11-km 138 kV transmission line extension to the mine's main substation terminating on a dead-end structure. WCC has a secure right-of way for the power line from McGregor Creek to the site and is progressing

in discussions with Yukon Energy over terms of a power supply agreement. Total project electrical load is estimated to be about 10 megavolt-amperes (MVA). The mine is not a significant electrical power consumer, as all of the major mining equipment is proposed to be diesel powered.