

• ALASKA

Constantine expands VMS, gears up for gold

As drills enlarge Palmer resource in Southeast Alaska, explorer seeks new targets with geophysics, plans to test gold targets next

By SHANE LASLEY

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Constantine Metal Resources Ltd.'s 7,500-meter drill program continues to unravel the complex geology of Glacier Creek Prospect at the Palmer copper-zinc-gold-silver project in Southeast Alaska.

The South Wall and RW zones at Glacier Creek has been the focus of Constantine's drilling since the junior began exploring Palmer in 2006. With 32 holes drilled into the prospect through 2009, the junior released an initial inferred resource of 4.12 million metric tons grading 2.01 percent copper, 4.79 percent zinc, 0.30 grams per metric ton gold and 31 g/t silver (using a net smelter return cut-off of US\$75/t).

"Palmer represents an early-stage discovery where Constantine has been able to rapidly define a significant resource with relatively few drill holes. The deposit is open in most directions, with considerable potential for expansion," said Constantine President and CEO Garfield MacVeigh.

While two drills explore multiple strata of VMS mineralization at RW and South Wall, geophysical surveys are out front investigating the larger potential of the mineral-rich, mountainous terrain.

"This year we have added a component of geophysics to start keying up other prospects for drilling either later this year or next year," Constantine Vice President of Exploration Darwin Green told Mining News.

Once the exploration season winds down at Palmer, the explorer plans to spend some time investigating its gold properties in Ontario and British Columbia.

"Because of the major discovery made at Palmer, Croesus and our other gold projects haven't received the attention they deserved over the past two years. But now with gold (prices) up over US\$1,200 an ounce, we are gearing up to get more aggressive on these projects," Green explained.

Expanding Glacier Creek

Constantine rolled out assay results for the first three drill holes drilled into the of the 2010 drill program in early August.

South Wall, which consists of three nearly vertical stacked zones of VMS mineralization, was the target of hole CMR10-34. Hole 34 intersected 10.4 meters grading 0.30 percent copper, 4.18 percent zinc, 0.42 percent lead, 0.87 g/t gold and 81.6 g/t silver. This intersection extends Zone 1 mineralization 70 meters up-dip of hole CMR08-17 and expands the total vertical extent of South Wall mineralization to 430 meters.

At the upper extent of South Wall a fault cuts and folds the three layers at which point they lay into a more horizontal orientation. The upper layer, South Wall Zone 1, is related to the Main Zone lying immediately to the southeast, while Zone 2 and Zone 3 are of the same age strata as the RW Zone to the northwest.

Two of the initial holes of this year's drill program, CMR10-33 and CMR10-35, focused on expanding the RW Zone towards similar mineralization drilled by previous explorers 300 meters to the northwest of hole CMR07-07.

Hole 7, drilled at RW in 2007, cut 14 meters grading 4.09 percent copper, 7.35 percent zinc, 0.4 g/t gold, 50.9 g/t silver.

Hole 35, collared about 45 meters



A drill cuts through snowpack into the RW Zone at Constantine Metal Resources' Palmer property in Southeast Alaska. CMR 10-35 cut 7.1 meters averaging 2.10 percent copper, 1.52 percent zinc, 0.18 grams per metric ton gold and 16.8 g/t silver.

along strike to the west-northwest of hole 7, cut 7.1 meters averaging 2.10 percent copper, 1.52 percent zinc, 0.18 grams per metric ton gold and 16.8 g/t silver.

Hole 33, about 60 meters north of hole 7, did not find massive sulfides but instead broad zones of footwall stringer mineralization containing anomalous zinc was intersected. Similar stringers were cut below the VMS in hole 35 and is helping vector the drilling toward the RW Zone.

By mid-August Constantine had completed nine holes at Palmer and the drills were still turning. In addition to expanding five previously intersected zones of

mineralization, the company is targeting a deep zone believed to exist at RW, but has never been drilled.

"There are five separate zones included in the resource, all of which are open for expansion. Drilling has primarily focused on expanding these zones along strike and to depth. We believe there exists significant potential to find a deeper zone on the upright fold limb below the RW horizon that equates with South Wall Zone I, and are also trying to direct some of our exploration effort to gain a better understanding of this setting which has seen virtually no drilling to date," Green said.

Geophysics seeks new targets

The geophysical work at Palmer this year includes 40 line-kilometers of surface-based electromagnetic surveys covering areas immediately along trend from the currently defined deposit and several other well-mineralized prospects known to occur on the property.

Numerous showings and prospects on the Palmer property occur along two mineralized trends over a combined strike length of at least nine miles, or 14.5 kilometers.

"The preliminary data from that is look-

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ing really exciting, and in fact we are targeting one of those areas right now with drilling,” Green said. “The target is about 500 meters north of the Little Jarvis surface showing where chip samples by Kennecott in the mid-1990s returned 4.6 meters grading 13 percent zinc, 7 percent copper and 7 oz/ton silver. Little Jarvis is on the opposite side of the mountain, about 1 kilometer, west of our South Wall drilling.”

Mount Henry Clay, the source of enormous high-grade massive and semi-massive sulfide boulders that occur near the limits of a stranded glacier, is another of the prospective areas where Constantine conducted a geophysical survey this summer.

“We have got some interesting data that has come out of that as well,” Green said.

The boulders, discovered in 1983 at the toe of a small ice sheet near Mount Henry Clay, contain as much as 33 percent zinc and 2.5 percent copper.

Twenty-six samples of various boulders collected by the U.S. Bureau of Mines returned an average grade of 19.3 percent zinc, 1 percent copper, 0.4 percent lead, 38.2 g/t silver, 0.22 g/t gold, and 20.6 percent barium. Although the source of the boulders has not been determined, the area remains attractive for discovery.

Bear Creek Mining, Granges Exploration Inc. and Rubicon Minerals Corp. drilled a combined 13 holes seeking the source of the boulders, but none of the programs were successful in discovering where the rich massive sulfide originated.

“Only preliminary data has been received; however, we are encouraged by the response we are seeing,” the exploration vice president said. “The surveying was part of our strategy of trying to advance other prospect areas on the property for drilling either late 2010 or 2011. With numerous prospects dotted along a 15-kilometer, or 9.3-mile, or so strike length, we think there is very good potential to discover multiple deposits on the property. Certainly the tenor and the size of the boulders that are scattered around the toe of the small perched MHC ice sheet warrant further investigation.”

High-grade Ontario gold

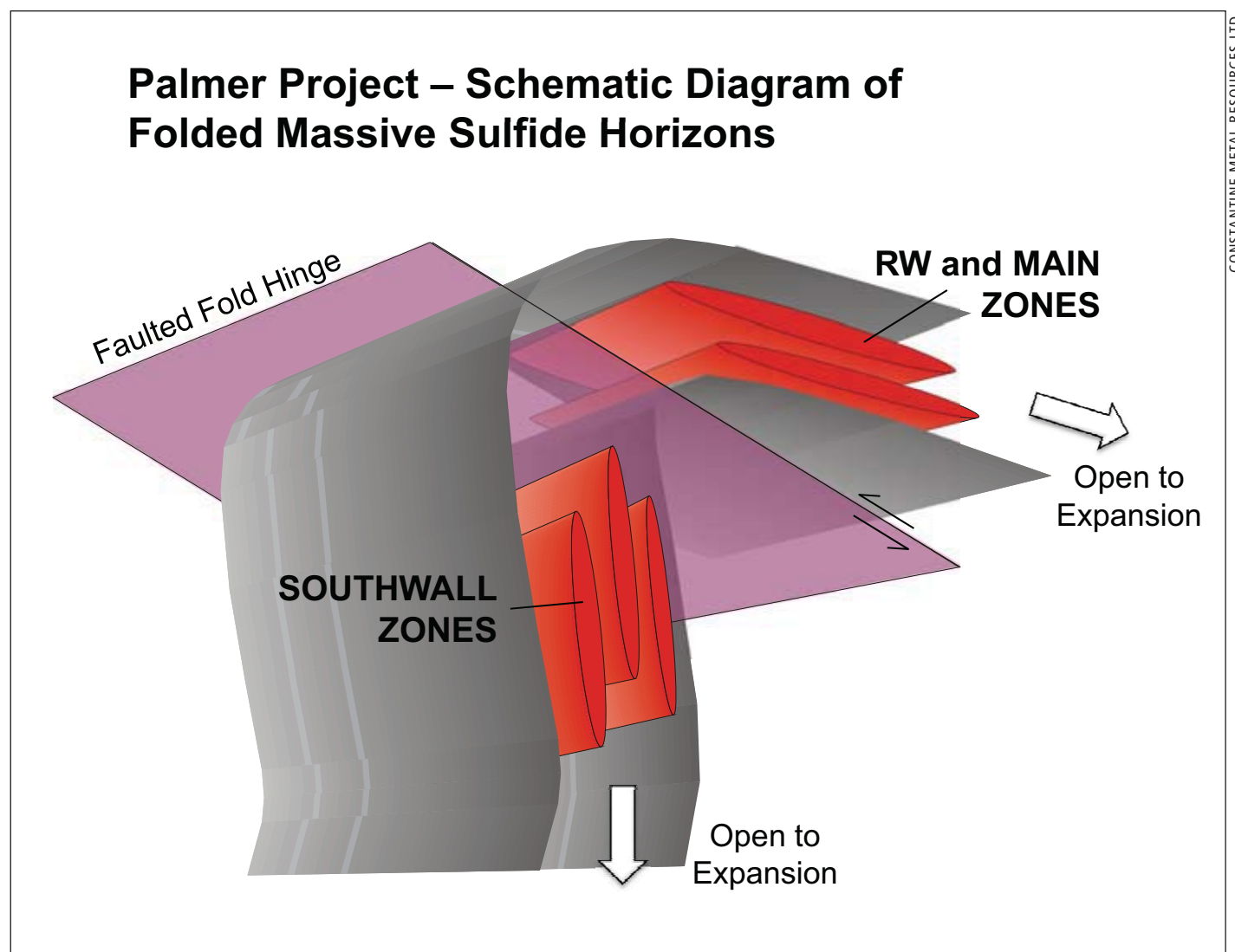
When the exploration season at Palmer comes to a close, Constantine will resume investigation of its Munro-Croesus gold property, a 1,028-acre land package that covers the legendary Croesus gold mine located 75 kilometers, or 47 miles, east of Timmins, Ontario.

For about four years, starting in 1915, miners extracted extremely high-grade gold from Croesus, the richest of which was shipped directly to the Royal Canadian Mint for processing. In 1919 the Ontario Bureau of Mines reported that “765 pounds of ore taken from a portion of the shaft yielded \$47,000 worth of gold.” At the US\$20.67 per troy ounce gold price of the day this would have represented a grade of 203,771 g/t gold.

About 1,000 pounds per week of the high-grade ore was shipped to the mint from 1915 until the early part of 1918 when the miners lost the bonanza ore at a fault.

Ore not shipped directly to the mint was milled onsite. While the main production ended when the vein was lost, intermittent mining continued until 1936. These small operations recovered additional gold from pillars, fault material and surface dumps.

The Ontario Department of Mines reports that the ore milled at Croesus produced 14,854 ounces gold from 5,333 short tons, for an average grade of 2.78 oz gold per short ton, or 95.3 grams per metric ton. This does not include the high-grade gold ore shipped directly to the Royal Canadian



Mint for processing.

Five samples of Croesus ore purchased by the Ontario Bureau of Mines for exhibition purposes and now in possession of the Royal Ontario Museum weigh 85 pounds collectively and contain 480.7 ounces, or 387,727 g/t gold.

Recent drilling by Constantine has identified gold-bearing veins on the offset side of the fault and new vein systems at depth below the historic mine workings that share the same alteration, and stratigraphic and structural setting as the mined Croesus vein.

“Garfield has a long family history with the Croesus and has probably done some of the best volcanic stratigraphy mapping of any area in the Abitibi to resolve the structural and stratigraphic setting of the Croesus high-grade, so our target is really well set up.”

The Abitibi gold belt, which has produced some 170 million metric tons of gold since 1901, is one of the most productive greenstone hosted gold districts in the world.

With very few holes ever penetrating deeper than 100 meters on the Munro-Croesus property, the depth potential of the system remains virtually untested. Constantine said these regions will be the focus of future drilling.

“Croesus is teed up for a drill program either late 2010 or early 2011 to specifically locate some more of the spectacular high-grade gold,” Green said.

New B.C. gold prospect

In May Constantine also picked up Trapper Lake, an early-stage gold prospect in the Atlin Mining District of northwestern British Columbia.

Work at Trapper Lake (previously known as the Inlaw property) in the early 1980s by Chevron Minerals of Canada, outlined a large-scale gold-in-soil geochemical anomaly with initial reconnaissance soil sampling followed by 700 grid-controlled soil samples at the 9,280-acre land package. Within the more than 1,000-meter-long anomaly, 13 individual soil samples yielded gold values greater than 1 g/t gold and two sites yielded values greater than 8 g/t gold. A soil sample program carried out in 2008 by Richfield Ventures Corp. validated the earlier findings.

MacVeigh said, “The Trapper Lake

property represents an exceptional early-stage gold exploration opportunity. It is rare to find a project with such a large and high-tenor geochemical soil anomaly lacking any prior drilling. Recent major gold discoveries in the Yukon, made following up gold-in-soil anomalies, highlight the opportunity.”

Green told Mining News in mid-August that he is gearing up to visit the gold

prospect in preparation for a drill program planned for next year.

“The plan at Trapper Lake is to do some additional prospecting, mapping and soil sampling and tee the project up for drilling in 2011. The work will be focused on a gold-in-soils anomaly that is greater than one kilometer long, averages 100 to 200 meters in width and remains open ended along strike,” he explained. ●

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10.9-million-ounce indicated and 2.4-million-ounce inferred gold resource. The grades are also holding up to the density drilling and may increase slightly when a new resource is calculated.

Many of the holes drilled into Money Knob have bottomed out in mineralization, indicating that the deposit has room to grow at depth. Two holes drilled into the Sunshine zone this summer highlight this potential. At a depth of 353 meters, hole MK- RC-0373 cut 49 meters grading 1.9 of gold per metric ton. From 363 meters hole MK-RC-0376 drilled 15 meters averaging 1.2 g/t gold.

Seeking gold-poor regions of the property suitable for building the heap leach pad, mill and other facilities is another facet of the drill program that will provide information the engineers need as they complete the feasibility study.

“Right now we have half a dozen or so facility alternatives on the property package, and we are going to need to evaluate those, because some of them have some very interesting gold anomalies associated with them,” Pontius explained.

Expansion continues

The junior is also continuing to expand the footprint of Money Knob. Two reverse circulation drills evaluating resource expansion and district-scale targets at Livengood have returned encouraging results on opposite ends of deposit.

“We are stepping out in a couple of

new areas; one down the Lillian Gulch area and the other one (Olive Zone) is to the south of the Core Zone as we come off the side of the hill there – we have had luck in both those spots,” Pontius explained.

Hole RC-0355, drilled in Lillian Gulch about 400 meters north and west of known mineralization, cut 7.6 meters grading 3.3 grams per metric ton gold. RC-0362, drilled 150 meters east of hole 355 intersected 6.1 meters grading 2.9 g/t. These results along with anomalous gold in soils have prompted the explorer to continue its investigation of this expansion area. RC-0392, drilled about 600 meters north of hole 355, intersected strongly altered favorable host rocks. Assay results are still pending from this hole drilled in the northern portion of the Lillian zone.

Olive, an expansion area southeast of the Core zone, is also showing promise. Hole MK-RC-0380 cut 21.33 meters averaging 1.73 g/t gold and included 6.09 meters grading 4.46 g/t gold. Assays are pending on several holes drilled in this promising new area.

An aggressive district-wide surface exploration campaign to define new deposits similar to Money Knob along trend has turned up some promising targets for a drill campaign expected to begin this fall.

“We have got a big regional soil program going on within the large land-block we’ve got and we have defined a lot of targets out there. Hopefully in mid-September we’ll have got some helicopter-supported reconnaissance drilling on some of those targets to see if we’ve got other deposits in the trend,” Pontius added. ●