

Copper: a new target for UKHM geologists

By JANE GAFFIN

Keno, the venerable old gentleman mine, refuses to die a natural death as long as a probable hundred million ounces of silver keep its heart beating. Yet, the federal government is bent on subjecting the mine to euthanasia.

I believe the mine deserves a dignified burial.

In a series of articles being published in the *Star* each Friday, I'm saying last rites and farewell to a great mine that served as the Yukon's lifeblood off and on for more than 80 years.

Here's part 15.

After Robert "Dutch" Van Tassell found the Husky ore body in 1967, the United Keno Hill Mines exploration geologist was motivated to take on new challenges.

Falconbridge Nickel and Canadian Superior Exploration (a subsidiary of Superior Oil) shared financing so United Keno Hill Mines could establish a new exploration division.

In March 1969, Van Tassell was named exploration superintendent and dispatched to the Yukon's capital of 6,000 residents.

He chose a company house in the residential suburb of Riverdale. Until the Medical Building came available on Main Street (where the extension of the Town & Mountain Hotel is now), the basement of the newly-purchased house served as an interim exploration department.

The household quiet was often shattered in the wee morning hours as the noisy telex machine clattered out messages from a head office located in an eastern city three hours ahead of Yukon standard time.

Van Tassell was busy instigating projects. For brevity's sake, when dealing with the mounds of paperwork associated with mineral exploration, he simply designated them alphabetically as ABC, DEF, and so forth.

The uninspiring monikers were time-savers when hand-labeling dozens of maps on the drafting table or registering large number of claims with a mining recorder.

He pored over geological reports and maps. The only existing geological guide was a large-scale map prepared by the federal government's Geological Survey of Canada. Although the 30-year-old geological map was peppered with inaccuracies, Van Tassell did not discount the information.

He realized that only easily-accessible places had been given proper attention.

Soon, he was concentrating on a geochemical-geological search for copper. His attention was drawn to the historical Williams Creek area where placer gold claims had been staked as early as 1898.

The area is about 210 kilometres northwest of Whitehorse in the Dawson Range. More than a favourable spot to hunt for gold, the countryside is littered with copper minerals such as bornite, chalcopyrite and malachite.

The general public didn't know a sulphide from the city limits but knew what was paying the bills. Coffee-shop regulars impatiently awaited rumours of the next mineral find.

It wasn't a long wait. As an experiment, Van Tassell decided to try something new by re-trying something old as dirt. A tried and proven prospecting method was to walk the ground where mineralization was suspected to exist.

He put a two-man reconnaissance party in the field in the summer of 1971. Their job was to walk the tree-covered terrain, breaking and collecting rocks along what was known as an intrusive belt favourable for copper mineralization.

Van Tassell showed geologist Dick Joy an example of a quartz-rich Williams Creek gneiss as an indicator rock. It was coated with the stunning tell-tale bright green of malachite.

Van Tassell offered an extra incentive to the party chief. "If you find any of this, you'll have a permanent job."

Joy, born in St. Patricks, Nfld., on Sept. 23, 1950, was a fresh 1971 BSc honours graduate from Memorial University at St. John's. He was young, eager and without definite plans beyond the 1971 field season.

He and his assistant, Peter Pangman, a geology student from Queen's University in Kingston, Ont., tramped off from east of Lake Laberge and prospected their way northwestward into the vicinity of Carmacks.

They moved along Williams Creek, Merritt Creek, Hoochekoo Creek and crossed Big Creek, which was notorious for flooding every spring.

The previous year, 1970, Silver Standard, in a partnership with ASARCO (American Smelting and Refining Company), had covered ground from Minto in the Dawson Range to Dawson City.

Curious about high geochemical values, the syndicate returned to do some follow-up work in 1971. An Alouette II helicopter was lowering silt samplers by hoist winch into the bush-covered creeks.

Roy McMichaels, a Silver Standard geologist, and John Kozic, a prospector assistant, staked the first 16 claims



Photos by JANE GAFFIN

BIRD'S EYE VIEW - United Keno Hill Explorations' DEF copper camp in seen from the air in 1974.



WORKING DRILL - A derrick of Caron's diamond drill is seen working at the DEF copper property in 1974. Caron was the first diamond drilling company working in the Yukon to replace tri-poles with derricks.

in the Minto area on July 16, 1971.

"We had excellent geochemical values on the drainage north of Big Creek," McMichaels enthused in a 1975 telephone interview from Vancouver. "And we weren't taking any chances with United Keno's crew bearing down on us."

Which was an incentive to expand its Minto group to 93 claims.

Meanwhile, United Keno Hill's two-man team was sweating among the rocks on a hot summer day. With his prospector hammer, Joy whacked off a strange-looking chunk of rock and held it in the sun's ray for a better look. Joy described it as a biotite gneiss.

"Then I noticed the huge green malachite-stained area about 25 yards to the south," said Joy in a 1974 interview. "I didn't know what to think. But where there's stain, there's bound to be sulphides."

The young geologist moved toward the outcrop where green malachite speckled the biotite gneiss. While lunching atop of the green tarnished hill, the prospectors discussed where the boundaries were to Silver Standard's claims.

They were quite pleased to see no

evidence of cut lines or people. From the discovery outcrop, Joy selected the best possible sample to show his boss, who responded to a coded radio message to come visit their camp.

As soon as the helicopter touched down, Joy held out an almost gneiss twin to the malachite-bespeckled example his boss had shown him before setting off on their mission.

"I guess I have a job for the winter?" reminded Joy.

Yes, he did, and he was destined to be named manager of the DEF camp when it was established in the Dawson Range 80 kilometres northwest of Carmacks.

On the afternoon of July 24, 1971, the fellows positioned the No. One claim post for DEF 1 and 2 claims. By season's end, the package contained 70 claims.

The next summer, 1972, United Keno's crews resampled soil. Everybody starts out in mineral exploration on the soil sampling brigade. Dirt baggers complain about the boring jobs, which, nevertheless, has been likened to low-ranking private soldiers who

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Company set record for deepest hole

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win or lose wars.

They note the locations on a grid where the samples were collected. The soil is analyzed in labs for metal values. The information is plotted on maps and interpreted, along with other geological data, guiding an exploration geologist in selecting favourable mineralized targets to pursue.



DICK JOY



DUTCH VAN TASSELL

They also dug test pits, mapped the geology and examined the depth of the overburden. A bulldozer exposed a large anomaly, roughly 300 by 1,500 metres in size.

Across the boundary line, ASARCO had taken over responsibility for advanced exploration from Silver Standard, whose diamond drilling program had revealed 2.5-per-cent copper and sparked a 1971 claim-staking rush.

ASARCO winter-freighted supplies and equipment into the site and did limited drilling and trenching in 1972. But the company went away discouraged about the results.

ASARCO wanted to consolidate the DEF and Minto properties and option the two-syndicate package to a major company. This was a typical practice dating back to the Guggenheims' Yukon Gold Corp. dredging operations near Dawson City in the early 1900s.

United Keno Hill Exploration declined the invitation. Small deposits are not attractive for mining giants to

develop. Usually, a big company farms out a small deposit to a junior company to develop and mine.

Besides, United Keno Hill's parent, Falconbridge Nickel, was a multinational. Why look elsewhere?

United Keno continued on with its budget and plans to drill exploratory holes in 1973.

The DEF manpower, which fluctuated between eight and 25 employees, was staking and sampling the 204 FED (DEF spelled backwards) claims southeast of the original DEF claims.

E. Caron Diamond Drilling Ltd. was punching holes and pulling core barrels at record pace as the Whitehorse firm completed a 5,400-metre drilling program.

The family-operated business was founded in 1966 by Eugene Joseph Caron, who had a passion for diamond drilling, a common, long-standing method of prospecting for mineral deposits.

Drilling was the senior Caron's career as well as his hobby.

Caron was born in Buckingham, Que., on Aug. 1, 1914, and grew up in the old mining area of Cobalt, Ont. More than 20 of his 50 years of experience in the diamond drilling business were spent as a field man for Morisette Diamond Drilling.

In the early 1960s, Caron struck out on his own in Haileybury, Ont. Much of his time as an independent driller was spent in mining regions of Quebec and northern Ontario.

The Caron family left eastern Canada for the North country where rigs equipped with diamond-studded drill bits churned thousands of metres down into the Earth's rock.

The bits consist of several concentric tiers of industrial grade diamonds. In good, unbroken rock, the high-speed rotary cutting action produces smooth intact core that is representative of the rock at depth.

When geologists want to examine what is hidden beneath their feet, they order diamond drilling which produces 22-kilogram tray loads of cylindrical rock core. Then comes the geologist's laborious task of logging and splitting the core lengthwise.

Half the core is sent to labs to be assayed for mineral content; the other half is stored in the core boxes to be used later to determine the best metallurgical method of ore recovery should the deposit be developed into an operating mine.

Caron's first Yukon drilling contract was with International Mine Services for 16,500 metres of drilling on the Arctic Gold and Silver property on a mountain near Carcross in 1966.

Caron was the first company working in the Yukon to replace tri-poles with derricks on diamond drilling equipment.

The company also set a record when putting down the deepest hole in the

Yukon to 1,067 metres on the 28-kilometre crescent-shaped copperbelt west of Whitehorse in 1974.

The senior Caron died a month shy of his 64th birthday in Vancouver on July 2, 1978. He had taught his two sons what he knew about drilling and bequeathed them the passion to carry on the family tradition.

Antoine (Tony) was mobilizing equipment while Raymond was in the shop maintaining it.

Caron's first diamond-drill hole on the DEF plunged into 1.85-per-cent copper; the next hole brought the grade up to 3.5 per cent; and No. 7, a deep hole, angled off and hit 4.99-per-cent copper.

"It was another tiger," recalled an elated Van Tassel.

The only problem was the No. 7 hole had slipped over onto the neighbour's property. United Keno was paying to do ASARCO's drilling.

Van Tassel notified ASARCO of the results from the drill core. ASARCO returned late in the summer of 1973. Caron kept drilling into gneiss and copper mineralization, only this hole was on ASARCO's dollar.

"We had an extensive knowledge of the area," Art Courtney, ASARCO's project manager, said in a 1975 interview. "He worked along the same geological pattern as United Keno."

Together, the two syndicates outlined the eight-million-ton, low-grade DEF/Minto copper deposit with its maximum 12-year mining life expectancy.

Almost 60 per cent of the ore body belonged to Silver Standard/ASARCO, while the remaining 40 per cent was owned by United Keno Hill (the manager), Falconbridge Nickel and Canadian Superior.

United Keno Hill Exploration's one-man Whitehorse office expanded to five permanent employees.

Jane Gaffin is author of **Cashing In**, a definitive history of the Yukon's hardrock mining industry, 1898 to 1977. You can e-mail her at janegaffin@canada.com or visit her at www.diArmani.com.

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