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→ BIG ONION
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DISSECTING THE BIG ONION

Based on a talk presented by B.T. Aelicks, Director,
Varitech Resources, June 20, 1991.

Brad

Notes and comments by D.J. Alldrick

The Big Onion property has a long history:

- 1917 -- Copper was first discovered on the mountainside, which has a broad and distinctive alteration and gossan zone that is visible for miles around.
- 1920s -- A number of trenches and small adits were established by early prospectors.
- 1960 -- About this time the property was restaked by local prospector Jack Hemelspeck, who still owns the property.
- 1964-72 -- The property was drilled in succession by Noranda, Texas Gulf, and Cyprus.
- 1974 -- The district was designated an Integrated Management Unit.
- 1974-76 -- The property entered its most intensive phase of drill exploration under Canadian Superior. The project was stopped abruptly in 1976, with drilling on the main zone incomplete and other attractive targets on the large claim block untested.
- 1978-82 -- Several attempts at ore reserve estimates culminated in a computer-based calculation that included assay results from 115 drillholes (both diamond and percussion) totalling 55,000 feet.
- 1982 -- The Big Onion property reverted back to Jack Hemelspeck.
- 1984 -- The district was designated the Babine Recreation Area.
- 1991 -- In early May, Varitech signed an option to earn a 100% interest in the entire claim block by expending \$4 million in exploration over 4 years. This is subject to a 3% NSR 'finders fee' to Hemelspeck, which can also be bought out for \$5 million.

PARKING PROBLEMS

The district was designated an Integrated Management Unit in an attempt to eliminate ATV use in the alpine areas. The IMU boundaries were greater than the present Recreation Area limits. Ultimately, the IMU failed to halt damage to the high country and the decision was made to upgrade the region to a park. In 1984 the boundaries were redrawn, covering a smaller area, and the district was designated the Babine Recreation Area as a step towards formal park status. The boundary includes two past-producing mines (Silver King and Cronin) and several prospects. The southern tip of this area was intentionally drawn to include two local landmarks, the Big and Small Onions. In the process, the boundary line, drawn along the 3500-foot contour, unintentionally dissected the Big Onion mineral deposit.

(See attached sketch map)

GEOLOGY

The best available descriptions of the Big Onion deposit are ministry reports by Sutherland Brown (1966) and Schroeter (1975). [Note that these predate the most extensive exploration work]. Country rock is andesitic tuffs and breccias of the Lower Jurassic Hazelton Group. These are cut by an intrusive suite of unknown age (Early Jurassic to Eocene). Mineralization is predominantly chalcopyrite with lesser molybdenite and bornite. The main mineralized zone is surrounded by an outer halo of pyrite. Mineralization is most intense along a major shear structure, consequently the deposit has a pronounced northeast trend.

Peeling away layers at the Big Onion (or...What's in it for Varitech?)

The Big Onion property is by far the largest project undertaken by Varitech Resources Limited, which was described as a "junior mining company". Varitech is a subsidiary of the Arc Resources group of companies.

I. Background

The bulk of Canadian Superior's extensive drilling was by percussion rigs which had a depth penetration limit of 300 feet (on a good day). Virtually all holes which collared on the mineralized zone also bottomed in good grade mineralization. The company eventually switched to diamond drills, but these were only BQ core, not really adequate for a fair evaluation of a low grade copper deposit. One of the deepest of these diamond drill holes reaches 580 feet and it also ends in mineralization.

Towards the end of their program, Canadian Superior set up diamond drill rigs at the same sites as earlier percussion holes and drilled parallel, "twinned" holes in order to compare assays. The results were alarming. The diamond drill assays were, on average, about 50% higher than the adjacent percussion hole assays. The greatest contrast showed up at the site of one 220-foot-deep percussion hole which averaged 0.22% copper over its entire length. The adjacent diamond drill hole averaged 0.58% copper over its length. (Even though the percussion hole bottomed in mineralization at 220 feet, the later diamond drill hole was also stopped at that same 220 foot depth!)

II. First Impressions

The deposit is a genuinely attractive exploration target, and has the potential for a moderate tonnage, good grade open pit copper mine with enviable logistics.

Varitech estimates there are 90 million tons of ore present already in drill-indicated reserves grading 0.42% Cu, 0.02% MoS₂, with sufficient gold for smelter credits. (This is not a porphyry copper-gold deposit, the related intrusion and host rocks are calc-alkaline.) Gold values are difficult to estimate, but are expected to be similar to those at the Bell Copper mine to the east, in the 0.01-0.001 opt Au range.

At present copper prices, Varitech feels that they need to prove up 90 million tons of 0.52% copper ore. This yields a contained copper reserve of 1 billion pounds, with a realistic recoverable copper content of 500 million pounds. This could feed a conventional (sulphide) concentrator at a concentrate-production rate of 25 million pounds per year for about 20 years. Capital costs are estimated at \$40 million with a payback in roughly 3 years. (Capital costs look low by 25-50%-DJA).

III. Inside the Big Onion

A significant tonnage of the known deposit is supergene, 'oxide' ore. Once a liability at copper mines, new technology has made this material more economical to mine and process than traditional hypogene 'sulphide' ore, and therefore much more profitable. Varitech estimates that the existing tonnage of supergene ore could already support a smaller, but still profitable mining operation producing high-value cathode copper (versus conventional lower-priced chalcopyrite concentrate). At an estimated capital cost of \$20 million, this avoids the greater financial risk and greater environmental risk of a conventional mill.

IV. And at the heart of the matter....

Varitech has bought into a bona fide mineral inventory that is fairly well drilled off, and which has a gross value of roughly \$(US) 1 billion. If public reaction and/or government policy (parks/land use) ultimately lead to a ban on mining at this site, Varitech would be in a good position to sue for compensation. The obvious opening bid would be compensation for the gross value of the mineral resource. The absolute minimum value would be compensation for monies spent acquiring the property, conducting new exploration, overheads, and last but never least, legal fees.

V. Meanwhile, back on the claim block....

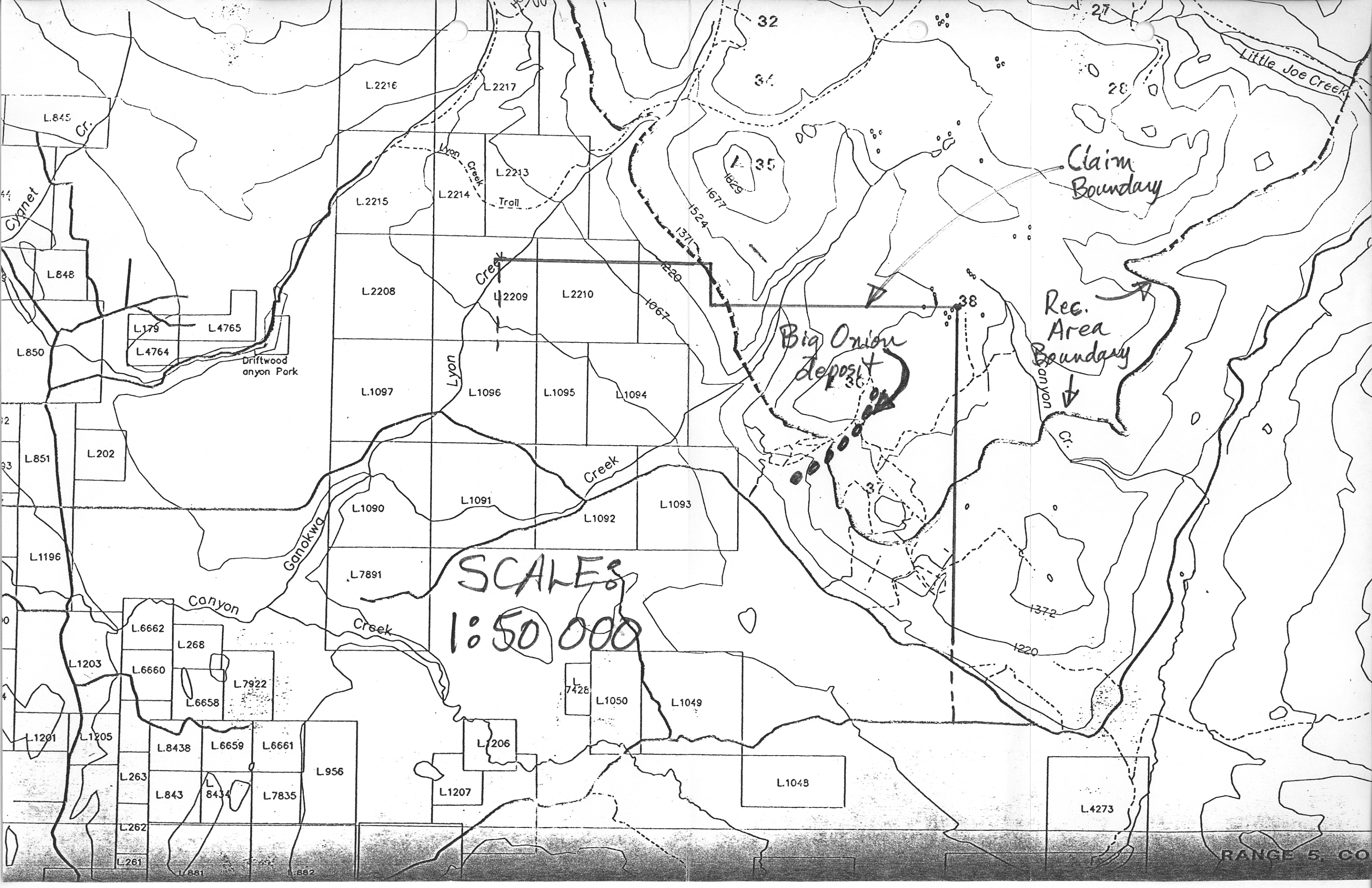
The Canadian Superior program was halted in 1976 by falling copper prices just as the company had made a breakthrough in understanding the drilling recovery problems that had imposed a negative bias on their grades. Although three other large areas of similar alteration were known on the property at that time, these received no serious exploration attention. These three areas are lower on the slopes and out on the flats below the mountain (out of sight of the town of Smithers). They are exposed in only scattered outcrop areas so their total extent is unknown. Initial assay values from grab samples are low in copper, which may simply mean that the rocks near surface are well-leached and that an attractive supergene enriched zone lies below surface. None of these zones have been surveyed by geophysics (I.P.) to evaluate the extent of the associated mineralization.

VI. The Current Program

For the next two years Varitech plans to 'reconfirm' known reserves within the limits of the present deposit by continuing to 'twin' early percussion holes and even early diamond drill holes with wider diameter core. Existing roads and drillsites can be used, minimizing disturbance on the mountainside.

SUMMARY: It is difficult to know how many of the assumptions and conclusions presented in this talk will hold up under closer examination, but taking it all at face value....

1. Varitech has optioned a property with an existing, proven mineral deposit.
2. The deposit has excellent potential for significantly increased grades; it has fair to good potential for moderately increased tonnage.
3. The deposit also has a core zone of oxide ore which may already be sufficiently large to support a much smaller, but higher-profit-ratio operation.
4. The large property also has genuine potential for additional mineralization at other sites.
5. The deposit is in a sensitive location. If Varitech is forced to abandon the project due to land use conflicts, the company can reasonably expect to get their money back.



SCALE
1:50,000

Claim Boundary

Rec. Area Boundary

Big Onion Deposit