

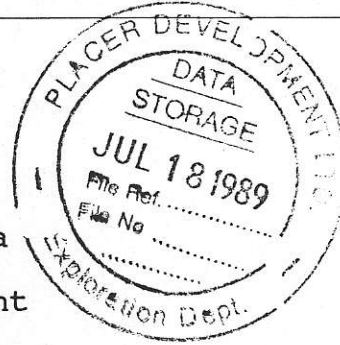


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Memo To: E. T. Kimura

From: R. H. Pinsent

Date: July 14th, 1989

Subject: OK Porphyry Cu Property, Rhyolite Resources: 92K/2E

The OK "porphyry Cu" property near Powell River was originally brought to our attention by Jon Stewart of Rhyolite Resources Ltd. (#300-535 Thurlow Street, Vancouver, B.C., V6E 3L2; phone 685-6361) in 1988. The property is discussed in memoranda by G. Ditson dated 28th April (Porphyry File), R. Boase dated 14th June and R. H. Pinsent dated 27th June (PDI FILE# 027260). Our evaluation of the property ceased when Noranda arranged for Brenda Mines Ltd to do a pit optimization study of the property. Brenda completed the study in October, 1988, and declined to option the property.

Rhyolite has arranged for a more thorough compilation and digitization of the old drill hole data and feel that they have significantly improved on Brenda's capability to evaluate the mineral reserve. They also feel that digitizing the data enables them to construct a more effective model for the distribution of "ore" and enables them to locate weaknesses in the original work. In view of our earlier interest, Rhyolite is prepared to provide PDI with the digital data and allow us the opportunity to evaluate the data.

On the basis of what is already known, I would say that the mineral system hosting the OK deposit is exceptionally large and structurally complex. Work to date has identified several areas of interest of which only one or two have received much attention. The complexity of the system and presence of internal (dyke material) waste has hampered evaluation of the property and led to a wide disparity in quoted grade and tonnage estimates. It seems to me that the apparent structural complexity may not be such a bad thing as it commonly leads to grade enrichment. It does however make for more difficult exploration.

The OK is an exploration property and I would be suprised if a review of Rhyolite's digital data gave us an automatic ROI. I would be looking for evidence for structural

control, patterns of metal enrichment, weaknesses in the existing data and other exploration guides. I would also be looking to model the combination of tonnage and grade that would be considered mineable on the B.C. Coast.

I strongly recommend that we take advantage of Rhyolite's offer to allow us to review their digital data.

A handwritten signature in black ink, appearing to read "R. H. Pinsent". The signature is written in a cursive style with a prominent loop at the end of the last name.

R. H. Pinsent

NAME(S): OK

MINFILE: 092K057

MODEL: Plutonic

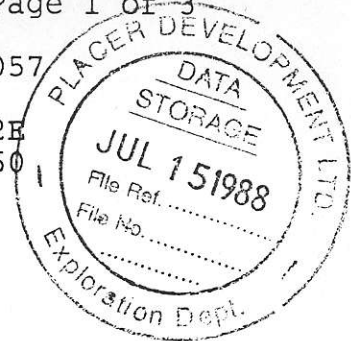
NTS: 92K/2E

CLASS: Developed Prospect

PDI FILE: 027260

ROCK SUITE: Calc-alkalic

ARCHER, CATHRO: -0-



EXPLORATION HISTORY:

1965 - discovered by M.V. Boylan and R. Mickle
1966/71 - geology, geophysics, geochem, drilling by Noranda, Co-
. minco, Falconbridge, Duval
1973/4 - optioned to Granite Mtn. and Western Mines; geology,
. geochem, IP, 48 DDHs (9550 m)
Total metres drilled approx. 15,000 m to 1974

RESERVES/BEST ASSAYS:

68 mill tonnes (indicated and inferred)
0.29% Cu
0.017% MoS₂

DISCUSSION:

The Cu grades are so low that even if Au were shown to be present, it would probably be in equally low amounts, possibly up to 0.1 ppm. Theoretically, peripheral Au zones could exist. Rhyolite is emphasizing the presence of intrusive breccias and associated argillic alteration along the eastern edge of the grid. Although there is no Au in the most southerly (drilled) breccia, the rest of the zones have not been Au-tested.

RANKING:

Midling

NAME(S): OK

MINFILE: 092K057

DESCRIPTION:

. Diorite and gabbro of the Coast Crystalline Complex have been intruded by a 6 km long composite stock consisting of two phases. The first phase is granodiorite and the second is quartz monzonite porphyry which forms a more-or-less central northerly trending dyke-like core. Several north to north-northeasterly post-mineral faults break up the quartz monzonite body, and a swarm of similarly-trending dioritic, andesitic and, less commonly, dacitic dykes dilute ore grades by about 20%. A poorly-defined zone of multilithic intrusive breccia is present in granodiorite east of quartz monzonite.

. Poorly defined alteration zoning is characterized by small areas of intense sericitization in quartz monzonite, where silicification is also most common. Silicification is characterized by quartz vein stockwork development accompanied by irregular rounded masses of granular replacement; some of the masses extend out into granodiorite peripheral to the core intrusion. Quartz monzonite margins contain some spherical clots of magnetite, pyrite and chlorite that in places contain minor chalcopyrite. Outward from the core intrusion, only weak to moderate sericitization of feldspars occurs throughout the mineralized zone, and weak to moderate chlorite-epidote-calcite becomes dominant. Disseminated chalcopyrite, pyrite and magnetite replace grains of chlorite in these altered rocks. Minor secondary biotite is reported, and some K-feldspar-bearing veins are present in granodiorite immediately peripheral to the core intrusion, but the relationship between K-feldspar and sulphides has not been documented. A zone of phyllic-argillic alteration was mapped in 1983 as an envelope around eastern breccia zones.

. Mineralization is associated predominantly with a two-stage quartz stockwork. Older veins coalesce with irregular rounded quartz replacements and younger ones fill fractures which offset these. Sulphide mineralization is generally restricted to narrow veins, but widths of up to 5 m occur. Veins trend predominantly easterly and northeasterly to form a close stockwork over a large area, but a large proportion of mineralized veins trend easterly. Veining is most pronounced in the central core and diminishes in intensity outward. However, quartz veins in the core are barren, whereas those in surrounding granodiorite are generally mineralized. Chalcopyrite, molybdenite and pyrite, with very minor sphalerite and bornite are present. Minor magnetite is associated erratically with pyrite and chalcopyrite. Chalcopyrite and molybdenite are closely associated with quartz stockwork, but also occur as fracture coatings and disseminated grains replacing altered mafics. Magnetite is chiefly disseminated most commonly as rosettes or spherules. Sulphides occur in the matrix of the eastern breccia zones.

. Strongest quartz veining and best Cu-Mo mineralization appear to be restricted to granodiorite within a 150-200 m wide zone close to the quartz monzonite core. The pyrite:chalcopyrite ratio in the ore zone is about 1:1, but rises to 5:1 near the periphery of the stock in an irregular pyrite halo.

NAME(S): OK

MINFILE: 092K057

METAL DISTRIBUTION:

Some minor bornite is present, so some Au may also be present, but the southernmost breccia has been proven to be Au-deficient.

METEORIC/EPITH. TRAITS:

-0-

STRUCTURAL TRAPS:

Intrusive contacts, intrusive and tectonic breccias, quartz stockwork.

EXPLORATION ADEQUACY:

Very good to excellent. Geochem and geophysics have blanketed the area of the leucogranodiorite core and its periphery in intruded granodiorite, where mineralization is shown to be concentrated. All of the Cu geochem and IP anomalies have been explored by drilling.

PDI FILE CONTENT/EVAL:

Kowalczyk and Drummond examined data in 1972 and concluded that a large tonnage of 0.2-0.3% Cu may exist, and a 0.5% zone may yet be found; Wise examined 1973 drill results and concluded that the new information has so far "not changed the merits of the property." All drill assay logs are in our file through 1973.

CURRENT STATUS:

Held by Rhyolite Resources, who approached Placer in April, 1988.

SPECIAL NOTES:

-0-

RECOMMENDATION:

Property exam.

LEVEL: 2

Author: G. Ditson

Date: 12/28/87

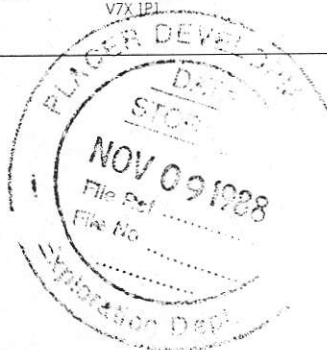
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MEMORANDUM:

TO: E.T. Kimura, PDI File #027260 **DATE:** 27th June, 1988

FROM: R.H. Pinsent

RE: OK (PORPHYRY CU) PROPERTY; RHYOLITE RESOURCES Ltd.

I attach a memorandum from R. Boase dated June 14th concerning Rhyolite Resource's "OK" porphyry Cu prospect near Powell River. The memorandum reviews various aspects of the Cu and Au potential of the property.

The OK porphyry Cu deposit was located in 1965 and it was explored by a number of major and minor exploration companies through to 1974. It was acquired by Aquarius Resources Ltd., a precursor company to Rhyolite in 1979. Rhyolite has been trying to rekindle interest in the property based on the discovery of a high-grade copper-bearing intrusion breccia and some scattered gold values in reconnaissance soil lines. There have been no systematic exploration programmes carried out on the property since the main porphyry era. The property is available for option.

The data show that the porphyry system is associated with a complex multiphase (?) Tertiary intrusion within rocks of the Coast Plutonic Complex. The porphyry deposit is related to an elongate body of granodiorite 3.6 km long and 2.3 km wide which is intruded by a central core of quartz monzonite 1.6 km long and 0.6 km wide. Mineralization occurs at a number of localities, with better grades commonly occurring in sericitic alteration zones in granodiorite peripheral to the quartz monzonite core.

The system has been deformed by a number of major transcurrent faults which may have had some influence on mineralization. However most of the fault movement appears to postdate mineralization and causes substantial dislocation of the mineralization. The faults locally carry post mineral dykes which cause substantial dilution. Mineralization has been identified in several isolated blocks within a linear alteration zone which encompasses the quartz monzonite intrusion. Richard describes five zones, some of which appear to be open.

The deposit is a true Cu porphyry with only limited potential for gold mineralization. Data is sparse but Aquarius tested their high-grade copper breccia zone. The pulps returned negligible gold values. A sample of massive chalcopyrite from the siliceous zone referred to by Richard was run through our

laboratory. It contained 22.7 % Cu , 125 ppm Ag and 3.3 ppm Au. The porphyry will probably run about 0.1 ppm Au. I have offered to run some core pulps for Rhyolite but have not heard back from them. A property exam would certainly give us some useful information on likelihood of gold mineralization.

The potential of the OK property appears to lie in the possibility of finding an open pit copper deposit close to tide-water and a reasonable port (Powell River).

Various tonnage and grade estimates have been produced at different times. Western Mines Ltd. calculated a reserve specific to the North Lake zone in 1974. They estimated "drill indicated" reserves of 54mt grading 0.3 %Cu and 0.016 %Mo and "inferred" reserves of 19mt 0.26 %Cu and 0.02 %Mo at a 0.2 %Cu cut-off. They recognized that they would have problems with internal dilution caused by the presence of dykes and as a result of the intrinsic low grade of the property.

Geostat Systems International conducted a statistical analysis of all the drill hole data in 1982 and came up with "drill indicated" reserves of 240mt and "geological potential reserves" of 210mt grading 0.24 %Cu and 0.015 %MoS₂. The tonnages include reserves from all the drilled zones of mineralization and they are very poorly constrained by geology. Rhyolite has not been able to produce pit outlines indicating the limitations of any of the defined ore blocks.

The statistical study documented a surprising uniformity in grade. This would seem to indicate that there are no high-grade zones within the defined mineralization. In order to establish a mine we would have to find a substantial amount of additional high-grade ore, presumeably comparable to that already identified in the copper-bearing breccia zone. An examination of the geological map presented suggests that this might be possible. Whether one can find enough is the question.

I gather from John Kowalchuck that Noranda is currently reviewing the OK data with some care as they are conscious of the imminent closure of the Brenda Mine.

My feeling is that the property has merit as an inadequately tested porphyry system with good logistical characteristics. There is room to improve, or at least better define tonnage and some possibility of defining a high-grade plum. The property is probably not a hot prospect for PDI unless it does turn out to carry more gold than is expected. Noranda does however have a point. It might be an appropriate property to act as a replacement for Gibraltar when the time comes. Perhaps we should run it past them.



R.H. Pinsent

With regard to those grades on reserves - they would apparently be too low in Cu for production. I could be wrong but there is a saying that unless a new high grade zone is discovered, additional drilling within the porphyry system will not significantly change the overall grade

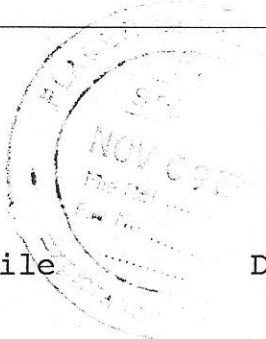
R.H.



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MEMORANDUM:

TO: R.H. Pinsent/G. Ditson/File DATE: June 14, 1988
FROM: Richard Boase
RE: **OK PROPERTY, SUMMARY AND DATA EVALUATION**
Powell River, B.C.; 92K/2E, PDI 027260

Summary

The following summary is based on the assumption that a property exam will be conducted on the OK property. The summary lists the areas of interest or target areas derived from the data evaluation with a one day property exam in mind.

- 1) Investigation of the South zone area. This would include the outcrop of intrusive breccia and possible extensions, the South zone fault and the south zone showing. This would include rock and soil samples as well as some mapping.
- 2) Investigation of the Pyrite Lake breccia zone in a similar manner as above. While in this area, an effort should be made to look at the hybrid silicified zone just to the west of Pyrite Lake. (Unit e on map)
- 3) Moving northward, the next target area would be the North zone. This would entail prospecting off the present grid to the north of North Lake. Emphasis would be to investigate the two northeast trending faults bounding the North Lake zone.
- 4) The last area to reconnoiter would be the northern section of the property, from L200N as far north as time permits. This would be simple reconnaissance type prospecting and geochem looking for extensions of Cu mineralization or epithermal characteristics.

The above target areas have been outlined in black on the map accompanying this memo.

Data Evaluation

The OK copper-molybdenum property is situated north of Powell River in southwestern British Columbia. The property is owned by Rhyolite Resources Inc. and was offered to Placer Dome in April, 1988 for a potential joint venture.

Prior to considering an agreement with Rhyolite, an in-house analysis of available data was recommended. The analysis hoped to clarify certain geological aspects regarding the OK property, namely the potential for more Cu reserves and the possibility of associated Au in the system.

Cu Potential

The available data shows a marked difference between reports regarding ore reserves contained on the property. Tonnages ranging from 70 mT of 0.32% Cu to 240 mT of 0.24% Cu have been reported, but with very little evidence to support the validity of these figures. Therefore, an accurate account of tonnage is unknown, but the grades are consistent and the chances of finding any significant undiscovered high grade zones are remote. There is, however, a good chance of increasing the current reserves by further exploration off the grid area.

The property contains five "ore zones", the South zone, Claim Lake zone, Lizard Lake zone, North Lake zone and the Theodesia zone, none of which have been completely drill tested. The South zone and North Lake zone appear to be the best targets for increasing current reserves. The South zone is open at both ends and appears to be coincident with a N20E trending fault. The best target on the South zone would be northeast along the fault where the ore zone is untested. This area is also a possible location for the intrusive breccia zone which could be tested for Au at the same time.

Like the South zone, the North Lake zone "ore" trends approximately N20E and is possibly related to fault structures in this area. This zone also appears open along strike on both northern and southern extensions. The southern extension runs into the middle of the grid and is less likely to host any significant new ore zone, as indicated by the geochem in this area. The northern extension of this zone extends beyond the current grid and is therefore probably untested geologically, geochemically and geophysically. Another point to consider on

the North Lake zone is fault off-set. Two northeast trending faults transect the North Lake zone, the northern fault shows approximately 500 metres right lateral apparent offset while the southern fault is inferred to have no horizontal offset. The data available show that no effort has been made to account for faulting during the past programs. With this in mind, a potential target area for this zone would be east of the current grid between lines 136N and 148N.

The Theodesia zone is the northernmost showing on the property and the least examined. To date only eight widely spaced exploration holes have been drilled in the area. Of these holes, only two, 77-2 and 77-3, have intersected material above 0.2% Cu. These two holes represent the most northerly drilling on the property. Geochem data show a copper anomaly extending northward along a possible extension of the Theodesia zone. To date very little has been done in this area.

The two central zones lie in the middle of the grid and have been subject to the majority of work performed on the property. Resultantly, the area does not represent an area where something new or previously undiscovered may be found, and is of low priority.

Au Potential

The next step in the evaluation was to assess the possibility that the OK intrusive complex might contain peripheral or structural gold mineralization. Very little Au exploration has been done on the OK property, and should Placer become involved, they would be virtually starting from scratch with regards to the Au potential. Three areas stand out as geologically favorable sites for Au mineralization.


The first site represents a small silicified zone containing a hybrid of granodiorite and quartz monzonite, located between lines 76N and 88N at 54E to 62E (unit e on map). A high grade sample from this zone was analyzed by Placer and contained the following; 22% Cu, 480 ppm Zn, 23 ppm Pb, 125 ppm Ag and 3.30 ppm Au. However, two drill holes, 71-4 and 71-5, both drilled into the same silicified zone, failed to show even anomalous copper. A surface examination to clarify the contacts and geological nature of this zone is recommended.

The next area of interest for Au potential is the intrusive breccia zone or possible extensions of it. A breccia

zone has been identified and mapped in the southeast corner of the existing grid between lines 20N and 28N at approximately 70E. This breccia zone was drilled in 1979 by Aquarius Resources. Of the three holes drilled, only a partial intersection (35 feet) of the breccia was achieved. The core sampled was anomalous in Cu and Mo but was Au and Ag deficient. A second breccia zone was encountered west of Pyrite Lake, 540 feet northwest of the other breccia zone. To date this second zone is untested. The detection of this second zone produced speculation concerning the possibility of a continuous breccia zone linking the two outcrops. Whether the breccia is continuous or Au bearing are targets for further examination.

The numerous faults found on the property represent a third potentially Au-bearing target. As mentioned earlier, throughout the history of exploration on the OK, very little attention has been paid to understanding the fault systems. A number of drill holes exhibit sulphide enrichment across fault zones. Some good examples are in the South zone, drill holes 66-15, 68-6, 72-1 and 74-20 (see map). In this area an increase in copper values coincides with a N20E trending fault. There is little doubt that some of the faults were conduits for mineralizing solutions, as evidenced by silicification and some base metal mineralization found in the drill core. Little is known about the chronology of mineralizing events on the OK, and all previous reports assume just a single mid-Tertiary event associated with the intrusion of the OK complex. Therefore, there is the possibility of hydrothermal Au mineralization, structurally controlled, deposited either before, after or during the OK intrusive event.

To date only the northern part of the grid has been tested geochemically for gold. The lines tested include L112N, L116, L118N, L142N, L155N, L166N, L168N, L170N, L172, L204N, and L206N. The results were inconclusive, but did expose some weakly anomalous (25-274 ppb Au) areas on the northern part of the grid (see map). However, this sparse coverage is not enough to allow an attempt to correlate gold content with lithology or structure. To assess the gold potential properly, a property-wide, selective geochem survey over the areas previously mentioned would be recommended.



Richard Boase