MINERAL POTENTIAL OF THE SITKA MINING DISTRICT, ALASKA

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www.sitka.net
WHY ARE WE HERE?

- Is there any potential in the Sitka area for discovery of significant mineral deposits?
- There are over 220 mineral prospects within 50 miles of Sitka.
- Over 130 of these prospects are on public land open to mineral development.
- If the Sitka area has mineral potential, why has it been dormant for so long?

Data from Avalon Development, 2013
GEOLOGY & MINERALIZATION

- Gold mineralization in the Sitka – Chichagof belt is hosted in discontinuous quartz veins, <1 to +20 feet thick, in Jura-Cret turbidite-facies graywacke.

- Mineralization is controlled by major northwest-trending, steeply dipping faults as well as by local folds and bedding plane discontinuities.

- Gold is associated with anomalous arsenic with sporadic anomalous lead and mercury.

Data from Avalon Development, 2013
ORE DEPOSIT ANALOGS?

- Gold mineralization in the Sitka – Chichagof belt is remarkably similar to turbidite-hosted orogenic gold (TOG) deposits world wide.

- TOG deposit characteristics were only recently recognized and defined as an ore deposit model.

- TOG deposits constitute some of the world’s largest gold deposits, containing from 1 to over 175 million ounces.

Data from Avalon Development, 2013
WHAT HAPPENED TO SITKA?

- Speculation, lack of capital and lack of experienced management damaged the reputation of the Sitka area prior to 1900.

- Because of its negative reputation, Sitka missed the mining revivals of the period 1900 to 1914 and 1929 to 1942.

- High inflation and fixed gold priced stymied the Alaska mining industry from 1942 to 1980.

Data from Avalon Development, 2013
OPPORTUNITIES

- No significant exploration in the Sitka – Chichagof gold belt for turbidite-hosted orogenic gold (TOG) deposits.

- The Sitka – Chichagof gold belt lacks modern public-sector geological, geochemical and geophysical data that will be needed to target TOG deposits.

- Tidewater access, roads, hydroelectric power, experienced labor force, multiple-use lands.
CHALLENGES

- Steep, rugged terrain is difficult to explore
- Bedrock exposures are virtually non-existent
- Recent glaciation has smeared alluvial deposits and covered bedrock
- Permitting challenges will be substantial

Data from Avalon Development, 2013
MINERALIZED OR BARREN?
(POSSIBLE MINERALIZATION ON THE GREEN LAKE ROAD)

WE HAVE NO IDEA!

Photos provided by Ken Cameron, 2013
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WHAT SORT OF EXPLORATION CAN BE EXPECTED?

- Initial work may consist of a wide variety of geological, geochemical or geophysical surveys.

- Geochemical sampling is the most prospective for TOG deposits so additional rock, soil or pan/stream sampling are likely.

- Once a significant geochemical anomaly is defined, a core drilling program is the most likely next step.
WHAT IF EXPLORATION IS SUCCESSFUL?

- If a significant mineral resource is indicated by drilling, environmental baseline studies will begin immediately.

- Once a sufficiently large resource is defined, baseline engineering studies will lead to a preliminary economic assessment (PEA) or Feasibility Study (FS).

- Following a positive FS, mine permits may be submitted with integrated environmental, engineering and economic data.

Data from Avalon Development, 2013
CONCLUSIONS - HISTORIC

- Speculation, lack of capital and lack of experienced management damaged the reputation of the Sitka area prior to 1900

- Because of its negative reputation, Sitka missed the mining revivals of the period 1900 to 1914 and 1929 to 1942

- High inflation and fixed gold priced stymied the Alaska mining industry from 1942 to 1980

Data from Avalon Development, 2013
CONCLUSIONS - POLITICAL

- Mineral closures related to ANILCA removed the Chichagof area from mineral development
- The AJ mine project failure damaged SE Alaska’s ability to attract new mining capital in the late 1990’s
- Kensington’s litigious fight to reach production further damaged SE Alaska’s reputation in the mining industry

Data from Avalon Development, 2013
CONCLUSIONS - GEOLOGIC

- Gold mineralization in the Sitka – Chichagof belt is remarkably similar to turbidite-hosted orogenic gold (TOG) deposits around the world.

- TOG deposits host some of the world’s largest gold deposits containing from 1 to over 175 million ounces.

- Nobody has conducted exploration in the Sitka – Chichagof gold belt for TOG deposits.
QUESTIONS?

Tim Shobe photo, courtesy of  ww.sitka.org, 2013