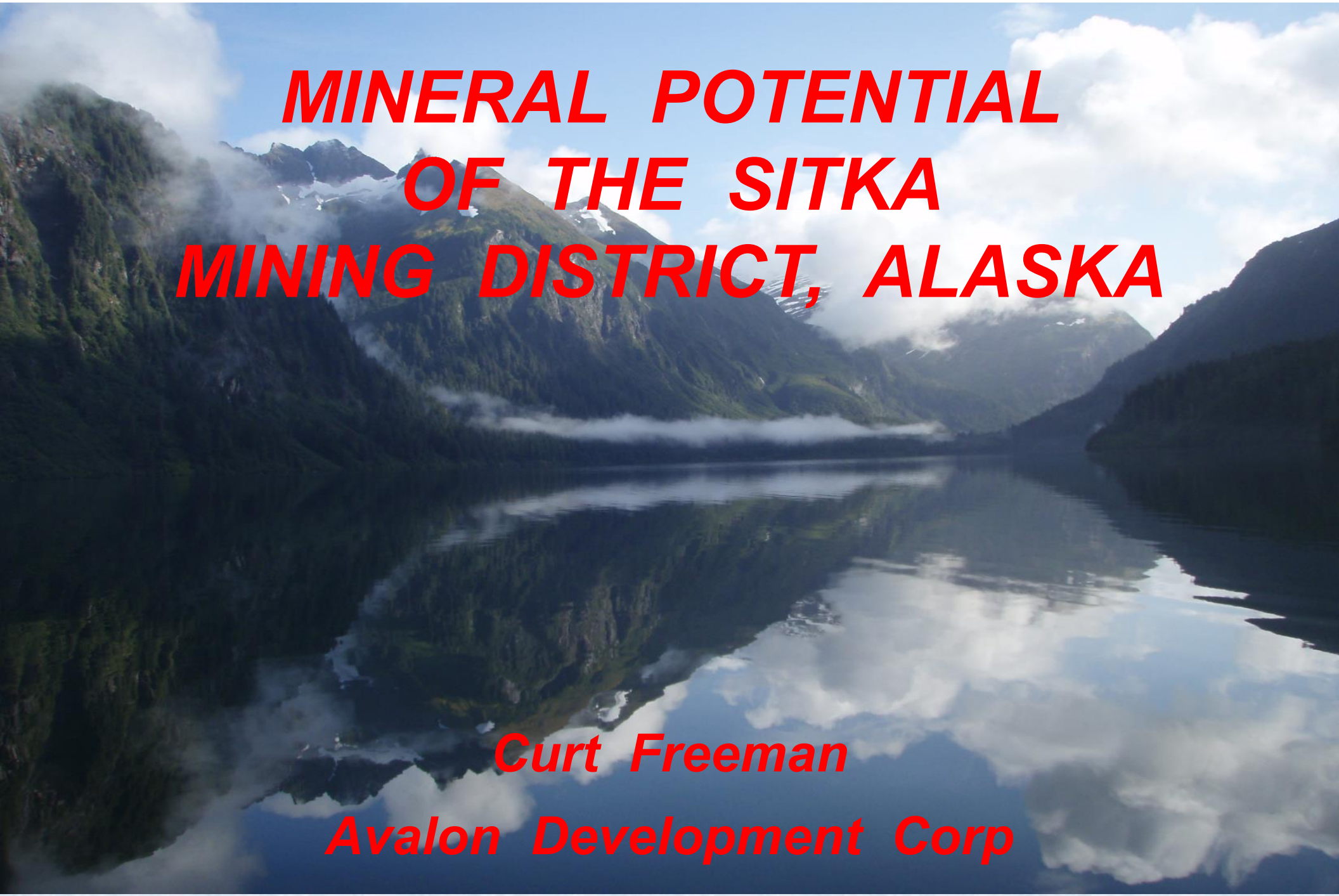
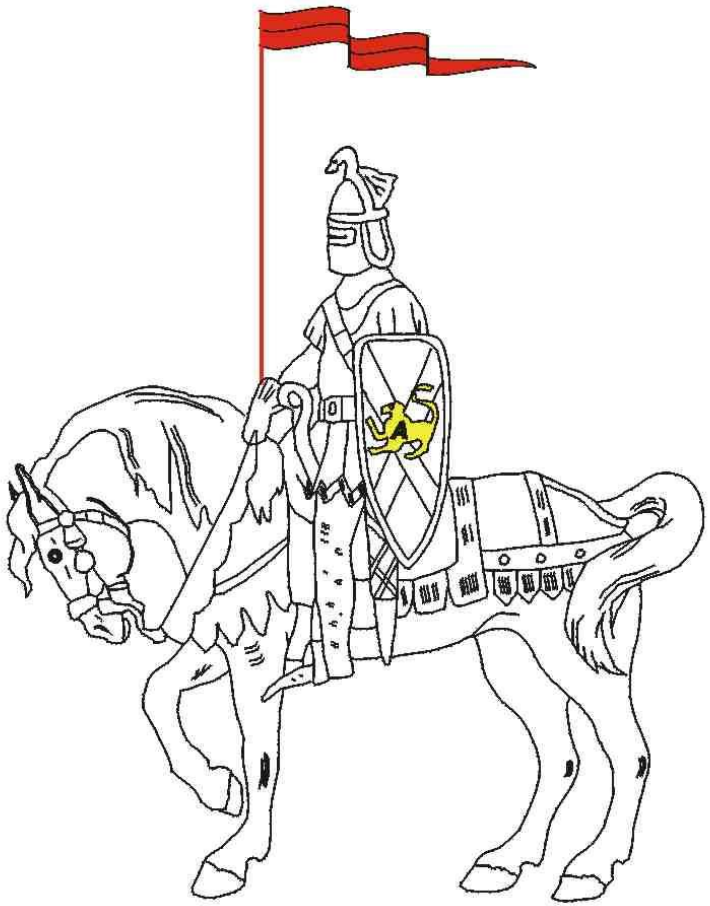


MINERAL POTENTIAL OF THE SITKA MINING DISTRICT, ALASKA

Curt Freeman

Avalon Development Corp

AVALON



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ACKNOWLEDGEMENT

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www.sitka.net

TYPICAL SITKA DAY

RARE RAINY SITKA DAY

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?**

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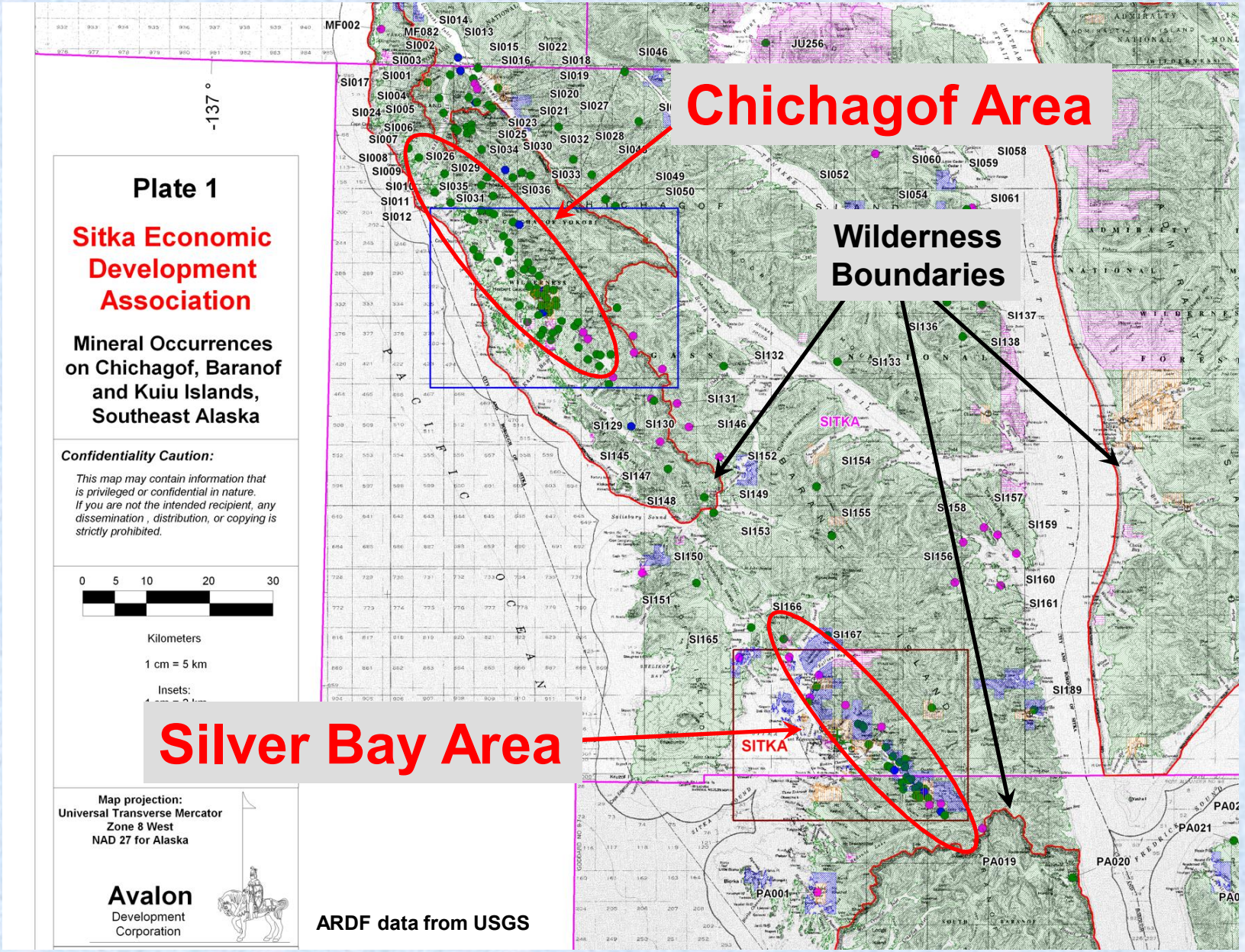
Data from Avalon Development, 2013

SITKA - CHICHAGOF GOLD BELT



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**

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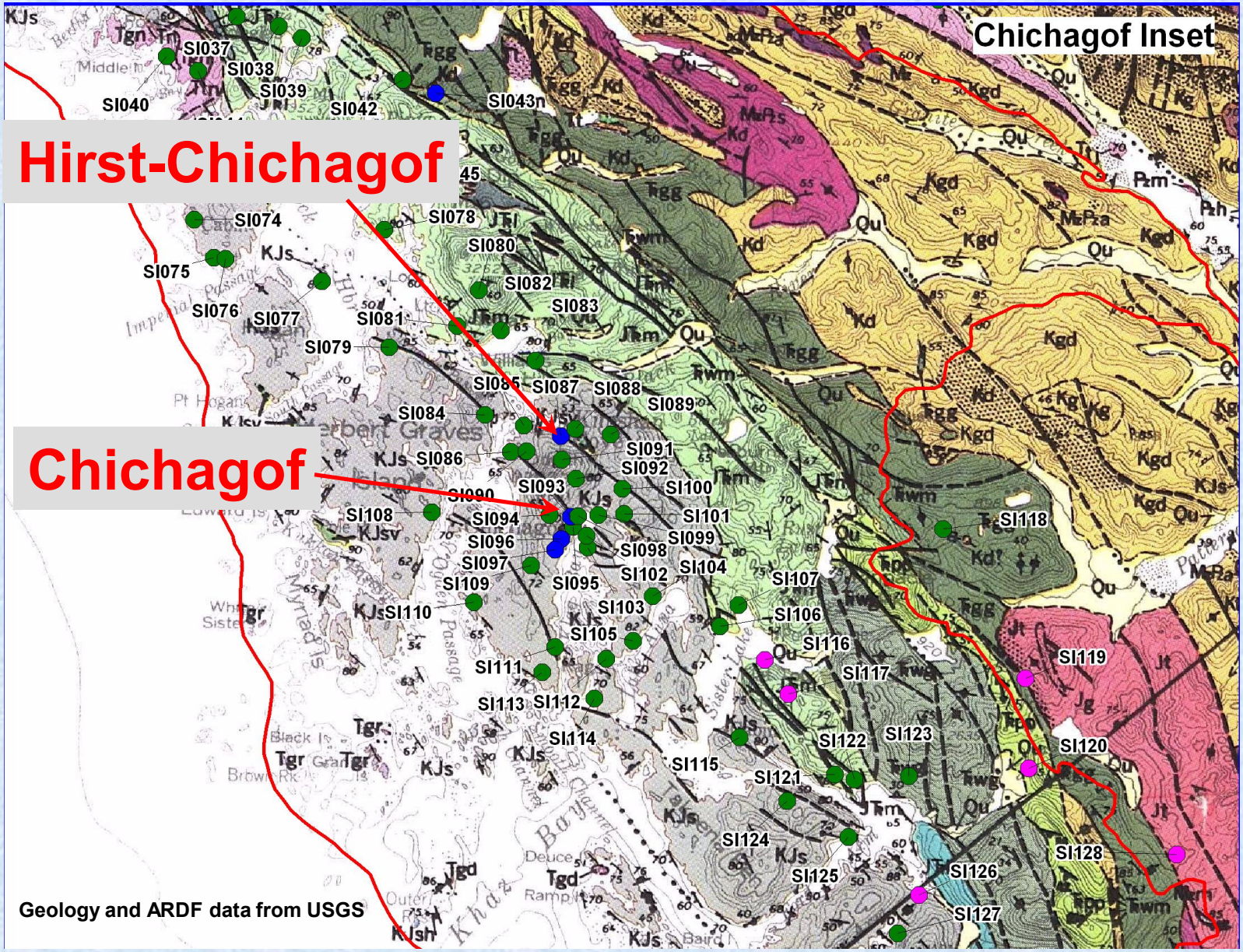
CHICHAGOF AREA GEOLOGY



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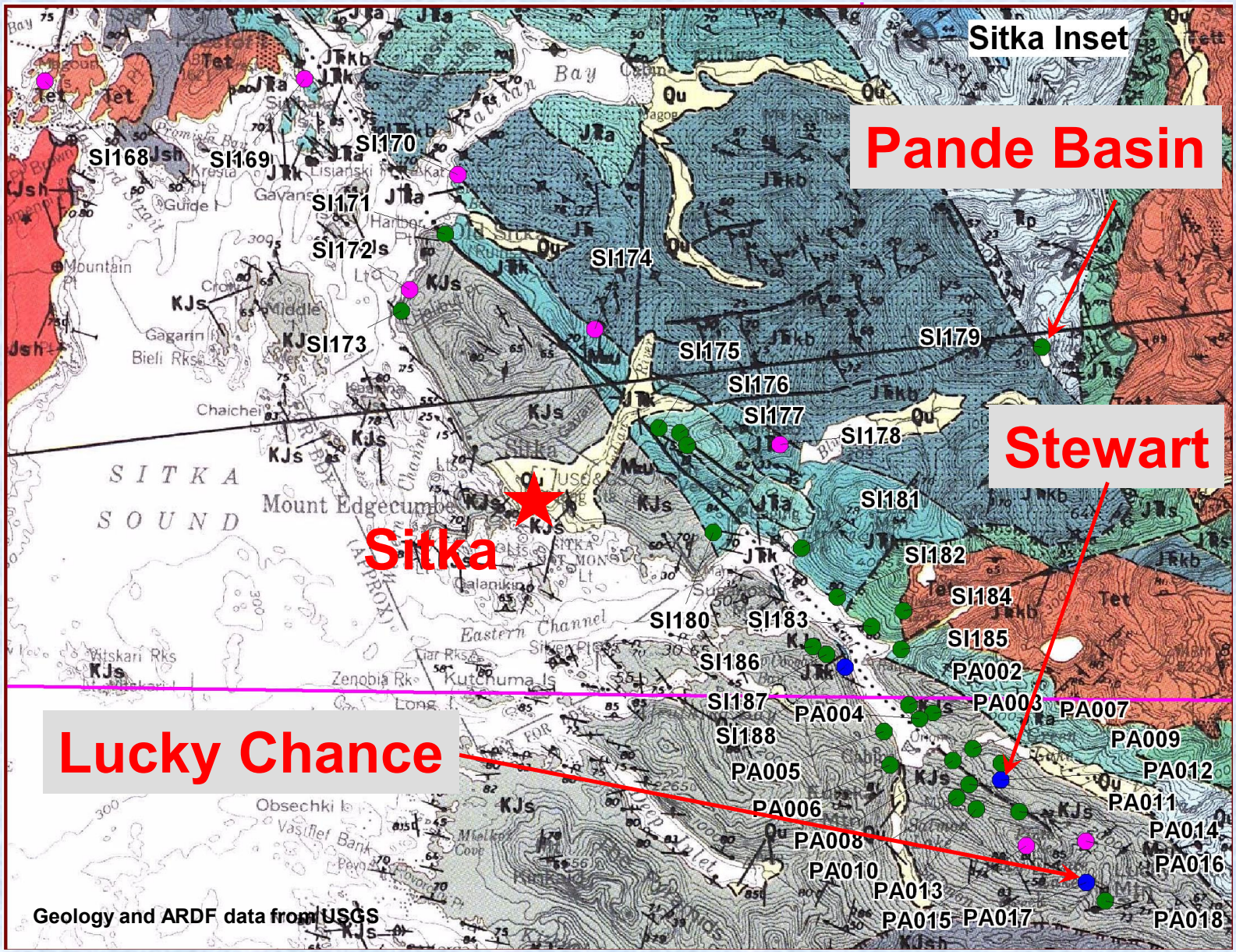
SILVER BAY AREA GEOLOGY



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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.**

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Data from Avalon Development, 2013

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


Photo by Avalon Development

MINERALIZED OR BARREN?

(POSSIBLE MINERALIZATION ON THE GREEN LAKE ROAD)

WE HAVE NO IDEA!

Photos provided by Ken Cameron, 2013

MINERALIZED OR BARREN?

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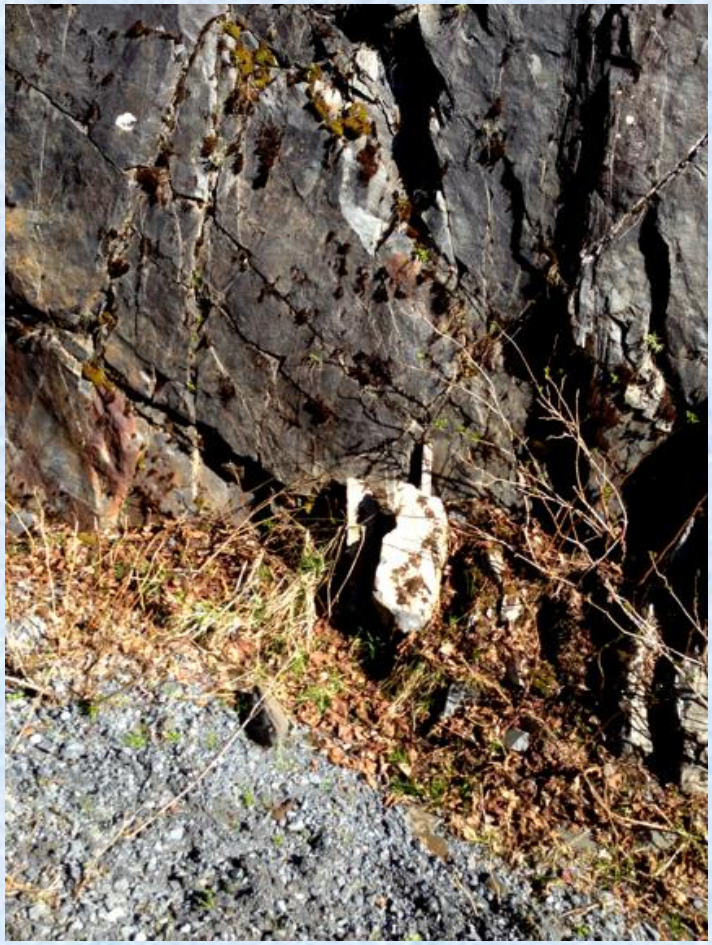

WE HAVE NO IDEA!

Photos provided by Ken Cameron, 2013

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.**

Data from Avalon Development, 2013

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.**

Data from Avalon Development, 2013


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