Discovery History of Sierra Gorda, Antofagasta Province, Chile:

Implications for Successful Exploration in Mature Terranes.

Patrick Fahey – Quadra Mining, Ltd (Currently Copper Discovery Ventures, Ltd)
Jack Currie – KGHM International
Jorge Maya-Marin – KGHM International
Jaime Diaz- – KGHM International
Gregory McKelvey – Copper Discovery Ventures, Ltd
The Sierra Gorda Mine

Discovered in July 2006 by Quadra Mining Ltd. (now KGHM Intl, Ltd)

Current reserve: 1,270 M tonnes at 0.52% CuEQ at 0.2% CuEQ

M, I, and I: 2,917 M tonnes at 0.2% CuEQ
Sierra Gorda Project

From: Camus and Dilles, 2007
Spence from Sierra Gorda.
Mature terranes are the future of exploration;
and for all practical purposes the future is now...
Sierra Gorda & Surroundings
Major discoveries since 90’s

• Paleocene-Eocene:
  – Lomas Bayas - Oxide
  – Spence - Supergene sulfide/oxide
  – Sierra Gorda – Hypogene sulfide

• Late Eocene-Oligocene:
  – Tesoro – Exotic
  – Esperanza - Hypogene
  – Esperanza Sur (Telegrafo) – Hypogene and supergene
  – Encuentro - Oxide
  – Polo Sur – Hypogene
Sierra Gorda District

- Located on E side of batholith against Mz andesites
- Late stage porphyries and tourmaline breccias cut batholith and wall rocks
- Much of the project area was covered by colluvium
- Mineralization is 57.5 to 60 ma
- Spence is slightly younger & shorter lived
Sierra Gorda
Pre-2000
~220 M tonnes @0.53%
Sierra Gorda - Before Quadra
Sierra Gorda - Before Quadra
1448 Cu Bench >0.2 % Cu

QSG06-281
242 to 580 m – 338 m
1.05% Cu
0.013% Mo
0.2 g/t Au
Sierra Gorda Project Region II, Chile
2006 Drill Program

- Estimated outline of mineralization on 1200 m level
- Outlines of 0.2 % Cu on 1448 m level from 43-101 report

Areas:
- Salvadora
- Isabella Norte
- Catalina

Markings:
- 281 zone
- QSG06-285, QSG06-286, QSG06-291, QSG06-292, QSG06-293, QSG06-297, QSGRC5-70
Sierra Gorda
What Worked and Why
What Worked and Why: Geology

“Ore deposits are rocks.”
Eric S. Cheney
What Worked and Why:
Geologic Team

Luis Valdebenedito
Jaime Diaz
Julio Rivera
Hector Araya
Jorge Maya
Greg McKelvey
Steve Shaver
Jack Currie
Unknown
Josh Coder
Scott Manske
What Worked and Why: Management

- Bill Mykatyn-CEO
- Paul Blythe-President
- Jack Miller-COO
- Derek White-CFO
- Russell Alley-President, Minera Quadra Ltda.
What Worked and Why:

Regional Geology/Project Data Base
What Worked and Why: Aggressive Drilling and Quick Followup

“Go big or go home.”
Jack Currie, Project Manager – when he submitted a 2006 budget for $12 million (we got $4 million)

“Hmmph”
Jorge Maya, Chief Geologist – when I told him he could only have 250 meters for hole 281

“Hasta bornita o magma.” (Until bornite or magma)
Jaime Diaz, Senior Geologist, when I asked how deep we should drill after DH 281

“Go metric, it’s much easier to propose a 900 m drill hole without a quaver in your voice than to ask for a 3000 footer.”
Pat Fahey, VP, Exploration
What Worked and Why: Luck

“If you have your choice between being smart or being lucky – take luck – it’s way ahead every time.”

Stewart R. Wallace, 1974 Jackling Award Lecture

"The Henderson Ore Body-Elements of Discovery, Reflections"
THE MOST Critical Factor: People

“Where oil is first found, in the final analysis, is in the minds of men.”

Wallace Pratt, 1951...
The Point of Cheney “Fest”
People - Mentors

“Where oil Ore is first found, in the final analysis, is in the minds of men and women.”

“Ore is found in the minds of men and women.”

As clarified and clipped by a hypothetical E.S. Cheney edit...

Thanks Eric, for instilling the skills and passion for geology and discovery into students through a long and worthy career.
END