

2013 Exploration and Mining Overview

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Ministry of Forests, Lands and
Natural Resource Operations



Ministry of Energy and Mines
and Responsible for Core Review



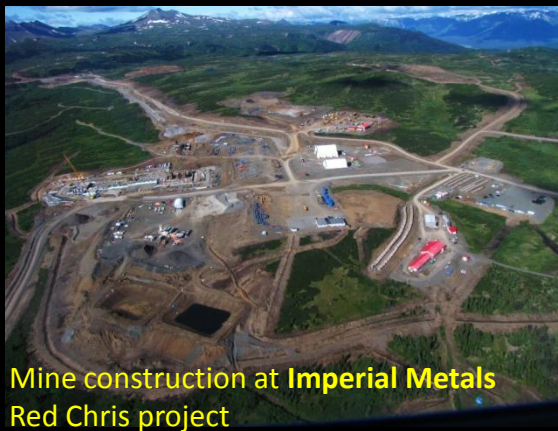
Where ideas work

Outline

- Provincial highlights
- Skeena highlights
 - “what’s new and what’s news”
- Select Major Project Updates
- Exploration
 - Zonal updates



Directional drilling above the clouds at **Seabridge Gold's Deep Kerr, KSM Project**



Mine construction at **Imperial Metals Red Chris project**



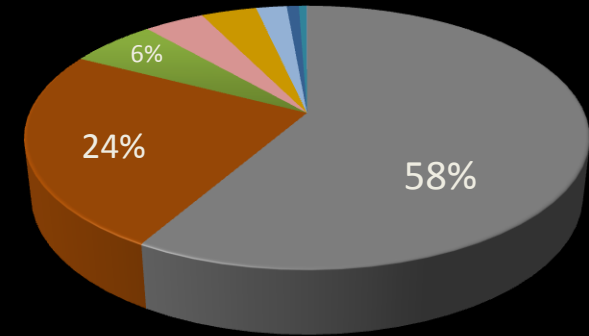
Deformed sulphide –center-line quartz vein from historic core at **West Cirque Resources Castle Project**



BC Geological Survey on traverse near the Treaty Glacier

2013 BC Highlights

2013 Provincial
Commodity Production



Coal	Copper	Industrial Minerals
Aggregate 4%	Gold 4%	Molybdenum 2%
Silver 1%	Zinc 1%	Lead 0%

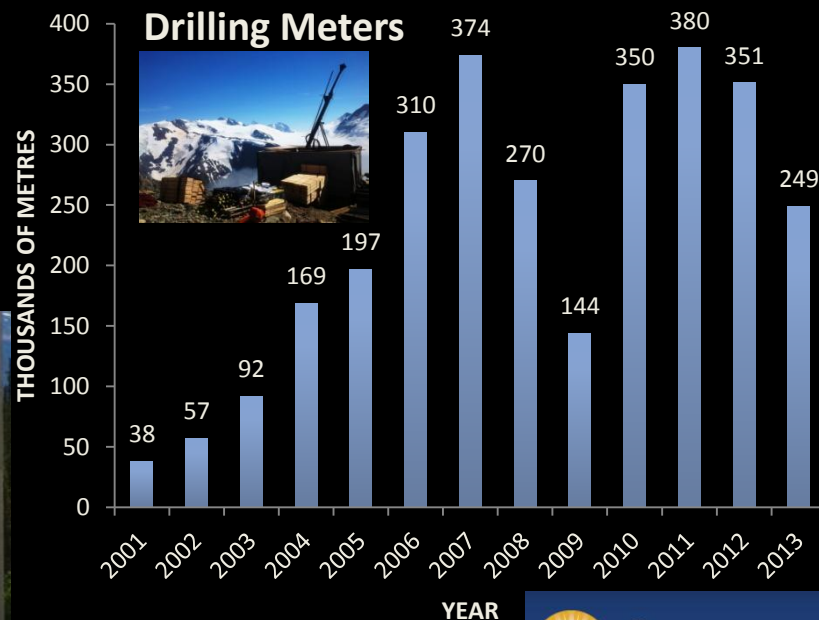
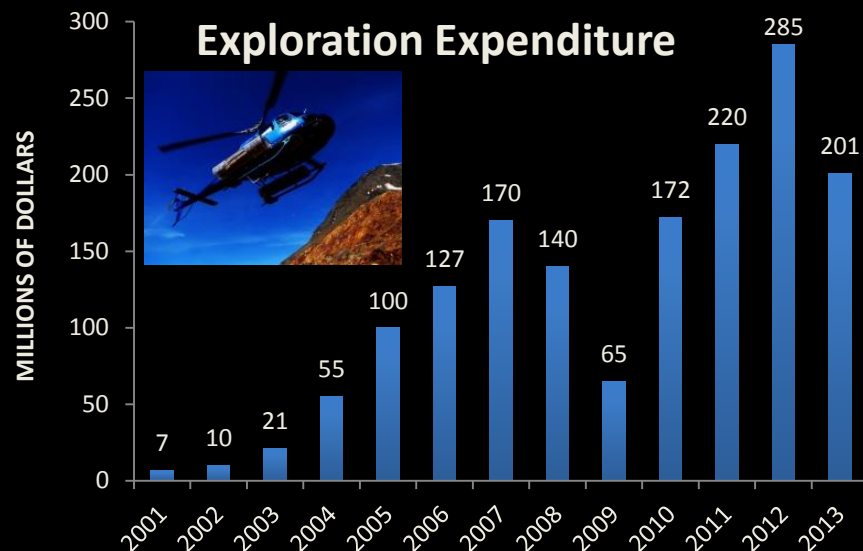


Anthracite coal seam – mudstone contact at the
Fortune Minerals Arctos Anthracite project

- Provincial Mineral & coal production estimated \$8.0 billion
- Provincial exploration expenditure estimated to be **\$476 million**
- Mt Milligan Mine opened; Red Chris mine under construction
- Major expansions and upgrades at existing mines
 - Huckleberry, Highland Valley, Gibraltar
- Environmental Assessment Office
 - Tracking 28 mine projects
 - Reviewing 2 mine projects

2013 NW Highlights

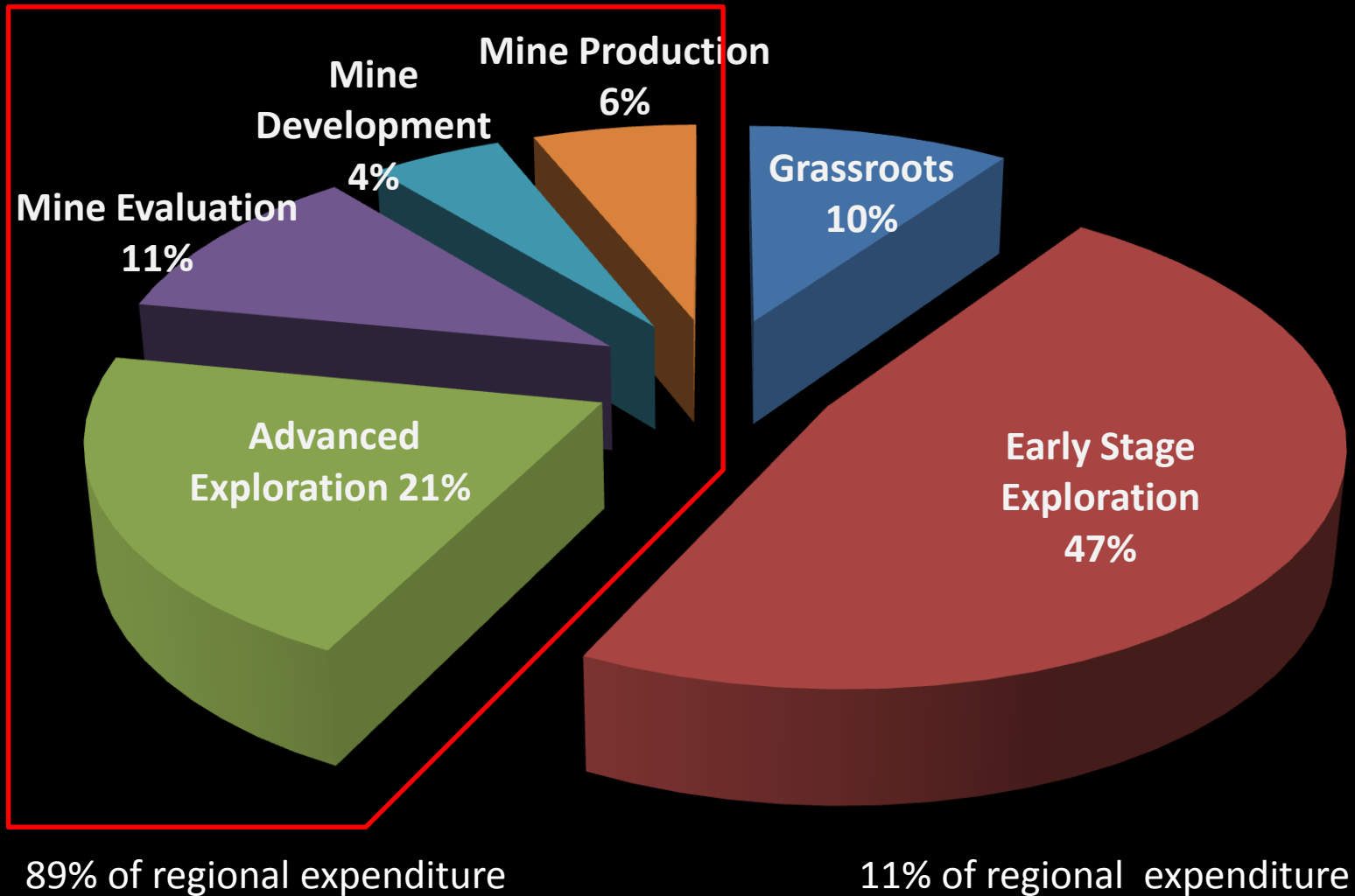
- \$201 million exploration expenditure
 - 42% of provincial total \$476 million
- 249,000 exploration metres drilled
- \$282+ million mine development
- \$750 million Hydro projects



BRITISH
COLUMBIA

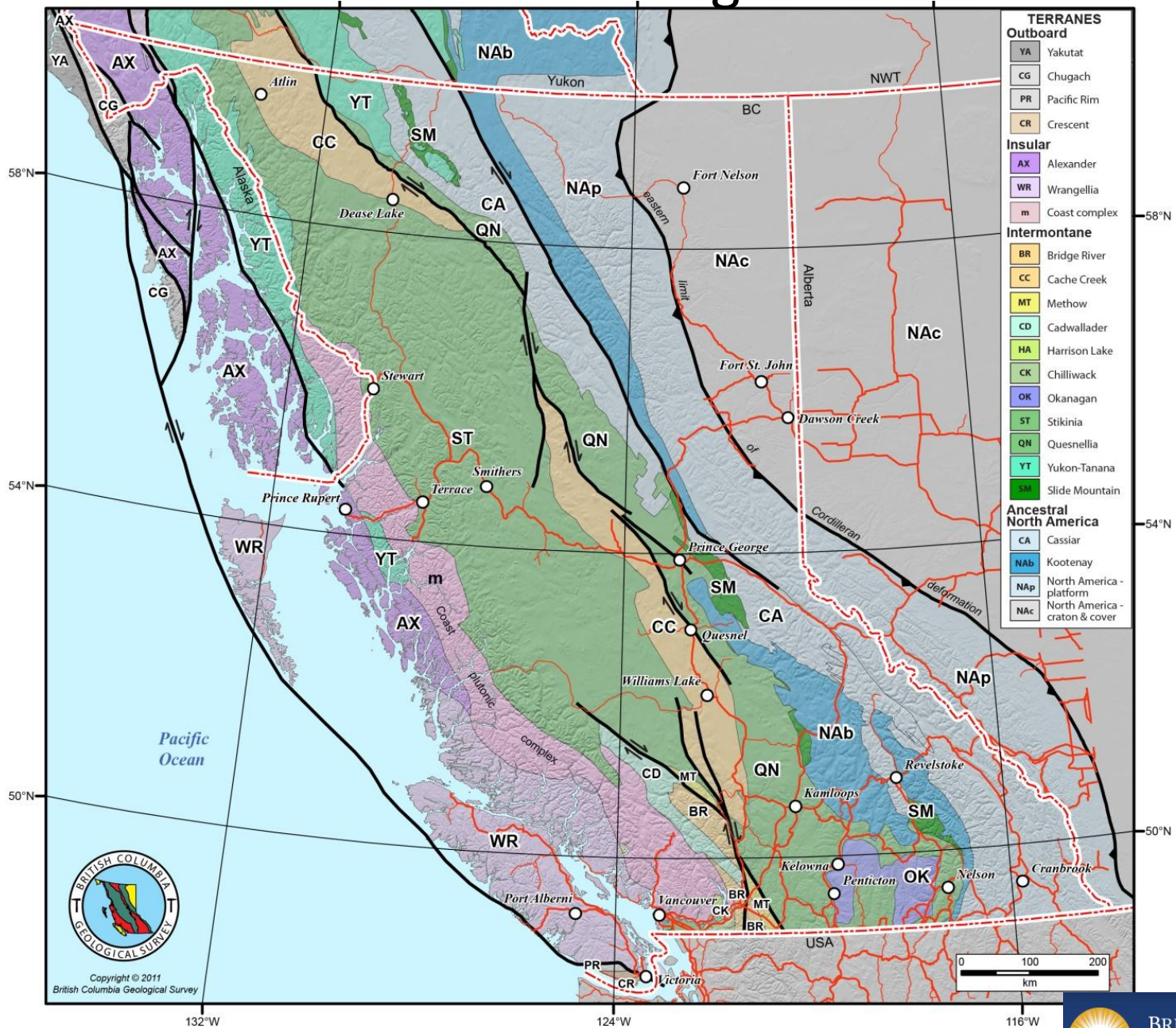
2013 Skeena Regional Overview

Skeena Region Projects

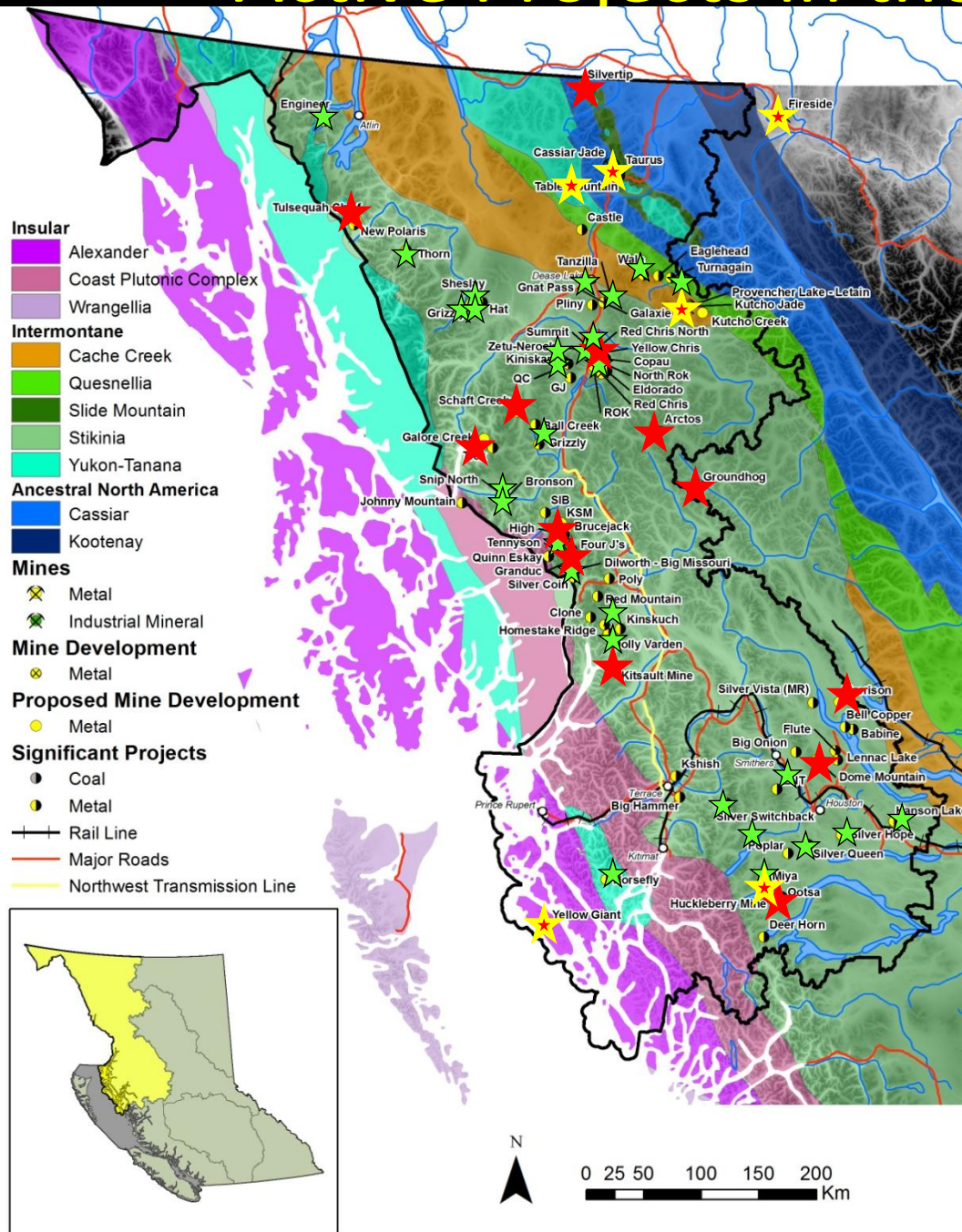


82 projects monitored in 2013

British Columbia Geological Terranes



Active Projects in the Skeena Region



6 producers

Mines

13 Mine
Evaluation +
Developments

Mine Developments

63 significant
Exploration
projects

Exploration

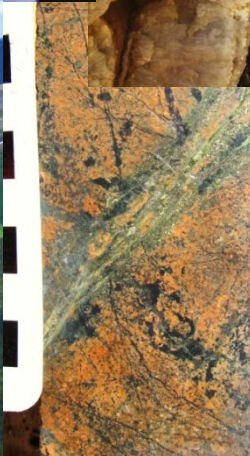
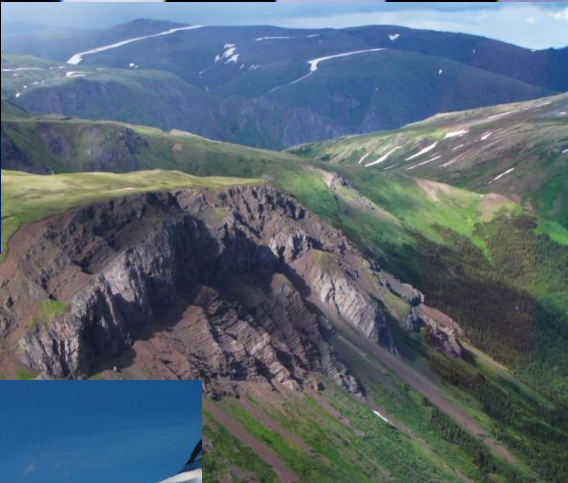
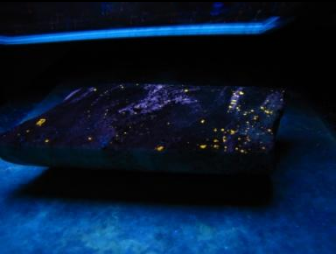
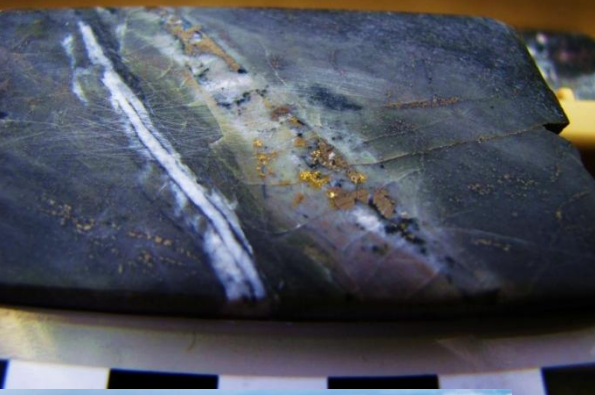


What kind of
Mines were
these?

-  **Atrium Coal**
COAL FOR STEEL

- | | Maiden 2012 | September 2012 | January 2013 | April 2013 |
|----------------|-------------|----------------|--------------|------------|
| JORC Resources | (Mt) | (Mt) | (Mt) | (Mt) |
| Measured | | | | 16 |
| Indicated | | 57 | 107 | 553 |
| Inferred | 50 | 102 | 231 | 998 |
| Total | 50 | 159 | 338 | 1,567 |

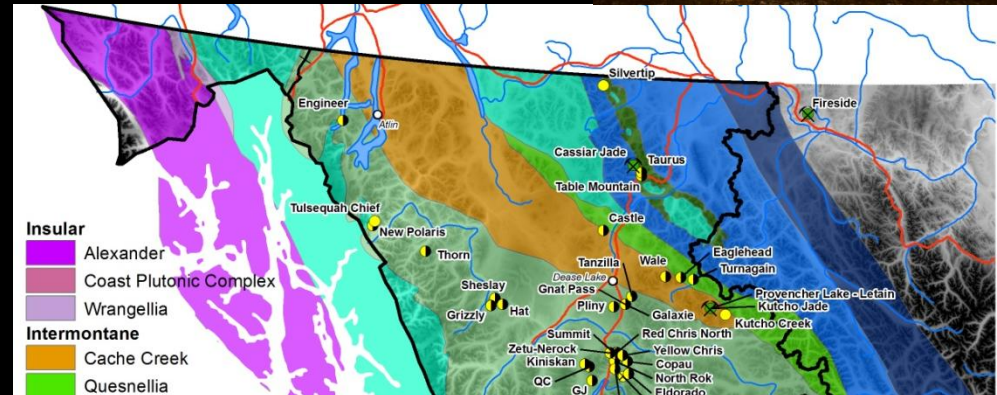
A close-up photograph of a dark, textured rock surface, possibly a fossil or mineral specimen. The rock is dark grey to black with numerous small, reddish-brown spots and patches. A prominent white horizontal line runs across the middle of the specimen. The texture appears rough and granular.



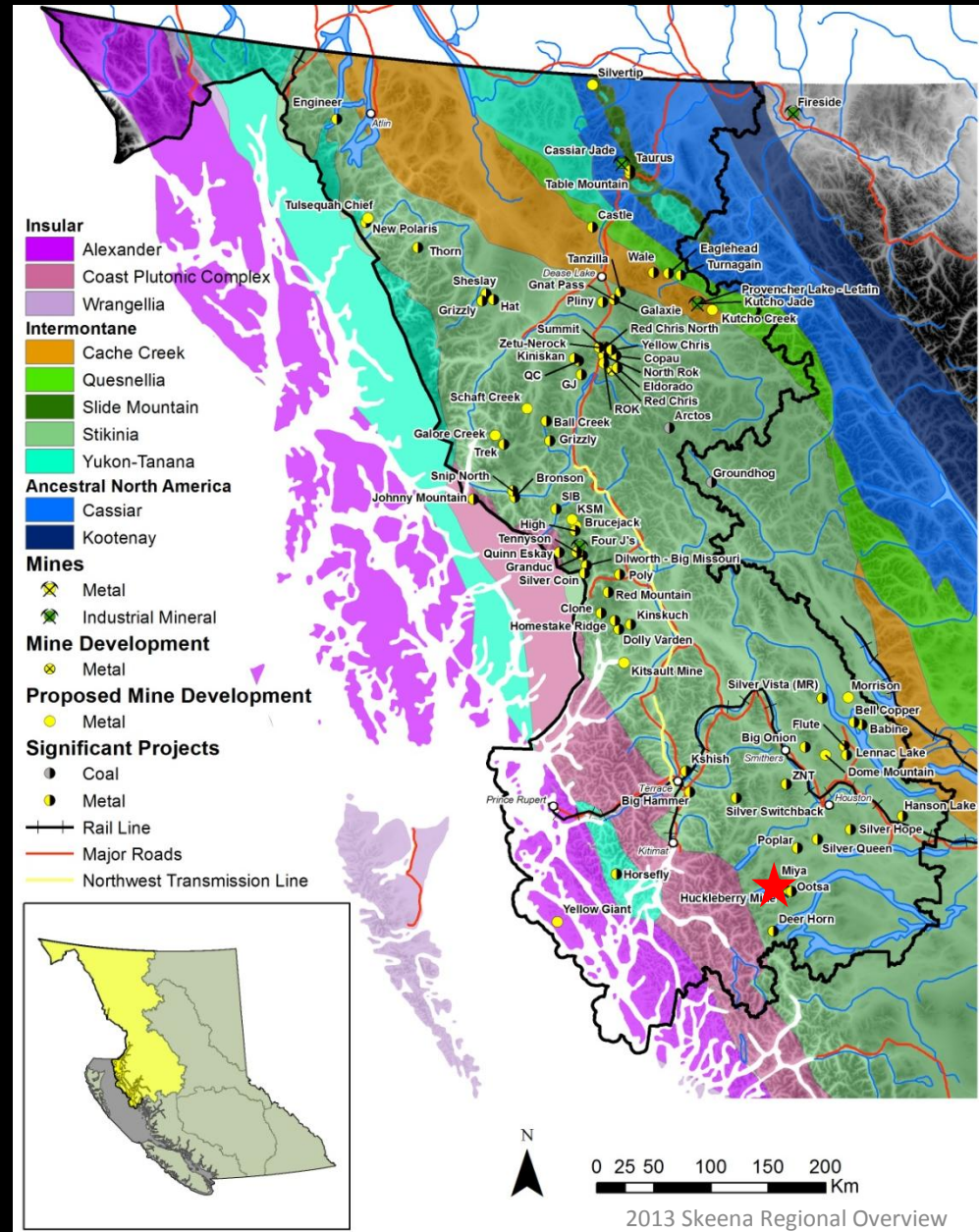
Yellow Giant



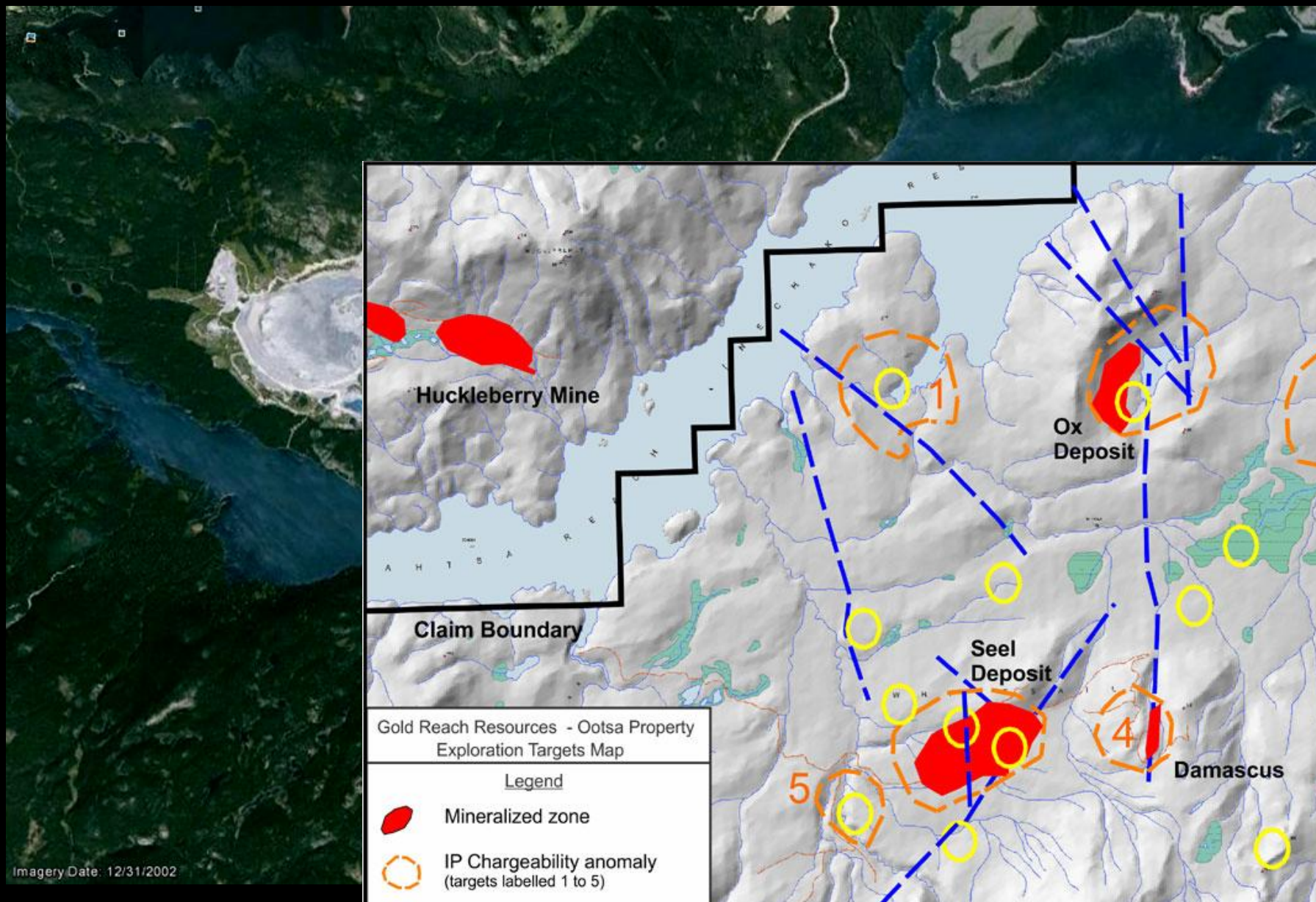
- Fault controlled Au-Ag-Cu veins and massive sulphide
- 18,250 m drilled in 2013
- Mines Act permit issued March 5th 2014
- EMA permit Received April 16th
- Mining underway
 - 4,927 oz Au + 13,374 oz Ag recovered to date from Bob Zone
 - Tel Zone development underway
- Onsite processing equipment:
 - Dense media separation plant
 - Grinding and floatation modules
 - Spiral concentrator



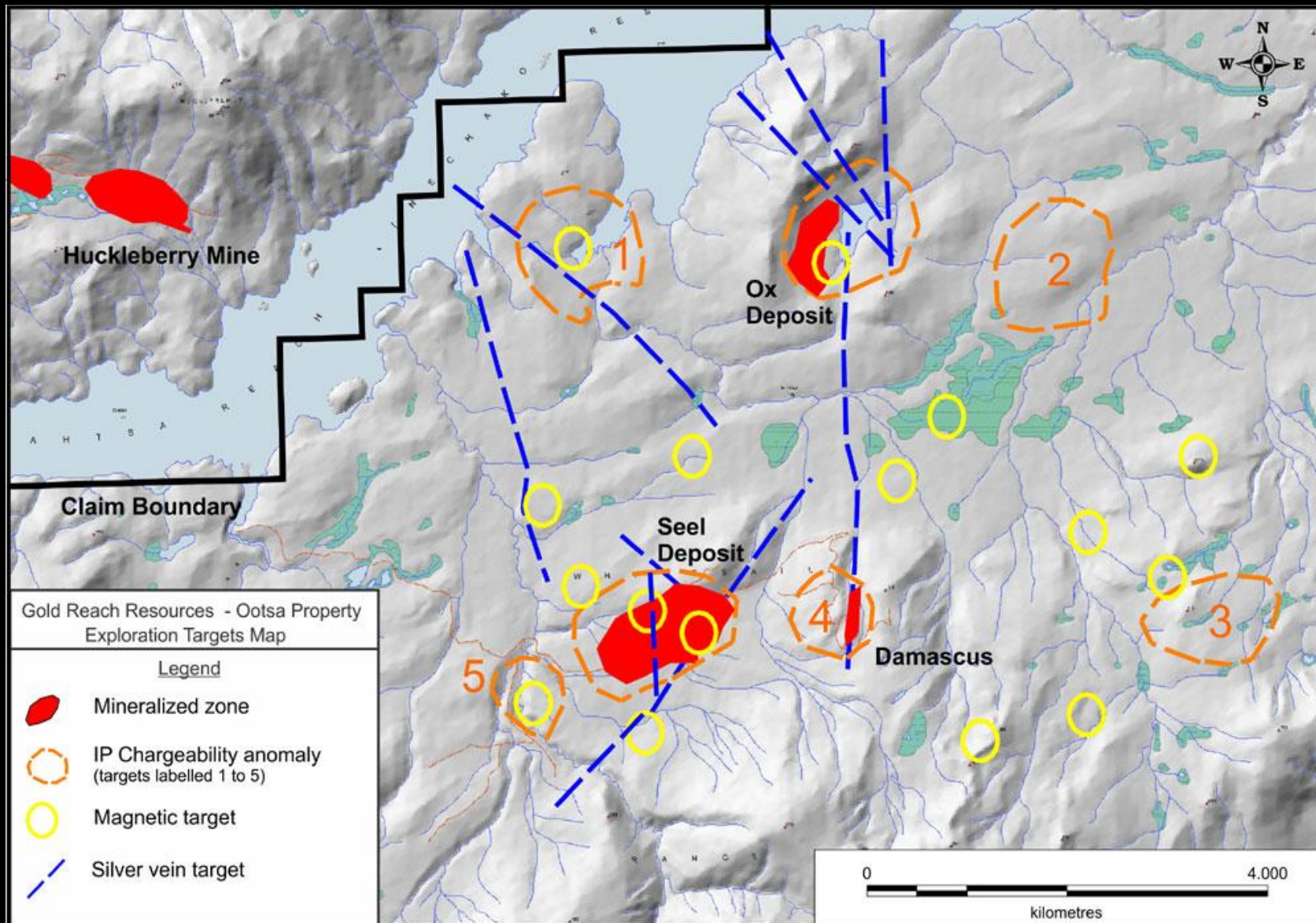
- Cu-Mo-Au-Ag porphyry
- 2013 Production:
 - 18,693 tonnes Cu (41,212,818 Lb)
 - 92 Kg Au (2983 oz)
 - 7403 kg Ag (238,028 oz)
- Main Zone Optimization plan ongoing
 - Mine life at least to 2021
- New tailings facility operational
- Near mine exploration completed 18 holes (5242 m)
 - Soil sampling at Huckleberry North
- 300 full time jobs
 - 30 contract jobs



Ootsa

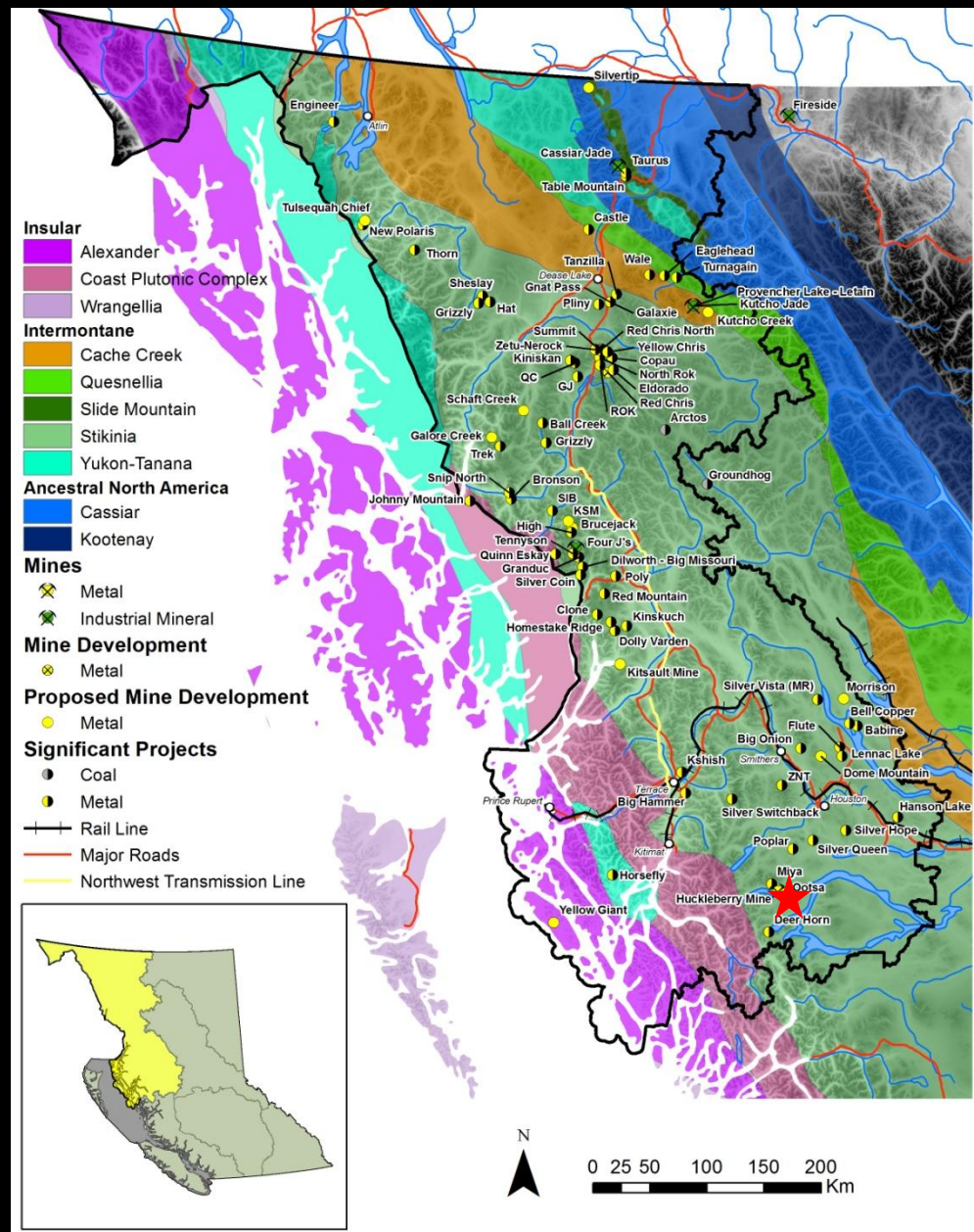


Ootsa



Ootsa

- Cu-Au-Mo-Ag porphyry
- Seel, West Seel, Ox and West Ox Deposits
- 36,135 m of drilling completed in 2013
 - Ox DDH Ox13-46:
161.9 m @ 0.36% Cu + 0.028% Mo
+ 0.06 g/t Au + 1.85 g/t Ag
 - East Seel DDH S13-148:
146.3 m @ 0.51% Cu + 0.59g/t Au +
2.33 g/t Ag
- Working towards a PEA for 2014
- Updated resource estimate

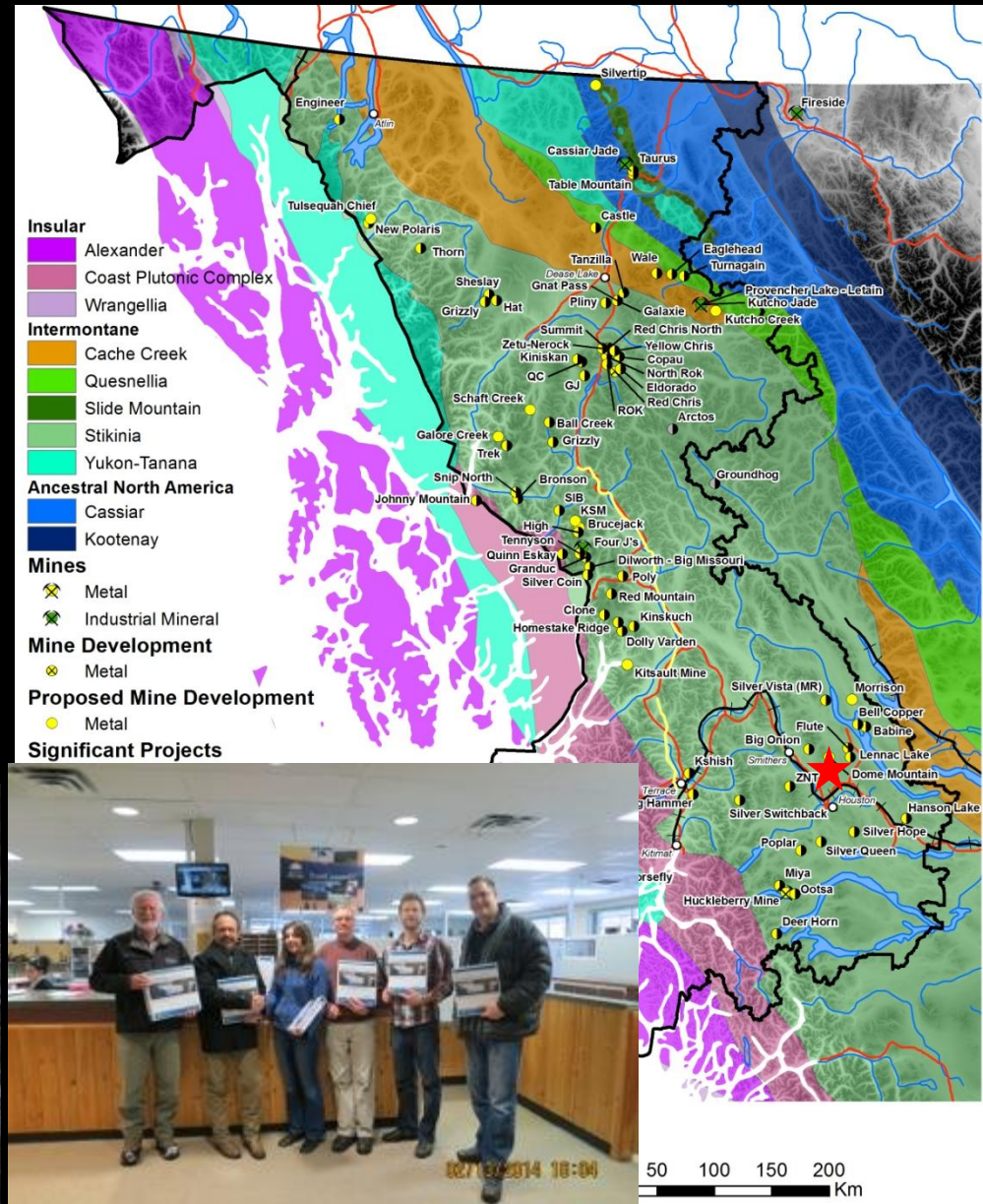




Dome Mountain



- Orogenic Au vein
- Filed amendments application package to government for Mines Act and Environmental Management Act permits to **build mill on site**
 - Submitted Feb 13, 2014
- Aiming to build 250 t/d milling facility

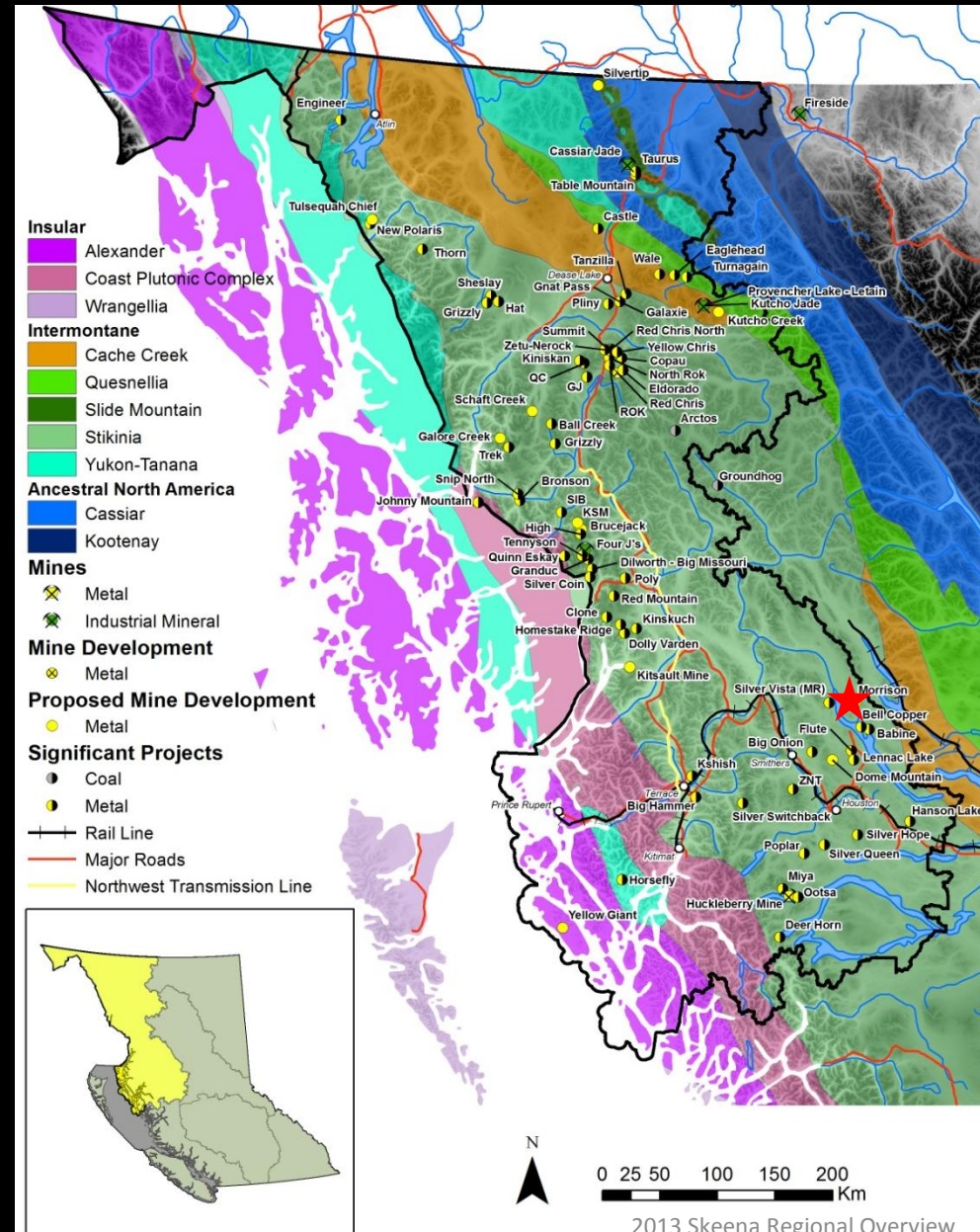




Morrison

PACIFIC BOOKER MINERALS INC.

- Cu- Au Porphyry
- Oct 1 2012, Denied EA certificate
- “potential long-term risks of the project outweighed the potential benefits to the province.”
 - Hon. Terry Lake and Richard Coleman
- “Risk vs Benefit” test not included in terms of reference and therefore “failed to comport with requirements of procedural fairness”
 - Justice Kenneth Affleck Q.C.
- Former denial quashed and application to be remitted to the current minister



-
- Insular**
- Alexander
 - Coast Plutonic Complex
 - Wrangellia
- Intermontane**
- Cache Creek
 - Quesnellia
 - Slide Mountain
 - Stikinia
 - Yukon-Tanana
- Ancestral North America**
- Cassiar
 - Kootenay
- Mines**
- Metal
 - Industrial Mineral
- Mine Development**
- Metal
- Proposed Mine Development**
- Metal
- Significant Projects**
- Coal
 - Metal
- +— Rail Line
- Major Roads
- Northwest Transmission Line
- 0 25 50 100 150 200 Km
- 2013 Skeena Regional Overview

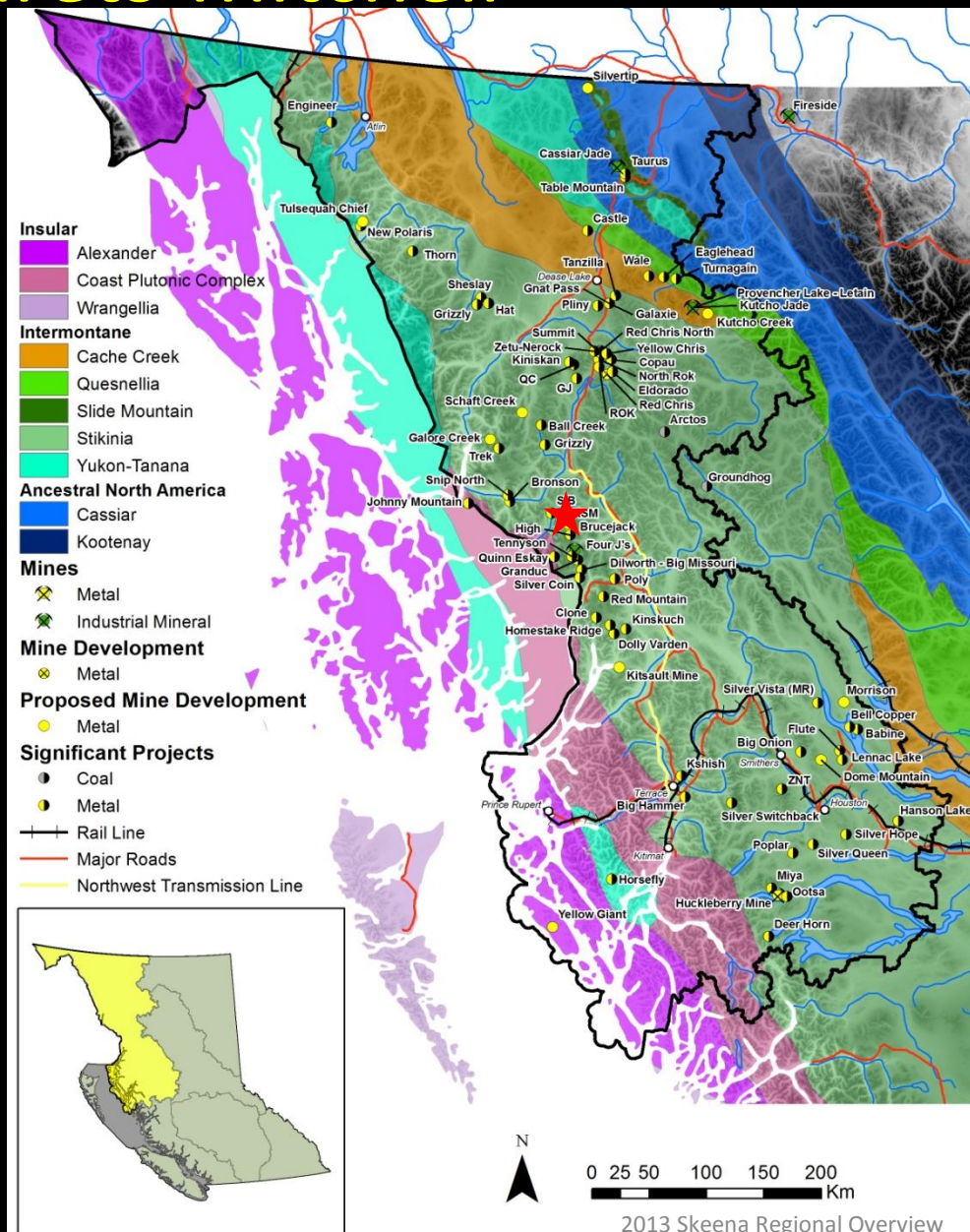
KSM Project

Kerr-Sulphurets-Mitchell

- Au-Cu porphyry
- Proven + Probable reserves: 2,1924 Mt @ 0.55 g/t Au + 0.21 % Cu + 3.04 g/t Ag + 53.2 ppm Mo
- Proposed 52 year mine life
- EA package submitted Jan.31st 2013
- Recommendation due June 2014
- 2013 defined inferred resources at Deep Kerr:

515Mt @ 0.53% Cu + 0.36 g/t Au

19,000 m drill program scheduled for 2014

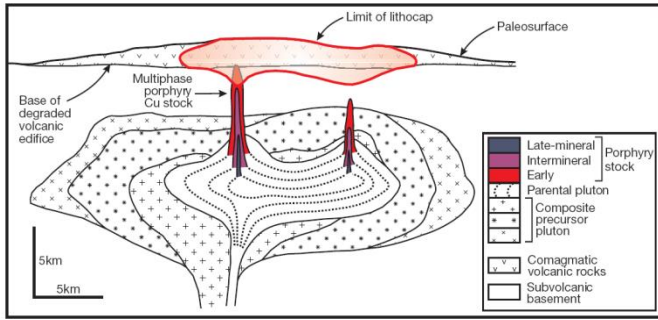


Deep Kerr Long Section

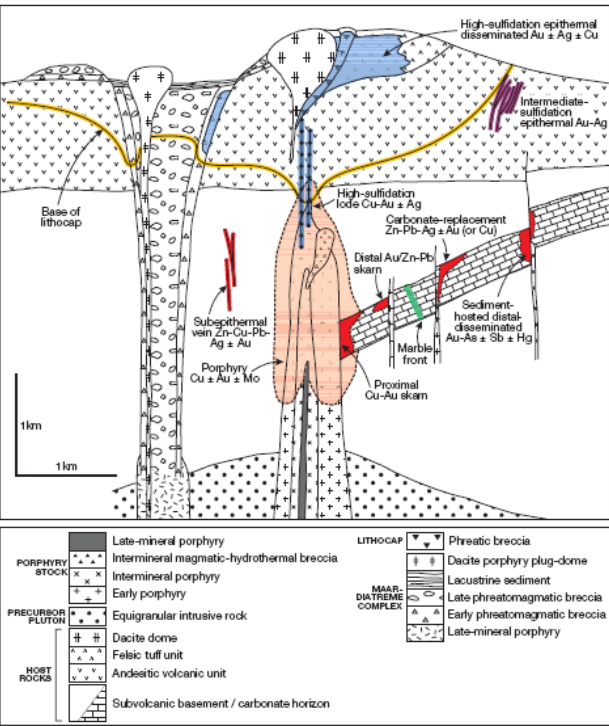


SEABRIDGE GOLD KSM

RICHARD H. SILLITOE



RICHARD H. SILLITOE

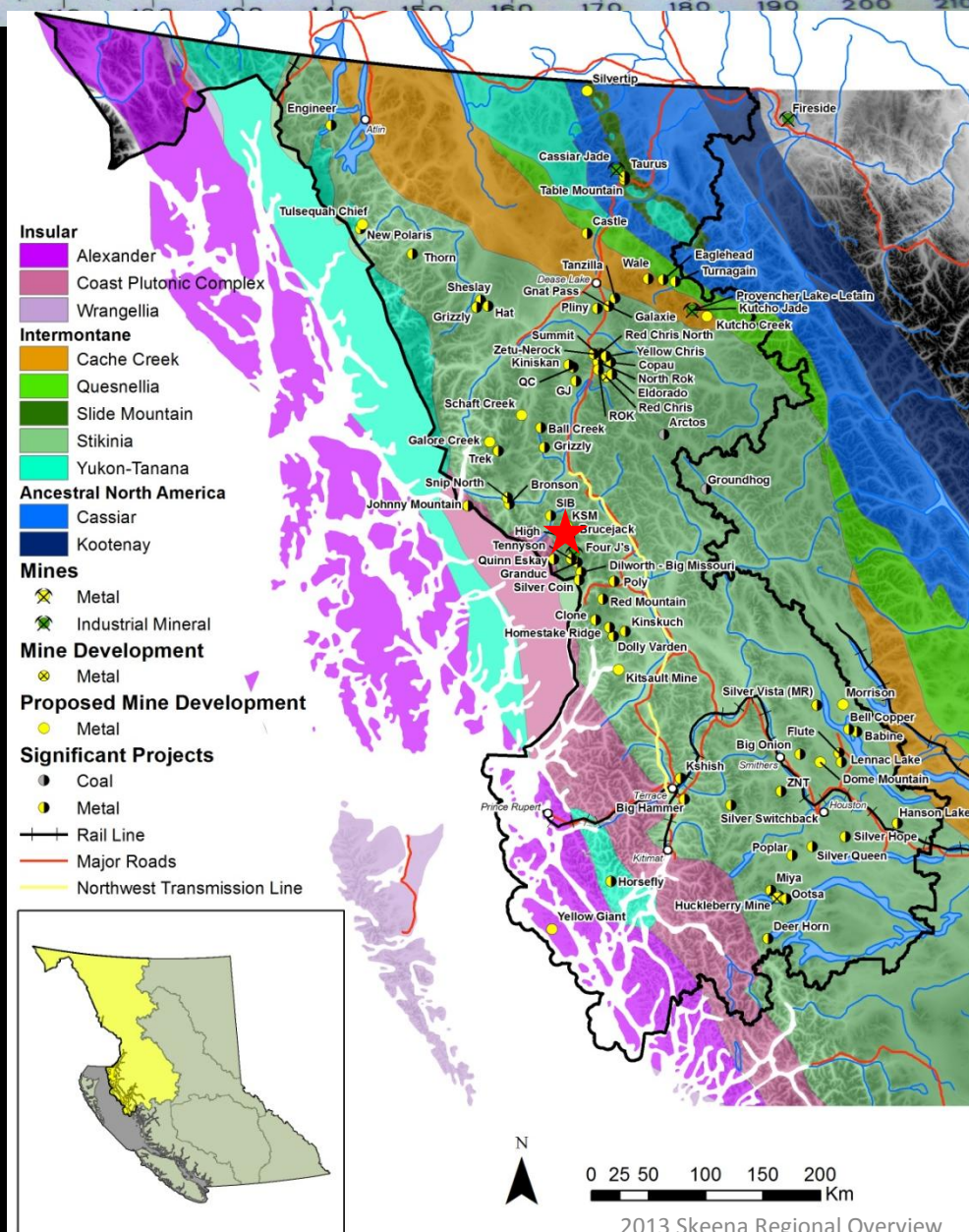


Diagrams from Sillitoe 2010
Geological Map, courtesy of Seabridge Gold.



Brucejack

- High Grade Au vein
 - Deformed intermediate sulfidation epithermal stockwork vein system
- Positive Feasibility study released in June 2013
- 1.2 km of underground development
- Excavated 10,302 tonne underground bulk sample
 - Yielded 5,923 oz Au ~17.88 g/t Au
- Drilled 44,601 m in combined underground and surface drilling
 - 69 intercepts in 2013 grading over 1,000 g/t Au (uncut)
- Commissioned 75 km access road to project site from HWY 37



Brucejack

- Updated VOK Resource estimate:
 - Measured + Indicated resources:
15.3 Mt @ 17.6 g/t Au + 14.3 g/t Ag
(8.7 M oz Au + 7.0 M oz Ag)
 - Inferred resources:
5.9 Mt @ 25.6 g/t Au + 20.6 g/t Ag
(4.9 M oz Au + 3.9 M oz Ag)

2014 Plans

- Submit EA application by Q2
- Amend Feasibility Study
- Underground exploration drilling
 - 15,000 m
 - 1,000 tonne high grade sample
- Underground access ramp excavation to 1345 m level
- Various optimization scoping studies



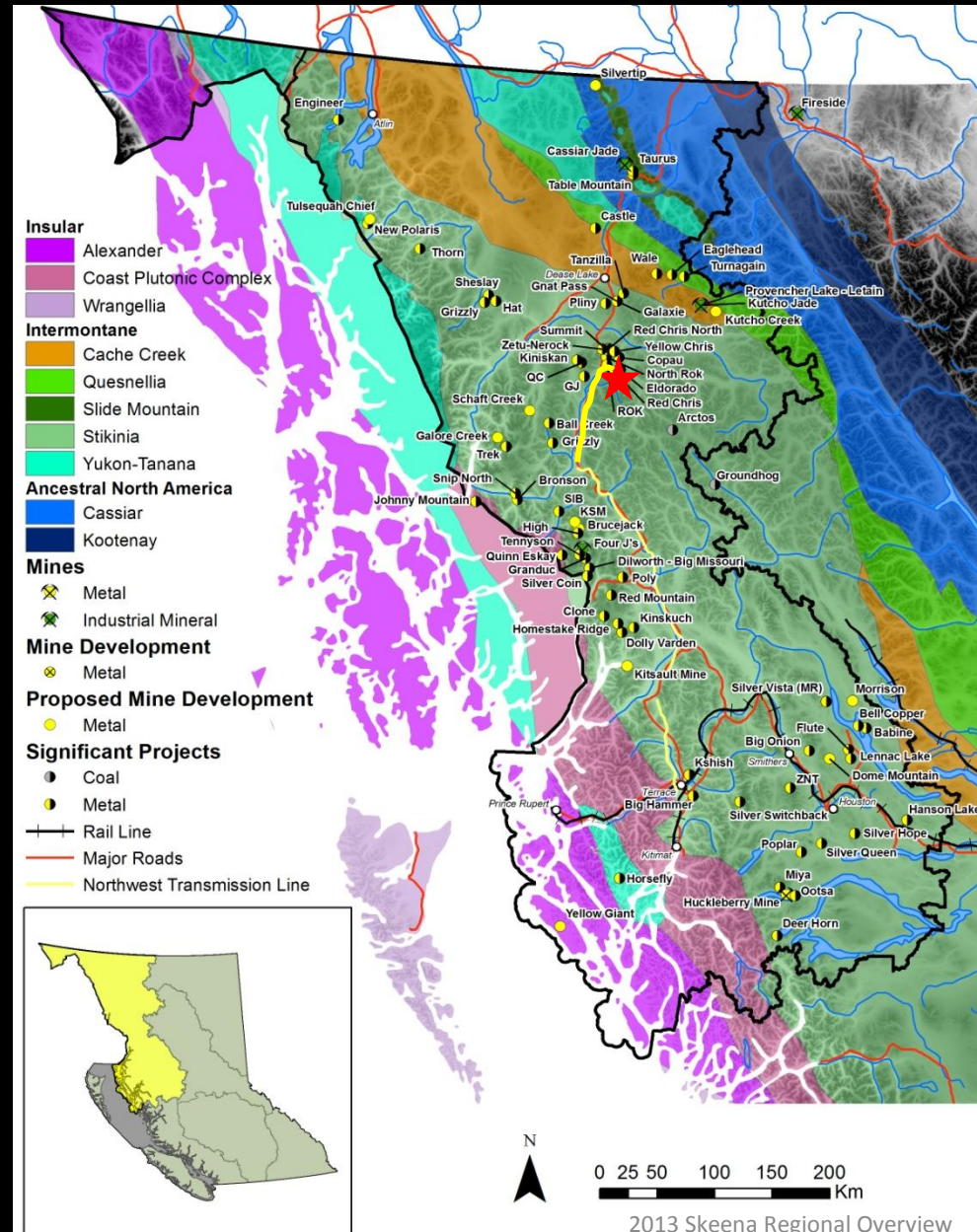
Slickensided gold within sheared quartz vein stockwork at VOK underground



Looking west over West Zone Portal site

Red Chris

- Cu-Au porphyry
- Measured + Indicated resources:
1,218 Mt @ 0.327% Cu + 0.327 g/t Au
+ 1.114 g/t Ag
- Inferred Resources:
1,216 Mt @ 0.271% Cu + 0.292 g/t Au
+ 1.020 g/t Ag
(0.2% eCu cut-off)
- Mine Permit issued May 4th 2012,
construction underway
 - Commissioning Q3 2014
- 93 km NTL extension under
construction
 - Commissioning by end of July 2014
- Capex increased to \$570M



Red Chris

Site Overview Looking southwest



Mill Site

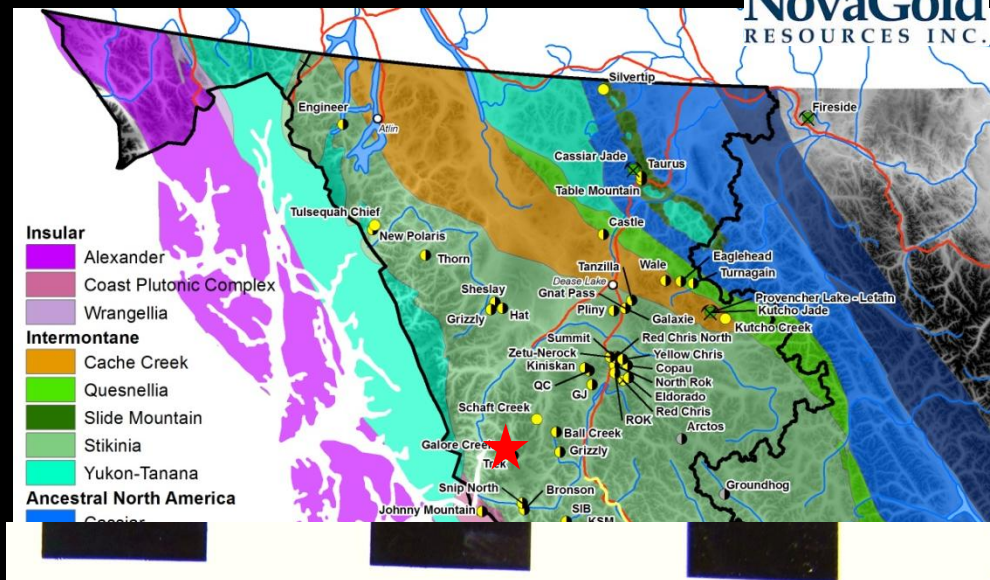
Current Offices

Main Zone
(Future Pit)

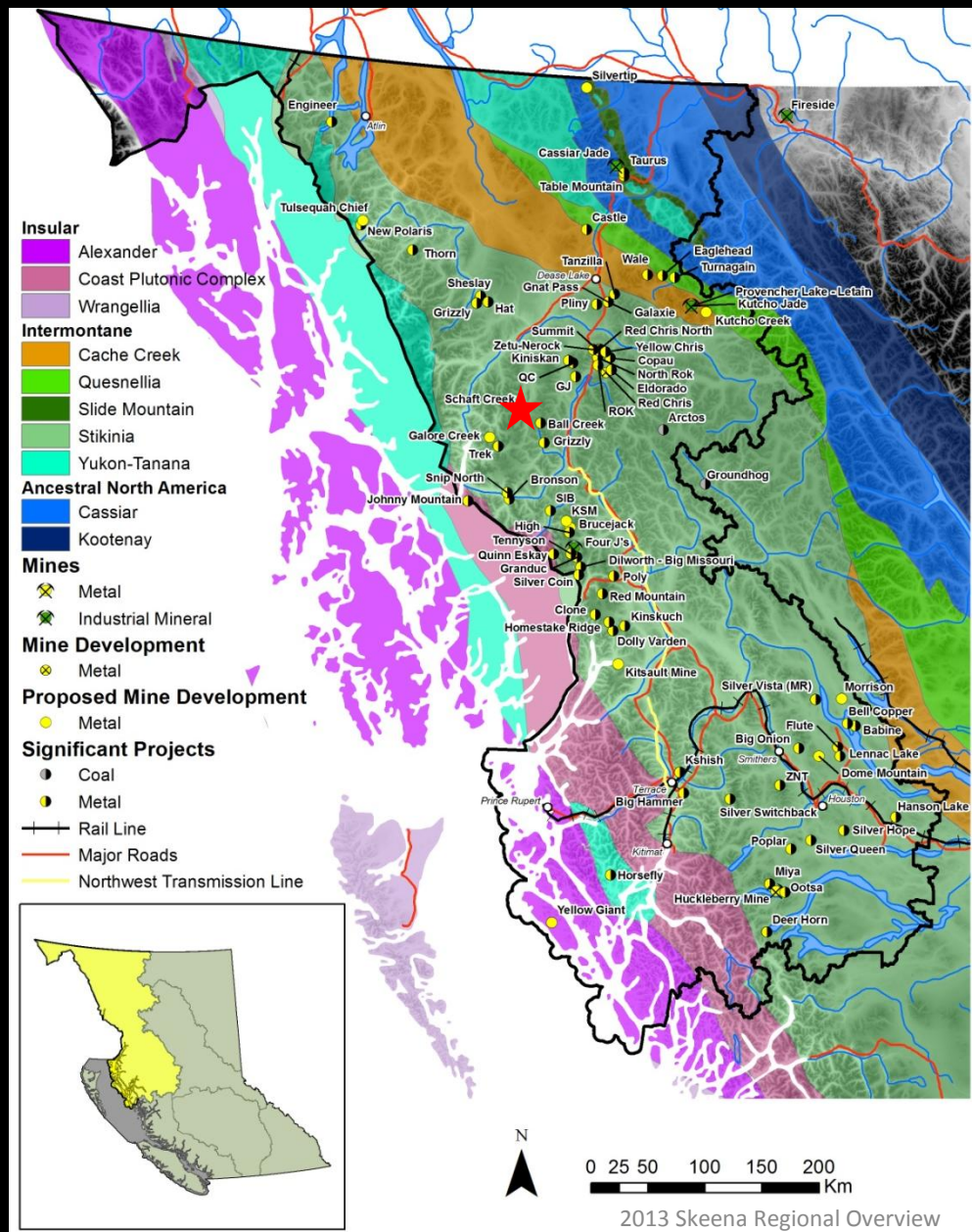
Topsoil
Stockpile
Area

480 person
Camp

- Cu-Au-Ag porphyry
- Proven + Probable reserves:
528 Mt @
0.59% Cu + 0.32g/t Au + 6.02 g/t Ag
- 11,600 m drilling
 - Infill drilling at the New Legacy Zone
 - Defined over 700 m strike and remains open in all directions
 - Updated resources and feasibility ongoing



- Cu-Au-Mo-Ag porphyry
- Teck buys back in with 75% ownership forming the Schaft Creek Joint Venture
 - Copper Fox retains 25% ownership
- Updated Feasibility Study
 - \$3.256 Billion Capex
 - 21 year Mine Life
 - 130,000 t/d milling operation
- Received approval for EA application requirements
- Measured + Indicated resources:
 - 1,228 Mt @ 0.26% Cu + 0.017% Mo + 0.19 g/t Au + 1.69 g/t Ag
 - Includes 940.8 Mt of Proven + Probable Reserves:
0.27% Cu + 0.0176% Mo + 0.19g/t Au + 1.72 g/t Ag

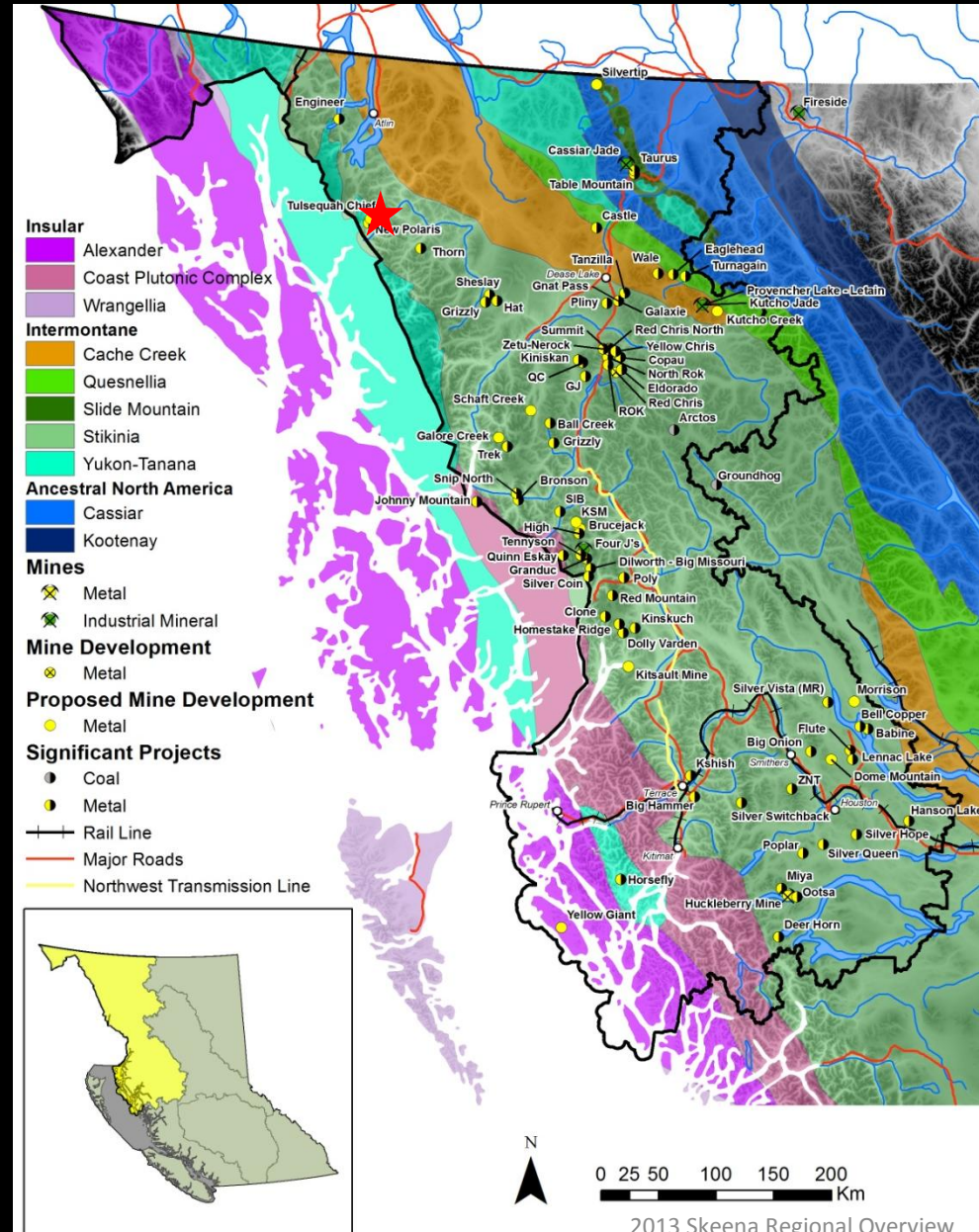




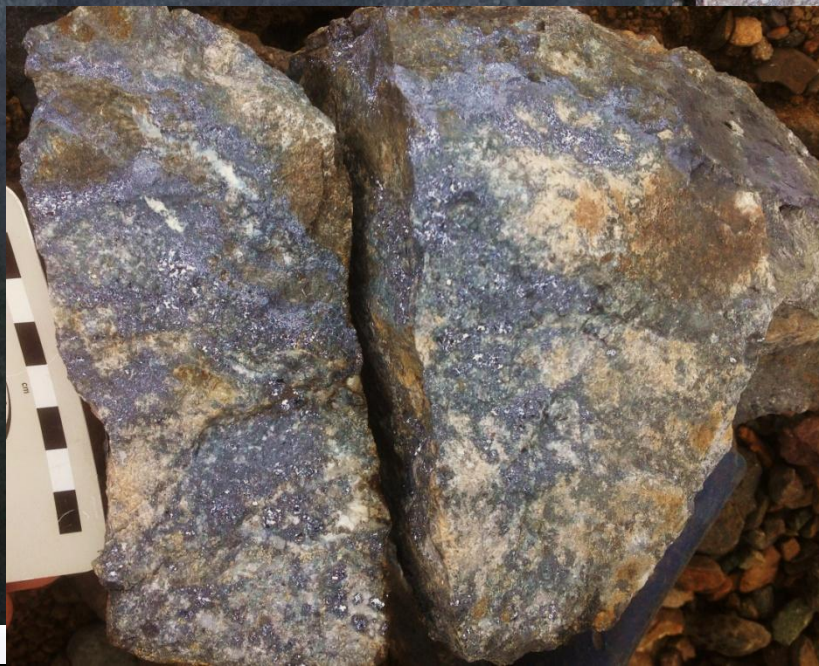
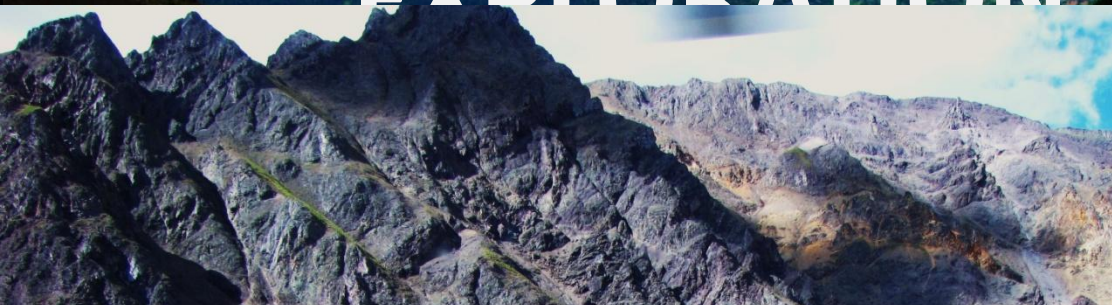
Tulsequah Chief

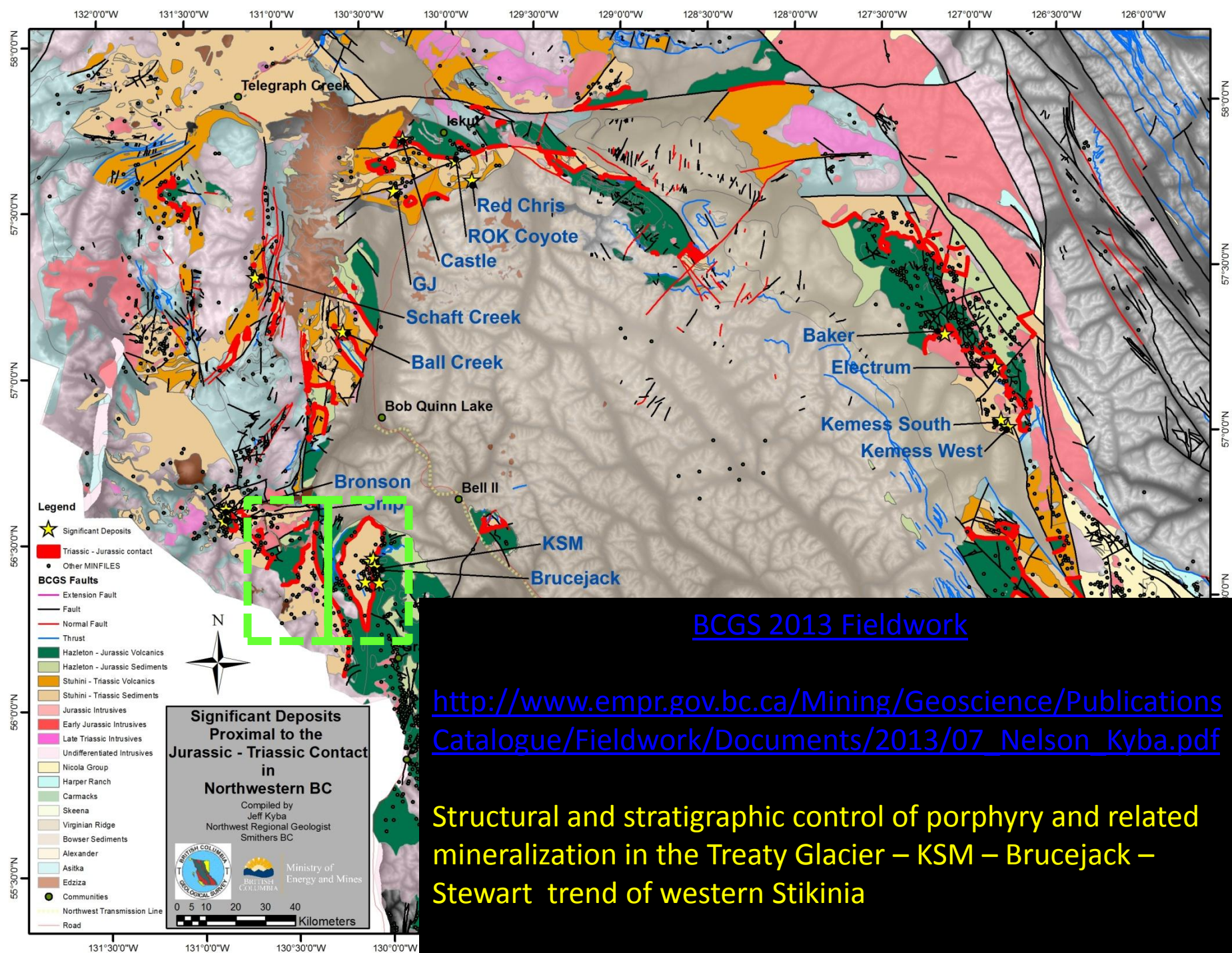
CHIEFTAIN METALS INC.

- Cu-Zn-Pb-Ag-Au Massive Sulphide
- Probable Minable Reserves:
6.45 Mt @ 1.12% Cu + 1.04% Pb
+ 5.59% Zn + 2.3 g/t Au + 81.38 g/t Ag
- Permits and amendments acquired,
ready to begin construction
- Completed comprehensive review
and assimilation of historical data
 - Multiple targets identified
- 2013 drill program:
 - 3540 m, 9 holes
 - Successfully identified extensions
to known mineralization



EXPLORATION





BCGS 2013 Fieldwork

http://www.empr.gov.bc.ca/Mining/Geoscience/Publications/Catalogue/Fieldwork/Documents/2013/07_Nelson_Kyba.pdf

Structural and stratigraphic control of porphyry and related mineralization in the Treaty Glacier – KSM – Brucejack – Stewart trend of western Stikinia

Stikine Arch Projects

North ROK

- Discovery to 142 Mt inferred resources @ 0.22% Cu + 0.26 g/t Au in less than 9 months



ROK

- 1750 m drilling, 3 holes



GJ

- Drilling
- Regional generative program follow up



Castle, Tanzilla, Pliny

- Porphyry Au-Cu intercepted in drilling
 - 100 m @ 0.11% Cu + 0.36 g/t Au



RCN

- Recon soils, rock chips and mapping



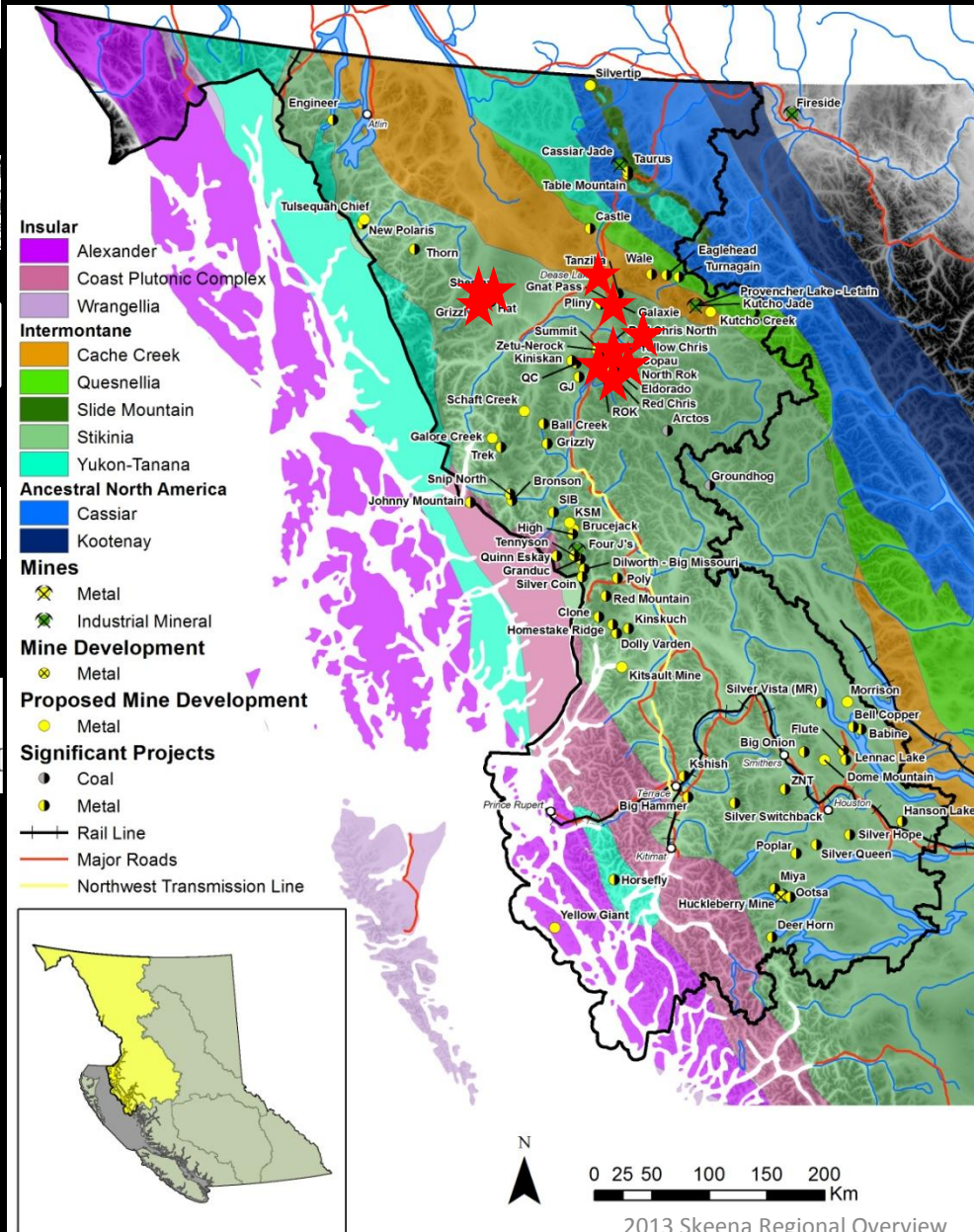
Hat

- 4169 m drilling, 15holes,
 - 451 m @ 0.22% Cu + 0.17 g/t Au + 0.85 g/ Ag



Sheslay

- Confirmed historic Cu – Au values and demonstrated continuity to new depths
- 312 m @ 0.37% Cu + 0.24 g/t Au + 0.69 g/t Ag



Alice Arm area Projects

- **Homestake**



- 3947 m drilling in 10 holes
- Discovered Slide zone
 - 18.6 m @ 101 g/t Ag

- **Kinskuch**

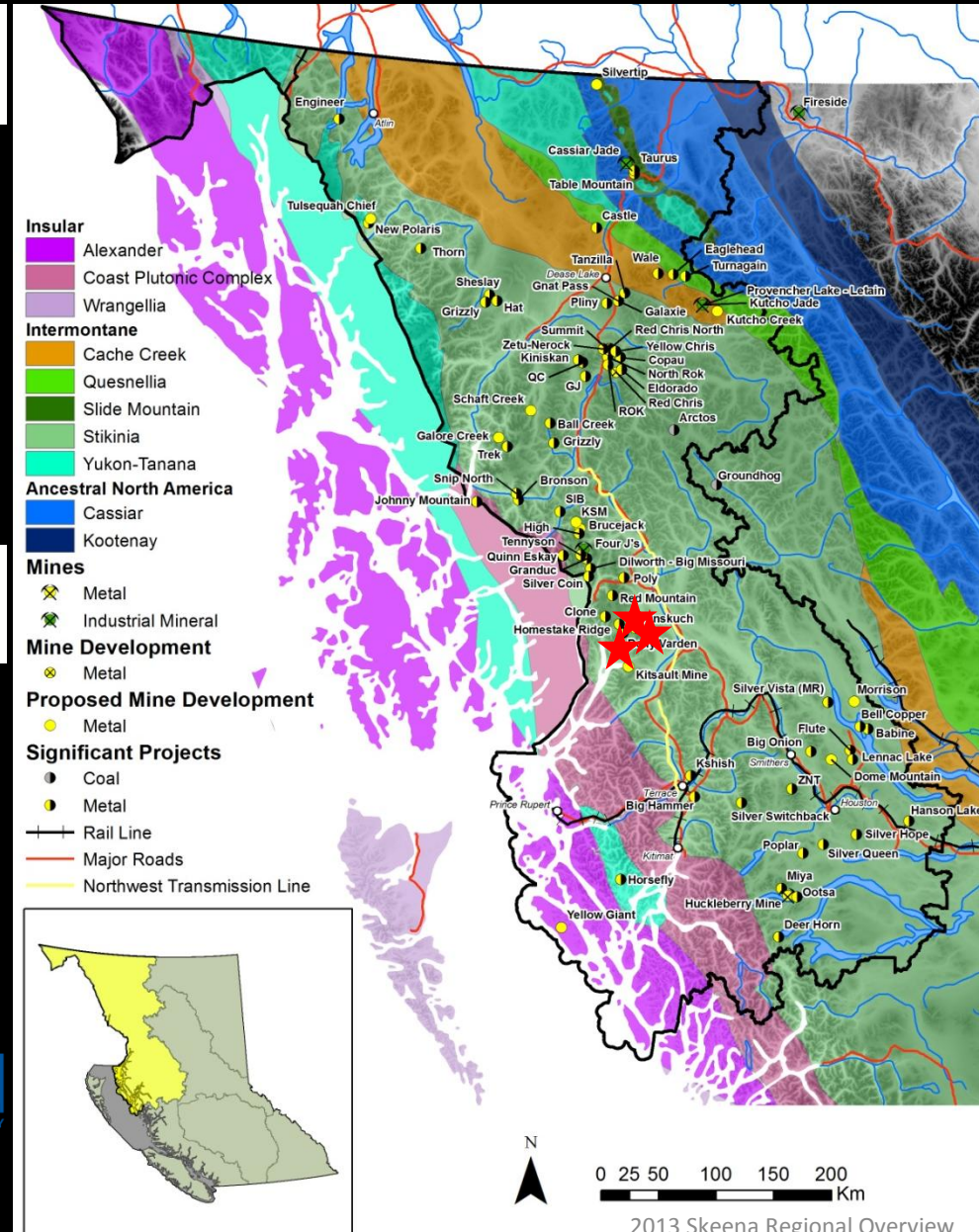


- 58 mineral occurrences awaiting further investigation

- **Dolley Varden**



- 3063 m drilling, 14 holes



Skeena Arch Projects

- Bell – Granisle**

- Water treatment plant related activities

GlencoreXstrata

- Flute - Lennac**

- Discovered Cu-Au bearing intrusive centers undercover using RC top-of basement drilling



- Babine Lake**

- Expanded ground position around past producing Bell and Granisle mines



- Big Onion**

- ~4000 m of drilling



- Poplar**

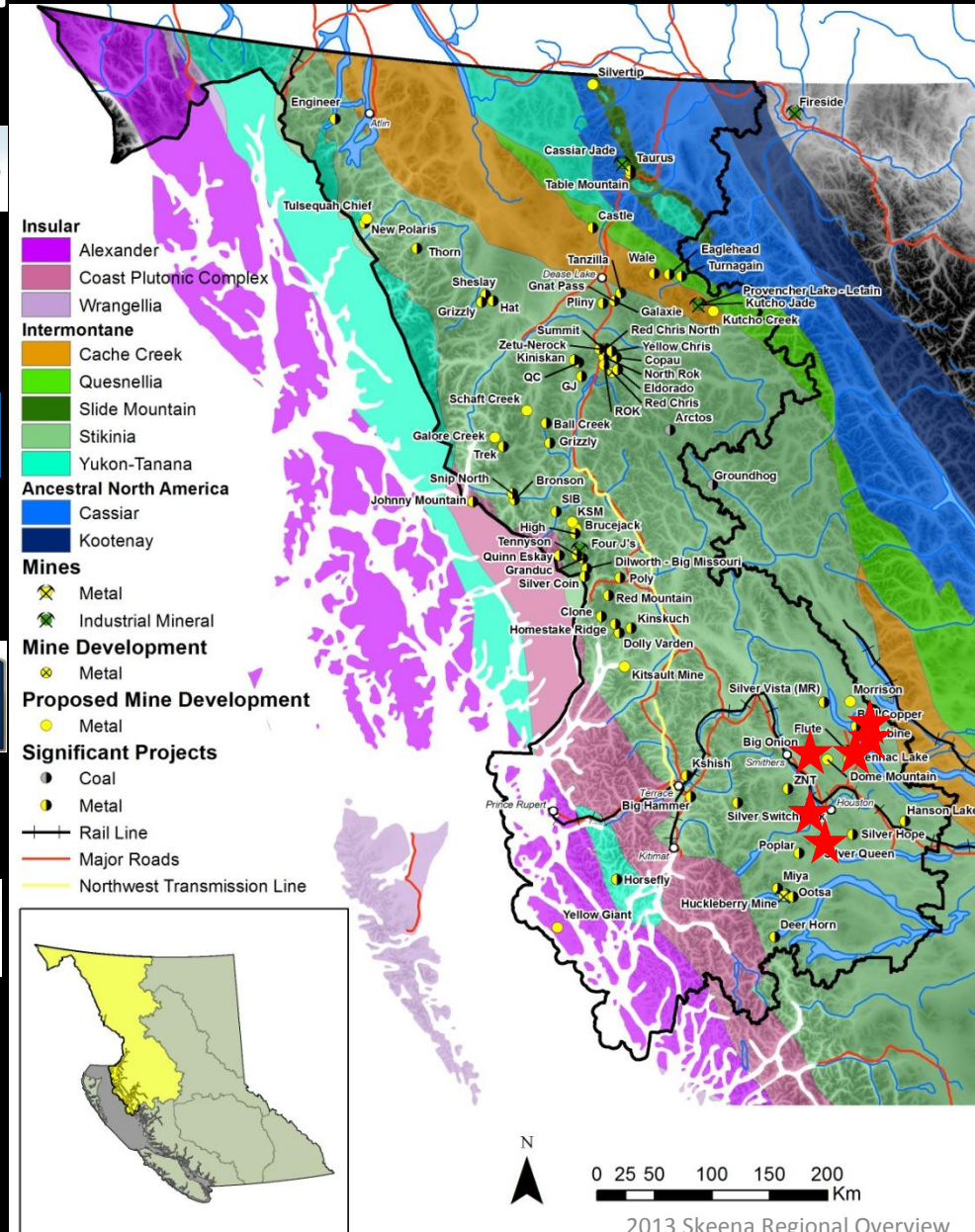
- Reverted back to 100% LGM ownership



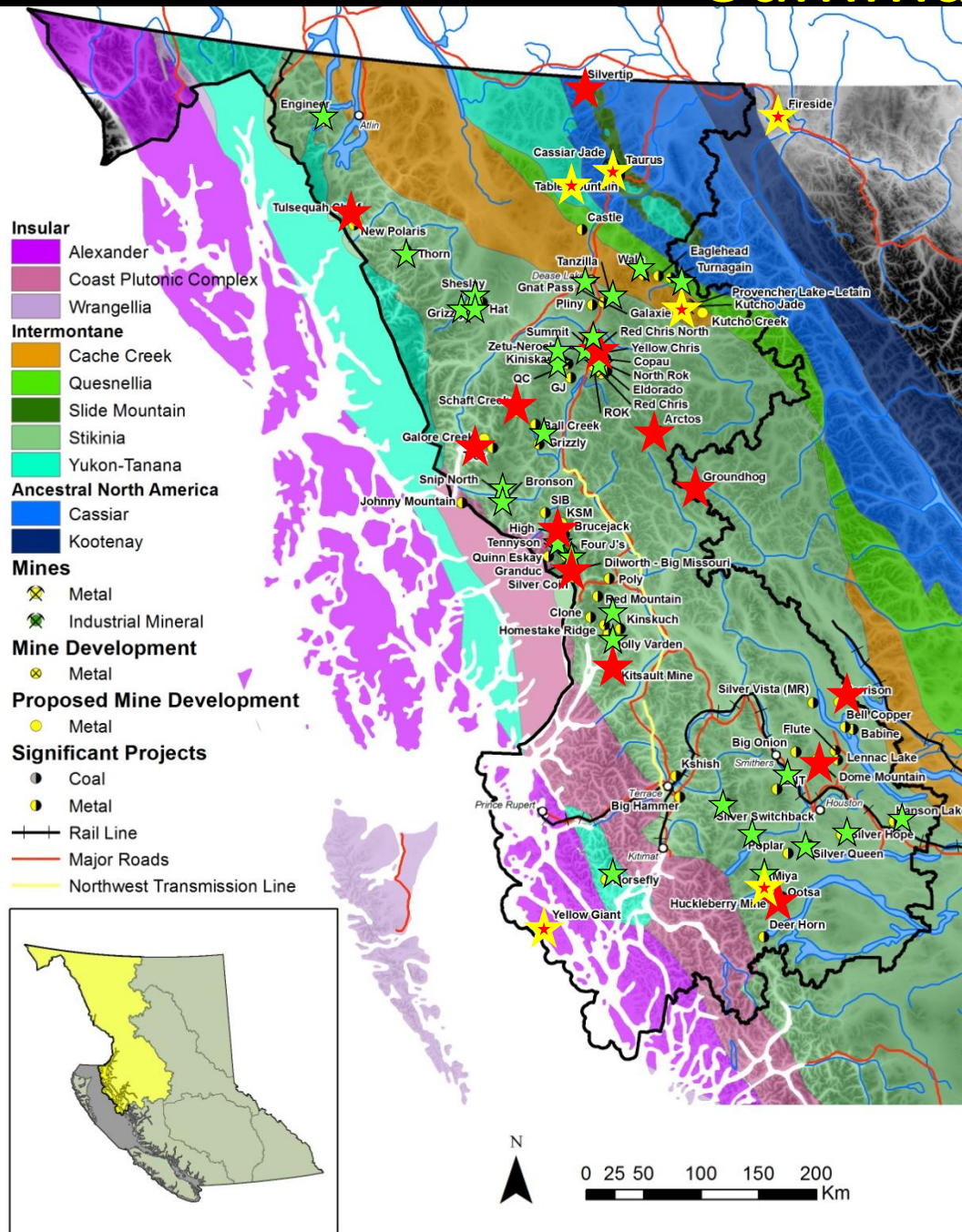
- Silver Queen / Itsit**

- Porphyry Cu-Au mineralization confirmed

New Nadina
Explorations Limited



Summary



6 producers

Mines

13 Mine
Evaluation +
Developments

Mine Developments

63 significant
Exploration
projects

Exploration



Outlook

- + Commodity prices... + - + ?
 - + Molybdenum
 - + Nickel
- + Increased presence of coal projects in NW BC
- + Political will to responsibly develop natural resources
- Labor shortages
 - + NWCC training programs
- Increased development costs

Acknowledgements

- All the companies operating in BC
- Regional Geologists:
 - Paul Jago Northeast-Omenica
 - Bruce Northcote, Southwest and South Coast
 - Dave Grieve, Southeast Kootnay-Boundary
 - Jim Britton, Thompson-Oakanagan-Cariboo
 - Bruce Madu, Mineral Development Office Vancouver
 - Robin Chu, and Gabriel Lee Mineral Development office, GIS support
- Ministry of Energy and Mines & FLNRO, Smithers office
- JoAnne Nelson, Paul Wojdak and Dave Lefebure and BC Geological Survey
- My family
- My sturdy assistant Raglan



Questions

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2013 Regional Exploration and Mining in BC summary:

<http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/ExplorationinBC/Documents/2013/Skeena2013.pdf>

2013 Field Work

http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/Fieldwork/Documents/2013/07_Nelson_Kyba.pdf