

Speaker notes can be viewed by clicking on the icon in the upper left corner of each slide
Maps, figures and text in this presentation have not undergone technical peer review and should not be used or cited as reviewed data. Future reviewed publications incorporating these data may or may not change the interpretations presented here.

Alaska Mineral Resources 2015

Ready for a Rebound

Larry Freeman – Alaska Department of Natural Resources – Division of Geological & Geophysical Surveys

www.dggs.alaska.gov – lawrence.freeman@alaska.gov

Photo courtesy: SMM Pogo LLC



Association for Mineral Exploration British Columbia Exploration Roundup 2016 – January 25, 2016

Alaska Mineral Resources – 2015

- Acknowledgements:
 - American Exploration and Mining Association
 - Companies and individuals who provided content
 - Alaska DML&W, OPMP, DCCED, DOT, and AIDEA
 - Curt Freeman of Avalon Development Corp, Shane Lasley of North of 60 Mining News
- All information is preliminary, incomplete, and subject to change:
 - Production data from preliminary Q4 reports or projected from Q3 reports
 - Exploration reports are based on press releases, websites, presentations, rumors, & black magic
- Forward Looking Statements are par for the course
- Minimal editorial or peer review of the content – does not meet editorial DGGs standards
- **Rely on company websites, news releases, and regulatory filings for definitive information**

Three Millionth Ounce
Pogo Mine – October, 2015



3M POUR
THREE MILLIONTH OUNCE
9/30/2015
POGO MINE

What can
9 years,
273 days
and 9 hours
of hard work make?

3 MILLION OUNCES OF GOLD

Cheers to all the
hours poured into
this achievement.

POGO MINE
AVALON DEVELOPMENT CORP. POGO LLC

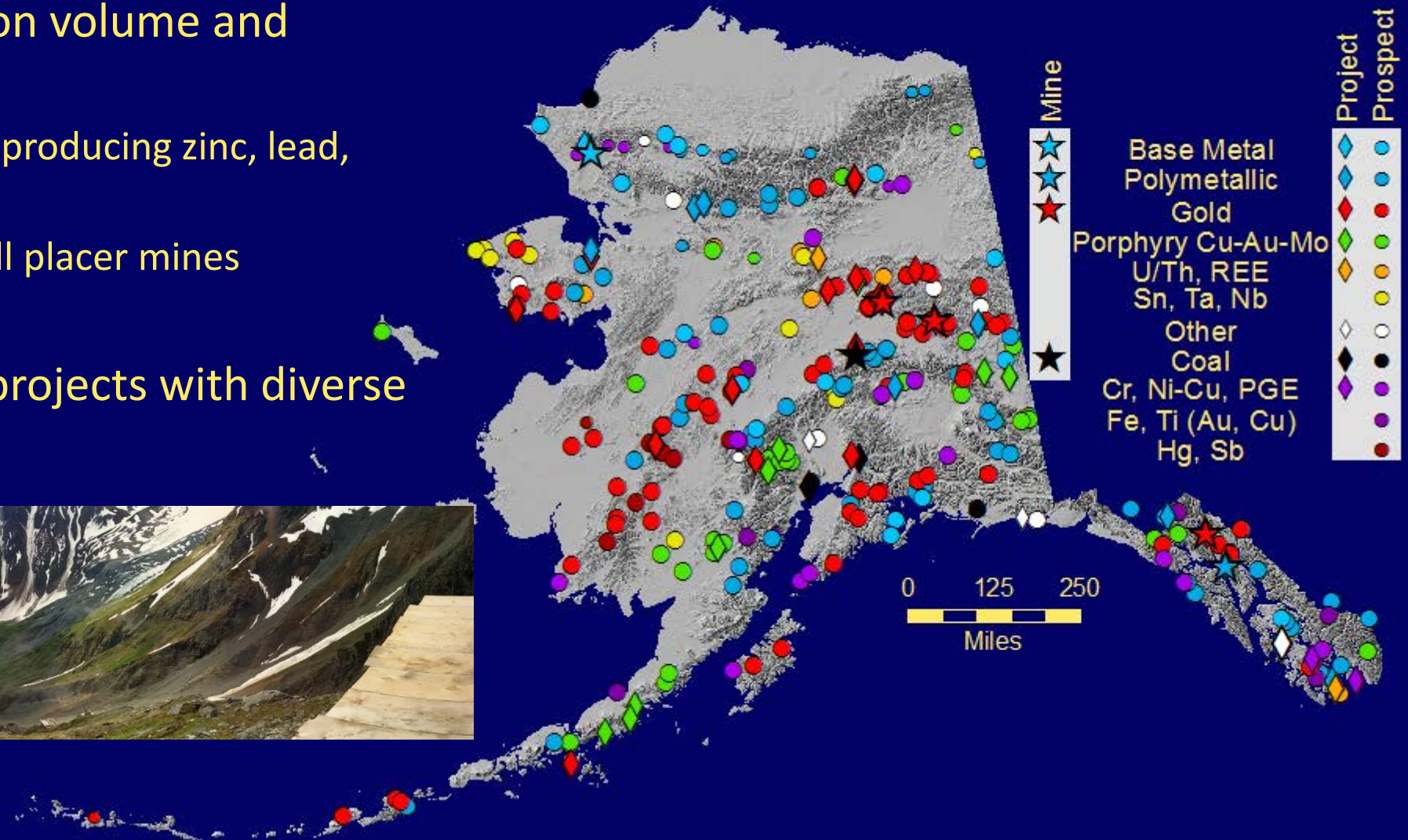
Photo Courtesy SMM Pogo LLC



2015 Alaska Minerals Overview

- Slightly lower production volume and falling prices
 - Five major metal mines producing zinc, lead, gold, and silver
 - Approximately 150 small placer mines
 - One coal mine
- Advanced exploration projects with diverse deposit types

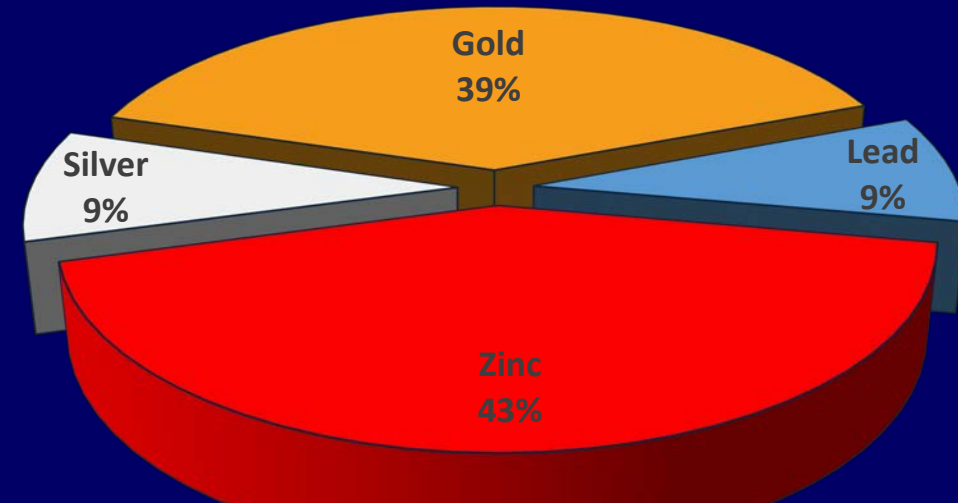
Photo courtesy of Constantine Metal Resources



2015 Alaska Production Estimate

- Production (metals)
 - 967,000 ounces Gold
 - 2 % increase
 - 15,712,000 ounces Silver
 - 2 % increase
 - 147,000 tons Lead
 - 5 % decrease
 - 679,200 tons Zinc
 - 5 % decrease
- First Market Value \$2.76 B U.S.
 - 12.3 % decrease from 2014

\$ 2.76 Billion First Market Value



2015 Alaska Gold Production – 958,000 ounces



Fort Knox (intrusion host):

- ~ 404,000 oz Au – 3% increase (projected)
- \$604/ounce Au Cash cost (Q1-3)
- 2.4 M oz Reserve (Dec 2014)
- 1.6 M oz Resource

<http://www.kinross.com>

Nixon Fork (skarn):

- In caretaker status since 2013

<http://dnr.alaska.gov/mlw/mining/largemine/nixonfork/>

Statewide Placer Gold:

- ~ 30,000 oz Au from
- ≤ 150 operations (decrease)

Pogo (vein):

- ~340,000 oz Au – steady – 3 millionth ounce 2nd qtr
- 1.8 M oz Au Reserve & 2.7 M oz Au Resource (Dec 2014)

<http://www.smm.co.jp/E/csr/environment/pogo/>

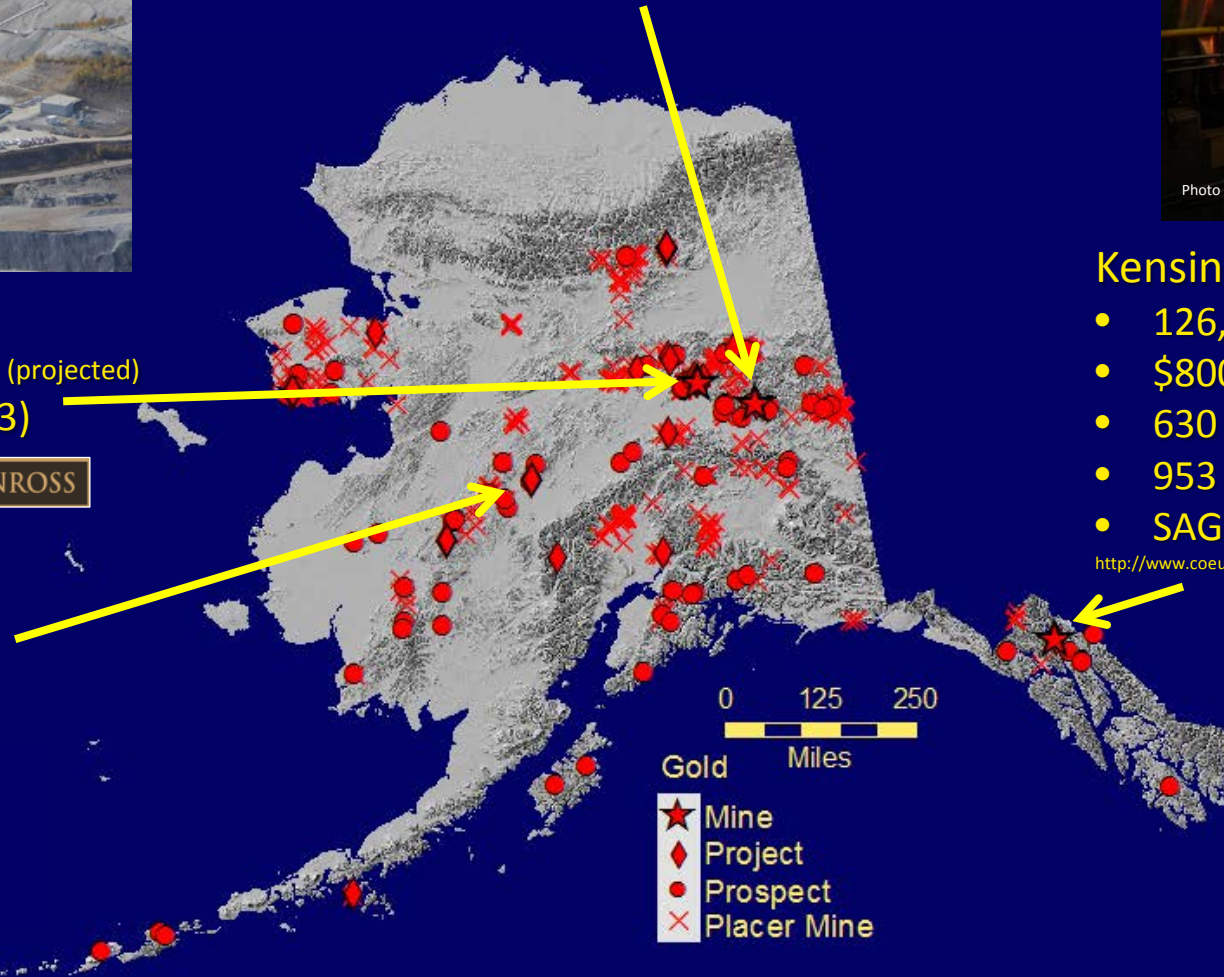


Kensington (vein):



- 126,266 oz Au – 7% increase
- \$800 to 850 /ounce cash cost (Q1-3)
- 630 K oz Au Reserve (Dec 2014)
- 953 K oz Au Resource
- SAG pebble reject XRT sorting pilot plant

<http://www.coeur.com>



2015 Alaska Zinc, Lead & Silver Production

Red Dog – SedEx Zn-Pb-Ag:

- 615,000 tonnes Zn (Q1-3) 2% decrease
- 96,700 tonnes Pb (Q1-3) 4% increase
- \$103 M cash cost (Q1-3)
- Total Reserve: 52.8 M tonnes @ 16.5% Zn, 4.3% Pb, 80.0 g/T Ag (Dec. 2014)
- 63% of payroll to NANA shareholders

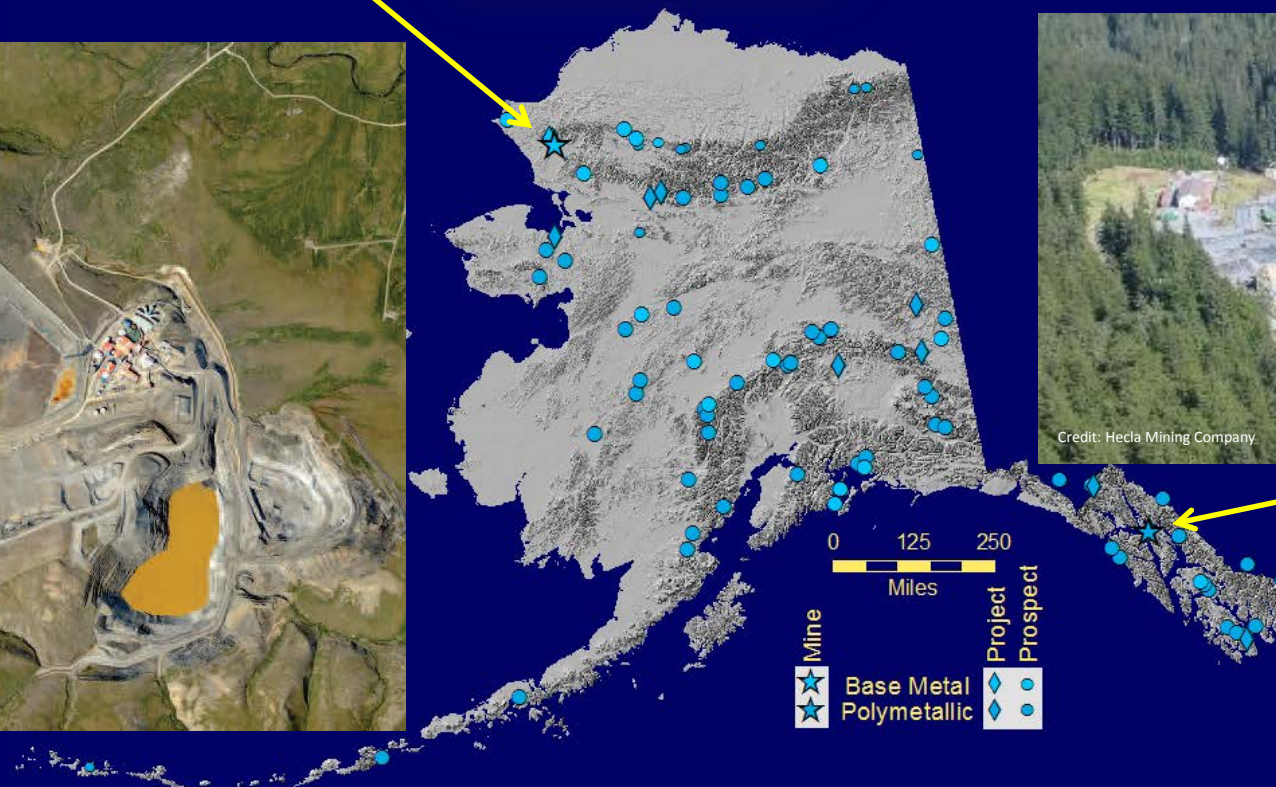
www.teck.com



Greens Creek – VMS Ag-Zn-Pb-Au:

- \$ 3.75/ oz Ag cash cost (Q1-3)
- 8.45 M oz Ag (Q1-4) 8% increase
- 60.6 K oz Au (Q1-4) 3% increase
- 2233 tons per day
- P&P Reserve 7.7 M tons @ 12.2 oz/t Ag, 0.1 oz/ton Au, 8.3 % Zn, 3.1 % Pb (Dec 2014)

<http://www.hecla-mining.com>



2015 Alaska Coal Highlights

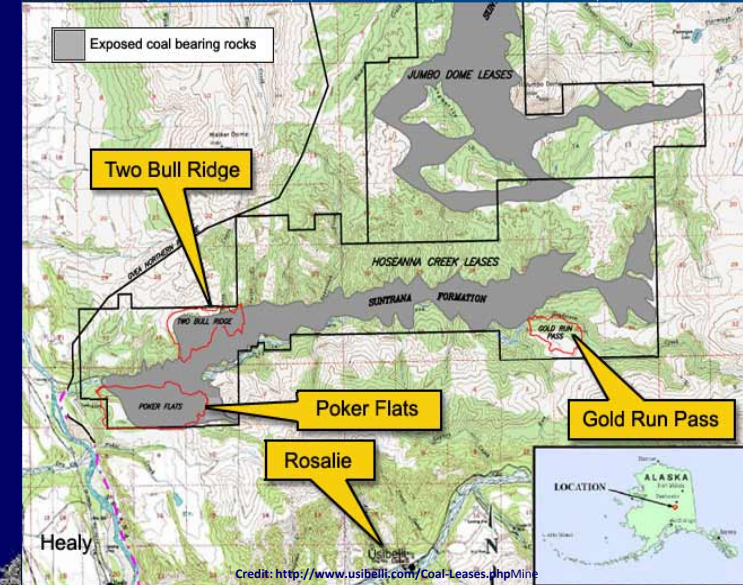


Credit Chris Arend, Usibelli Coal Mine

Usibelli Coal Mine:

- 2015 Production 1.4 million tons (producing since 1943)
- Regional electrical generation & 15% Japan export
- Reserves ca 750 million tons

Usibelli Coal – personal communications <http://www.usibelli.com/Coal-Leases.php>



Credit: <http://www.usibelli.com/Mine-equip.php#>

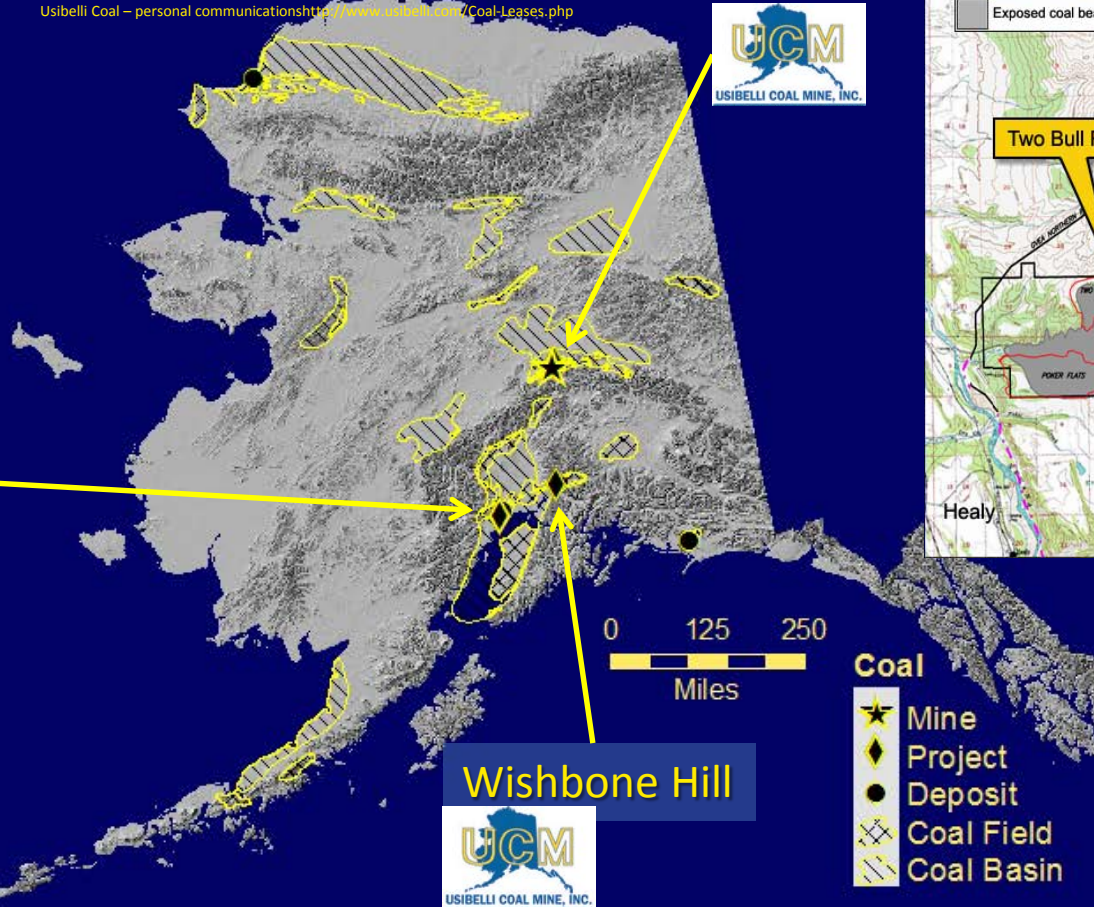
Chuitna Coal Project:

- Proven reserves 300 million tons (LMU-1)
- Draft EIS – 2016 public review

<http://www.chuitnacovalproject.com/background.html>



http://www.chuitnacovalproject.com/img/full/2011-11-17_050.jpg



Wishbone Hill



Coal

- ★ Mine
- ◆ Project
- Deposit
- ▨ Coal Field
- ▭ Coal Basin



2015 Alaska Development

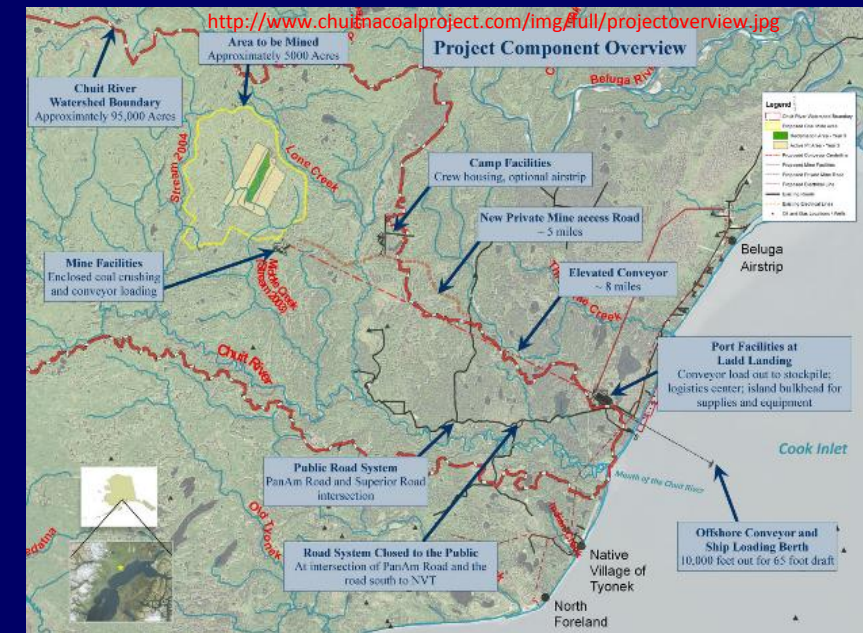
Chandalar Placer – Completed construction, initiated production of 109 ounces gold per day in August. Target of 20,000 ounces per year.

<http://www.goldrichmining.com/images/chandalar/gallery/2015/chandalar-mine-2015-6.jpg>



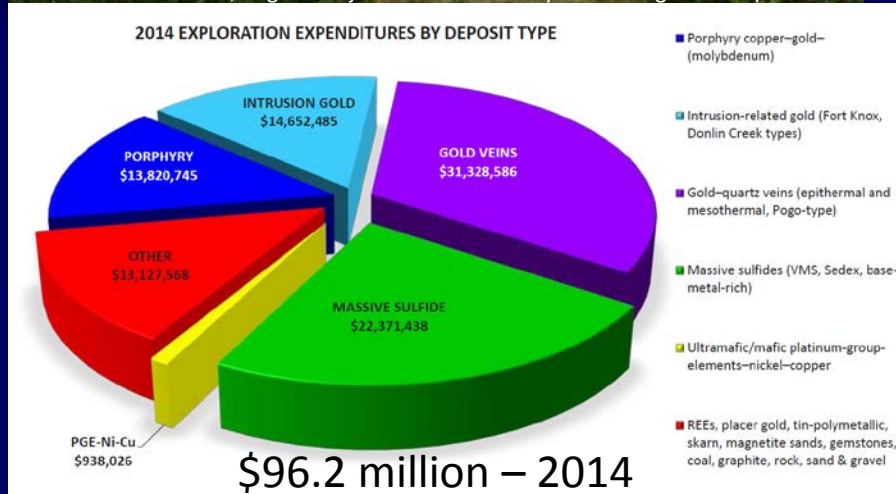
Donlin Gold – Draft EIS released for public comment in November 2015

Chuitna Coal – Moving forward on permits. Draft SEIS expected 2016



2015 Alaska Exploration

- 7 Major projects
- 6 Advanced projects
- 14 drilling projects (down from 15 in 2014)
- 48 Hard rock exploration permits (down from 54 in 2014)
- 1 Advanced Coal Project
- Estimated 17 % decrease from 2014



2015 Alaska Exploration & Development – Gold

Fairhaven (orogenic gold & polymetallic):

- Helicopter support, 6 holes, 3100 feet.
- Quartz vein associated mineralization
- 3 holes with >10 gpt Au intervals

NANA Regional Corp – AMA Convention 2015



Fort Knox (intrusion host): KINROSS

- Resource expansion to west
- Drilling ongoing year-round
- Replacing Reserves & Resources

<http://www.kinross.com>

Pogo (vein):

- \$15 million budget
- North zone drifting, Exploration & definition
- East Deep definition
- South Pogo & 4021 surface exploration

<http://www.smm.co.jp/E/csr/environment/pogo/>



Donlin (intrusion related):

- Draft EIS comment period through April
- 33.8 M oz Au Reserve
- 1.1 M oz/year projected production

<http://www.donlingold.com>

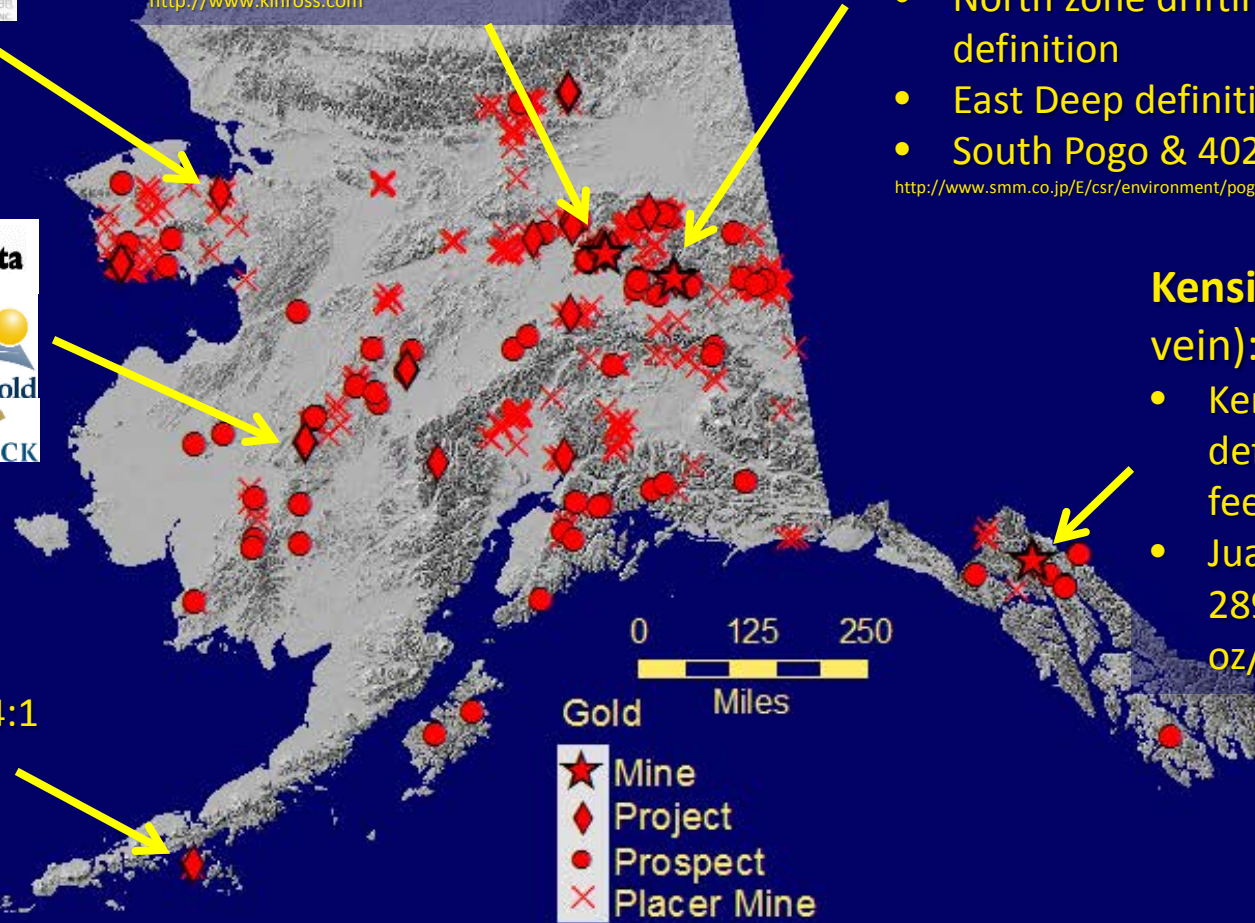


Unga (epithermal Au-Ag):

- ≥100,000 oz Au historic production
- 700,000 oz Au (unclassified resource) Ag:Au 4:1
- 4900-foot, 8-hole drill program

(ARDF PM064,079)

<http://www.redstargold.com>



Kensington (orogenic gold vein):



- Kensington resource definition; intercepts > 10 feet of > 1 oz/ton Au
- Jualin inferred resource 289,000 tons @ 0.619 oz/ton

<http://www.coeur.com>





2015 Alaska Exploration – Base metal & polymetallic

Red Dog – Zn-Pb-Ag:

- ~20,000 feet annually
- Mine site exploration
- District focus on Paalaaq, Anarraaq to northwest

www.teck.com



Arctic VMS – Cu-Zn-Pb-Ag-Au VMS:

- Open Pit PEA – 12 year, 210 M lbs Cu Eq production annually
- 10,200-foot drill program
- 12 infill, 2 geotechnical holes
- Intercepts 1.7- 20 m @ 1.2-11.6 % CuEq

www.novacopper.com



Bornite – Cu-(Ag-Co):

- March 2014 NI 43-101 Resource:
- 334 M lbs Cu In-Pit Indicated
- 109.6 M lbs Cu In-Pit Inferred
- 5.6 B lbs Cu Below-Pit Inferred

www.novacopper.com



Caribou Dome – sed-hosted – Cu-(Ag-Co)

- Re-sampling historic core & IP survey
- 28-hole, 14,000-foot drill program
- Intercepts up to 14.1 m @ 9.9 % Cu

<http://www.coventryres.com/caribou-dome-copper-project>



Palmer – Zn-Cu-Pb-Au-Ag VMS

- Inferred Resource: 8.96 M tons @ 1.4% Cu, 1.3 % Pb, 5.3% Zn, 0.039 oz/t Au, 0.59 oz/t Ag
- 25,400-foot 10 hole drill program

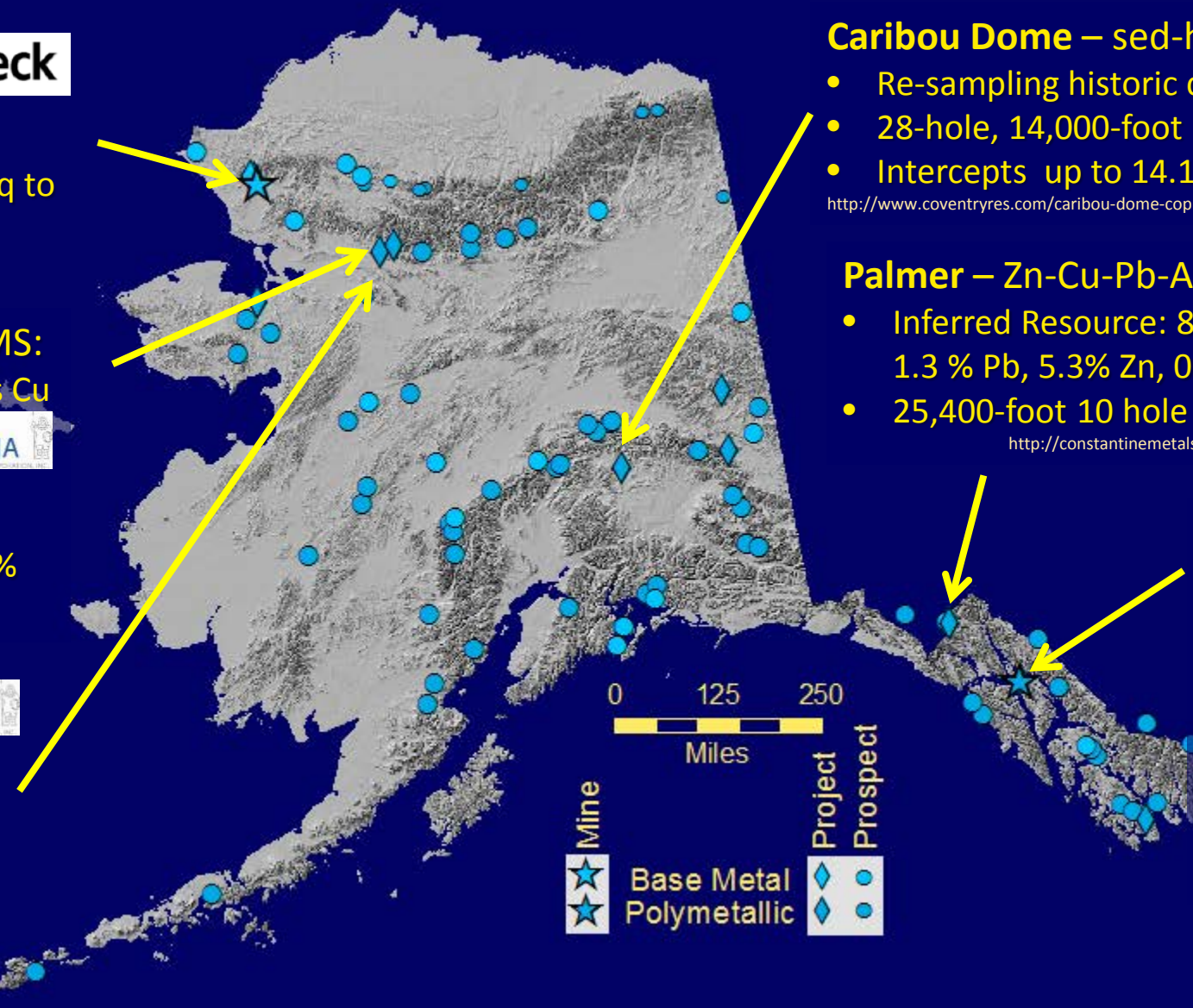
<http://constantinemetals.com/projects/palmer>



Greens Creek – VMS-Sedex – Ag-Zn-Pb-Au

- 170,000 feet underground drilling
- 10,000 feet surface drilling @ Killer Creek
- 30 miles unexplored mine contact

<http://www.hecla-mining.com/>



2015 Alaska Exploration – Porphyry Cu-Au-Ag

Whistler:

- Indicated & Inferred resource:
- 769 M lbs Cu, 3.13 M oz Au & 13.2 M oz Ag

<http://brazilresources.com/projects/whistler/>



Copper Joe:

- 10 Ma Porphyry System
- Magneto-telluric geophysics

http://www.kiskametals.com/s/Copper_Joe.asp



Pebble:

- 2014 resource (M&I+I):
- 12 B tons ore
- 81.8 B lbs Cu, 5.8 B lbs Mo & 107.9 M oz Au

<http://www.pebblepartnership.com/geology.html#section-deposit>



Alaska Peninsula:

- \$2 M 2015 Drill Program
- 7900 feet – 8 holes
- Dry (Bee Creek)
- 91 m w/ 0.19 % Cu QSP alt'n
- Mallard Duck Bay

<http://www.fullmetalmaterials.com/properties/pyramid>



Shorty Creek:

- 20 historic holes
- 9800-foot drill program – 91.4 m of 0.71 % Cu eq.

www.freegoldventures.com



Tetlin – Skarn (porphyry related):

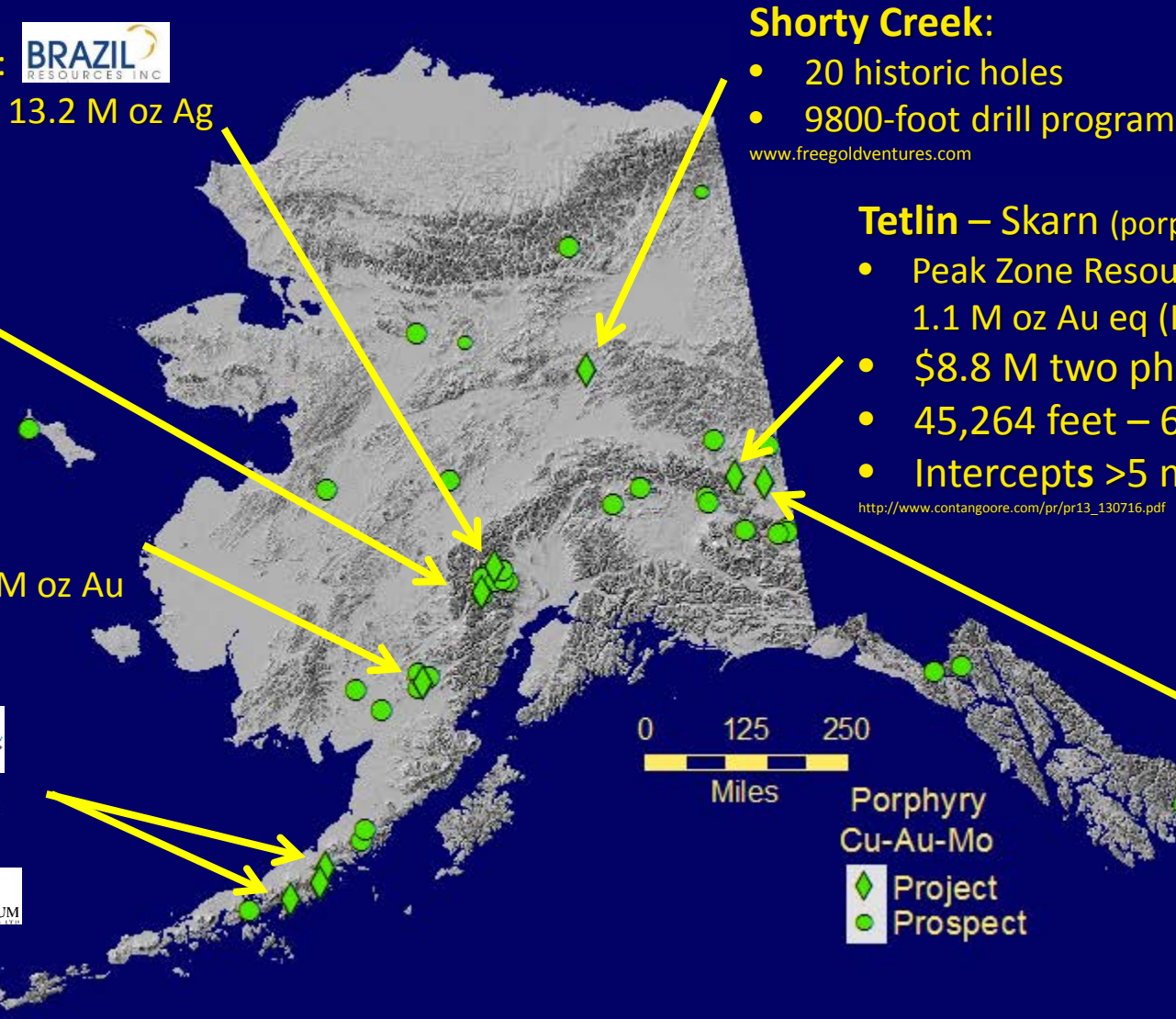
- Peak Zone Resource: 9.8 M Tonnes containing 1.1 M oz Au eq (Ind+Inf)
- \$8.8 M two phase program
- 45,264 feet – 61 holes
- Intercepts >5 m w/ >15 g/T Au +Ag +Cu

http://www.contangoore.com/pr/pr13_130716.pdf



Northway:

- Magnetic Inversions
- Soils sampling
- Induced Polarization surveys
- Multiple targets



Porphyry
Cu-Au-Mo
Project
Prospect

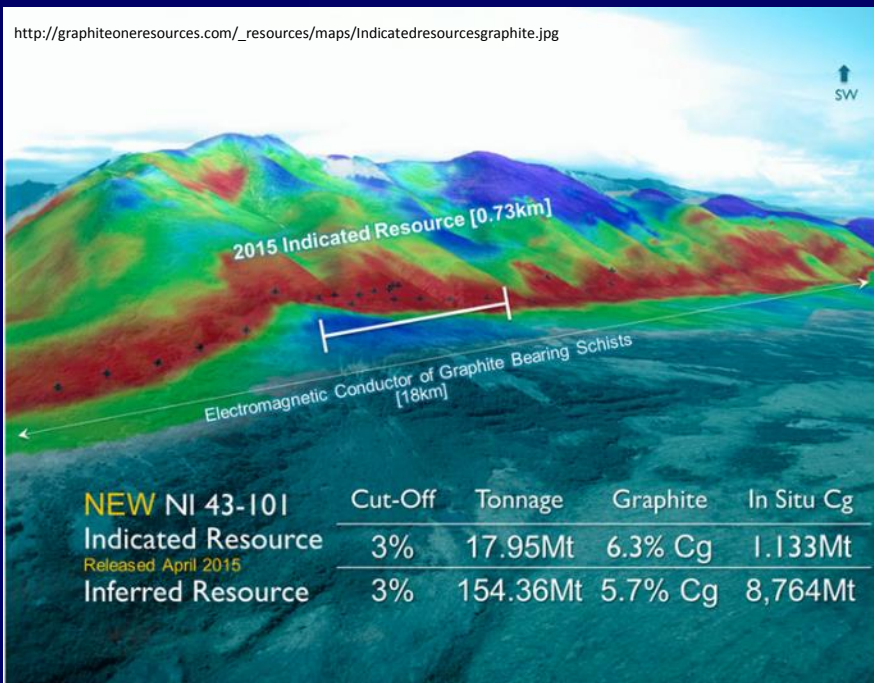


2015 Alaska Exploration – Other Deposits

Graphite Creek – Graphite:

- Updated NI 43-101 Resource
- 19.8 M tons @ 6.3% Cg Indicated
- 170.2 M tons @ 5.7 % Cg Inferred
- Total resource of 9.9 M tonnes graphite
- 4.5 km of 18 km strike is drilled
- Consolidated mineral tenure

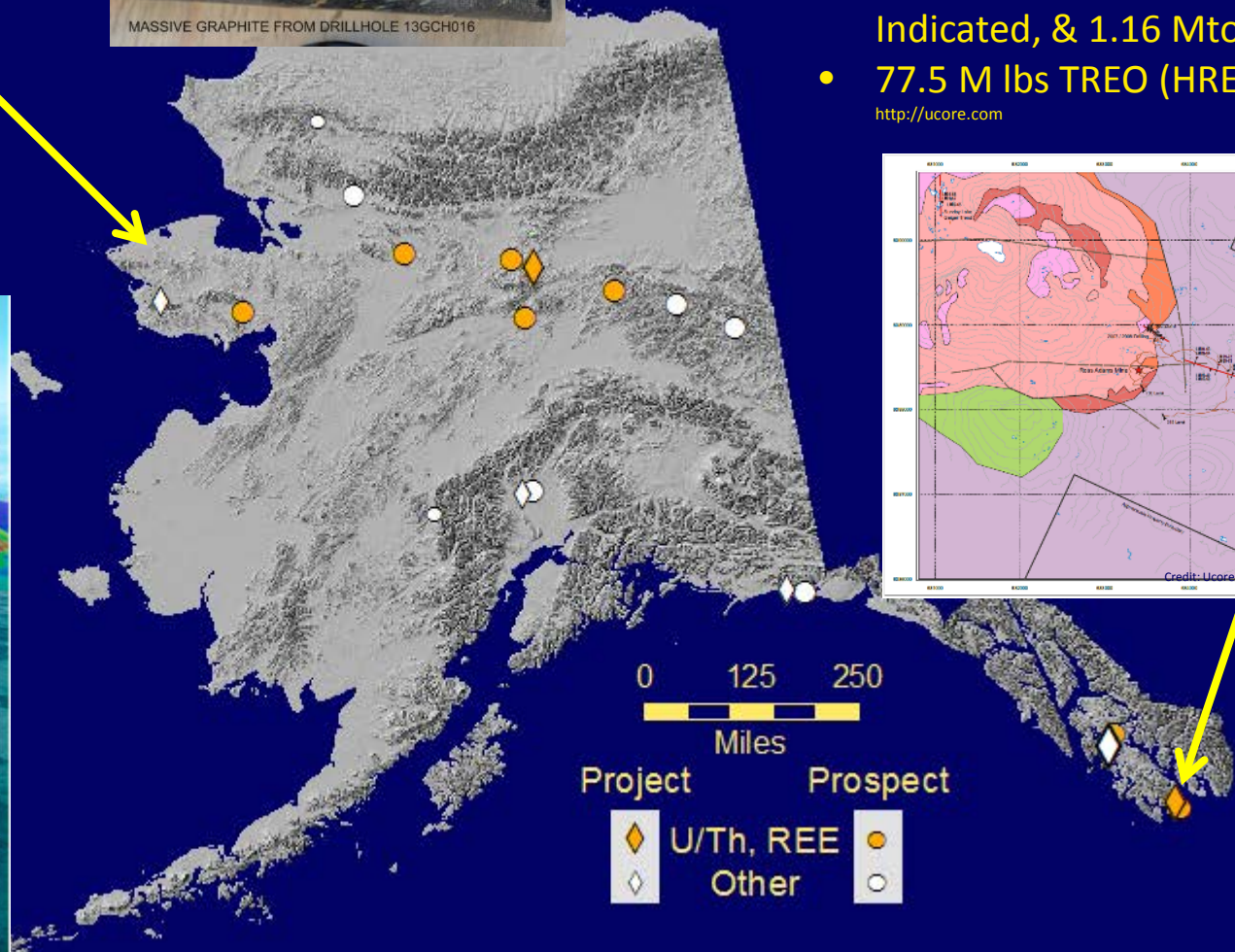
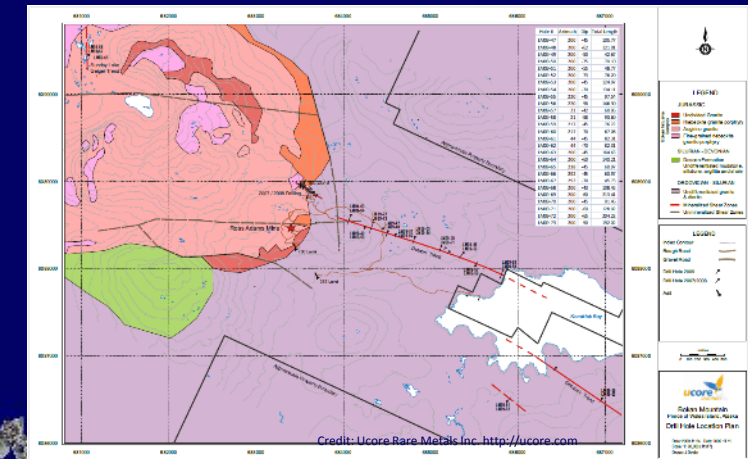
www.graphiteoneresources.com



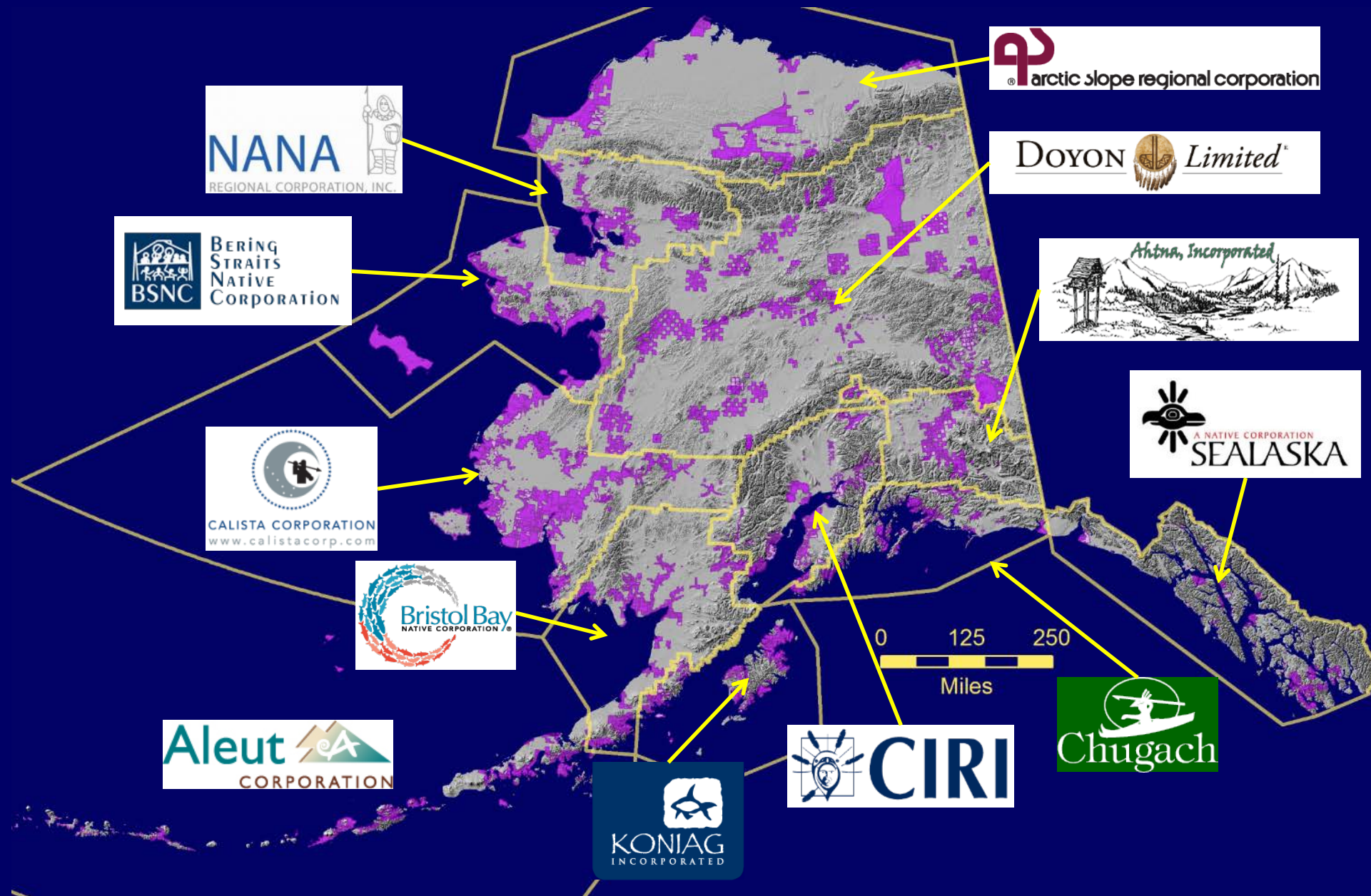
Bokan – Dotson Ridge – REE:

- Bankable feasibility study in progress
- Updated Resource 5.28 M tons Indicated, & 1.16 Mtons Inferred.
- 77.5 M lbs TREO (HREE enriched)

<http://ucore.com>

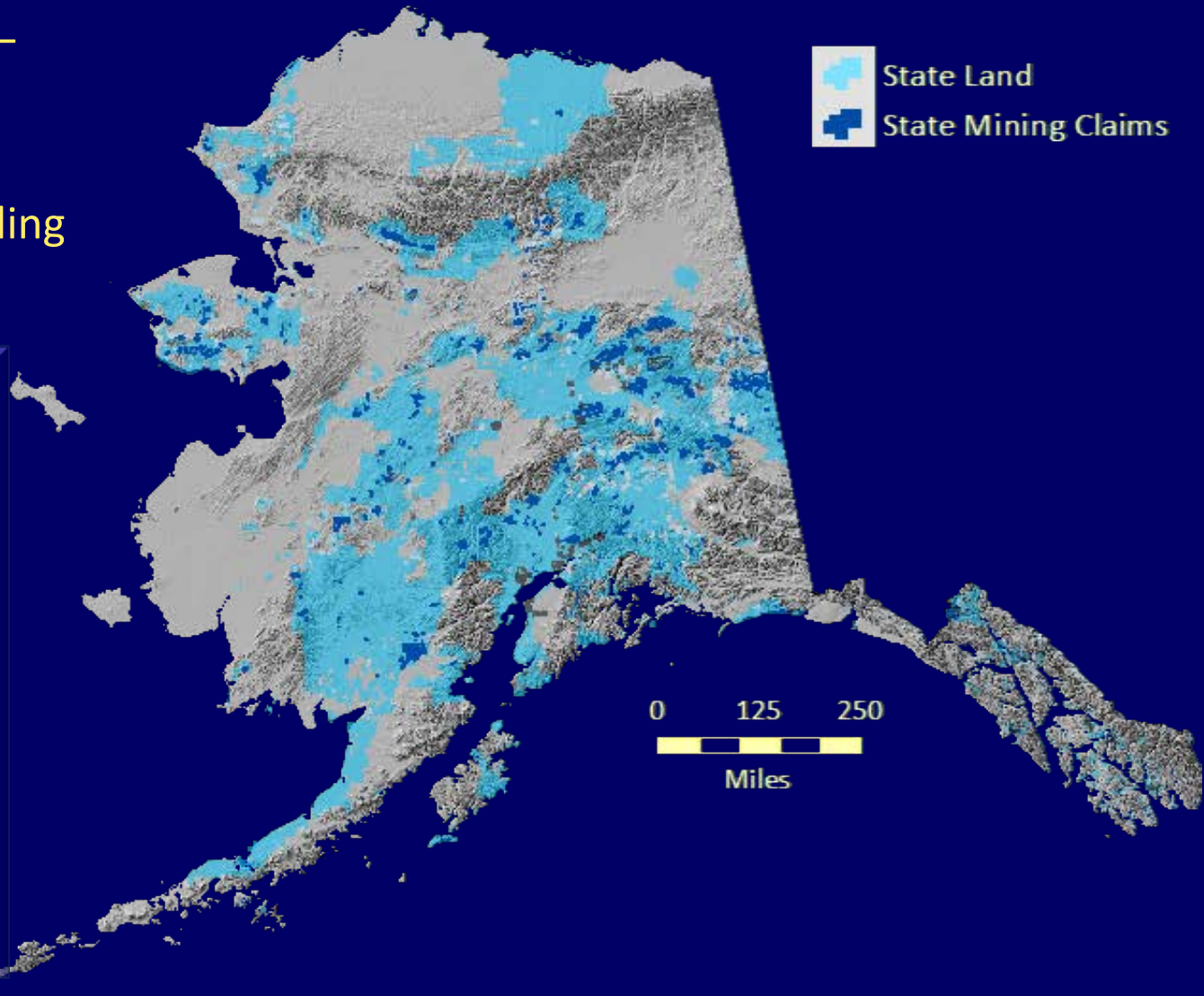
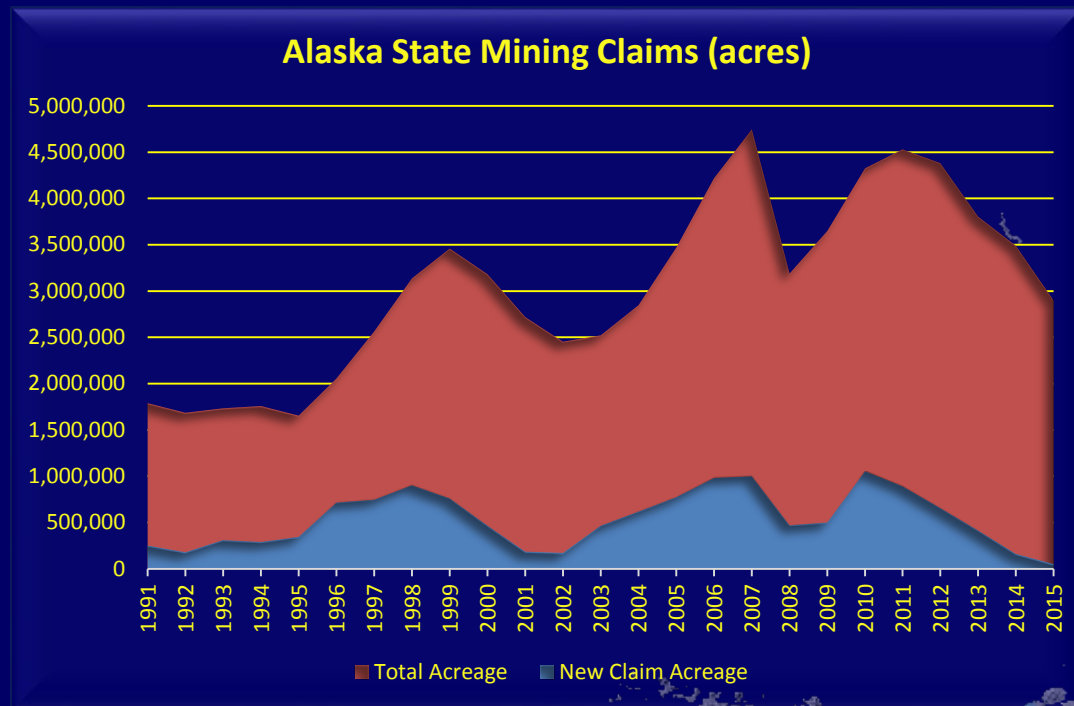


Alaska Native Corporations – 1971 Alaska Native Claims Settlement Act



State-Owned Lands & Mining Claims

- Approximately **100 million acres of state lands** – Conveyed and Tentatively Approved Mineral & Surface Estate
- **36,379 Mining claims** – 2.9 million acres (excluding claims on selected lands)



DGGS & USGS Airborne Geophysical Surveys

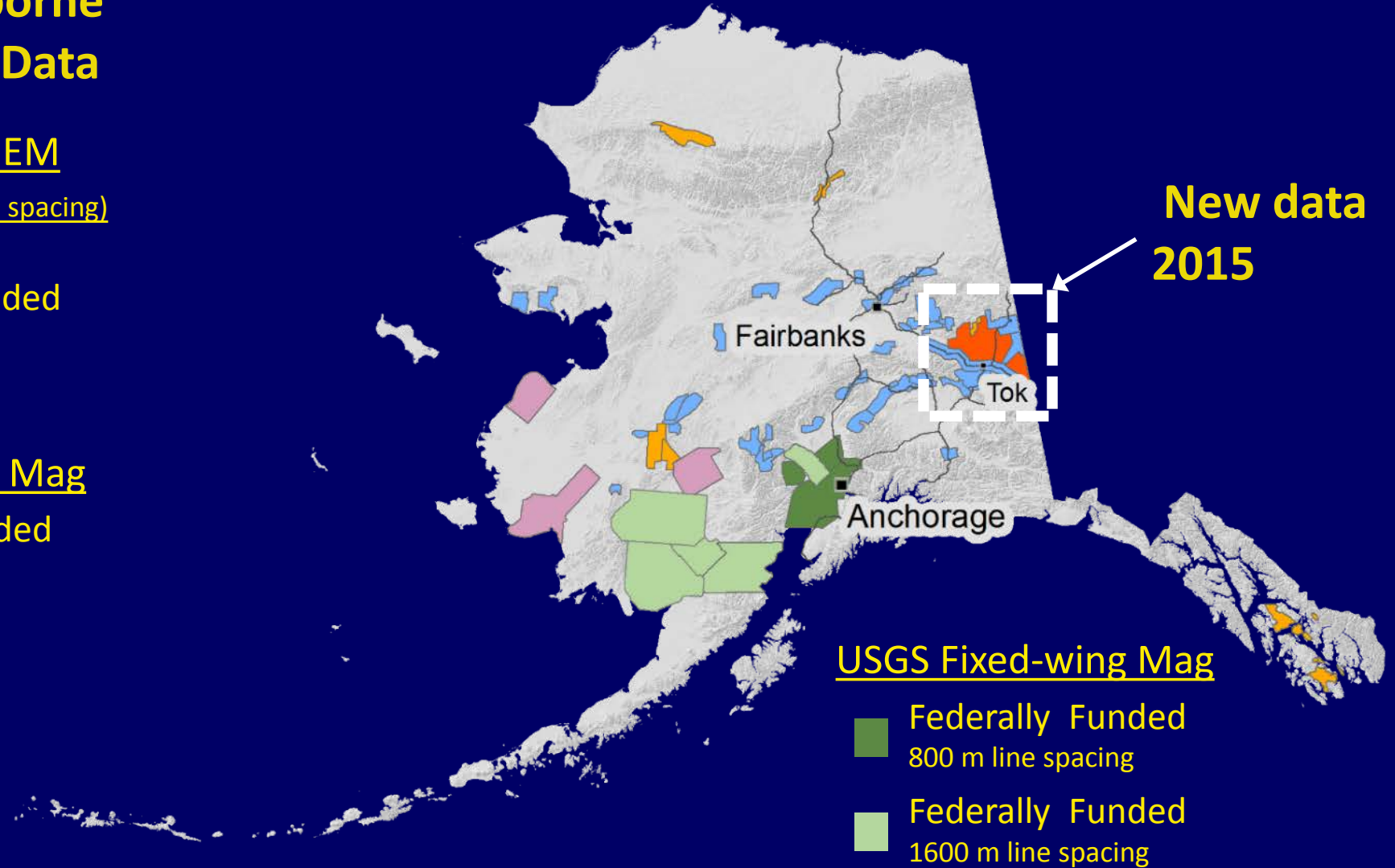
Modern Airborne Geophysical Data

DGGS Helicopter EM and Mag (400 m line spacing)

- State Funded
- Federally Funded

DGGS Fixed-wing Mag

- Federally Funded
500 m line spacing
- State Funded
800 m line spacing



USGS Fixed-wing Mag

- Federally Funded
800 m line spacing
- Federally Funded
1600 m line spacing

DGGS & USGS Airborne Geophysical Surveys

Modern Airborne Geophysical Data

DGGS Helicopter EM and Mag (400 m line spacing)

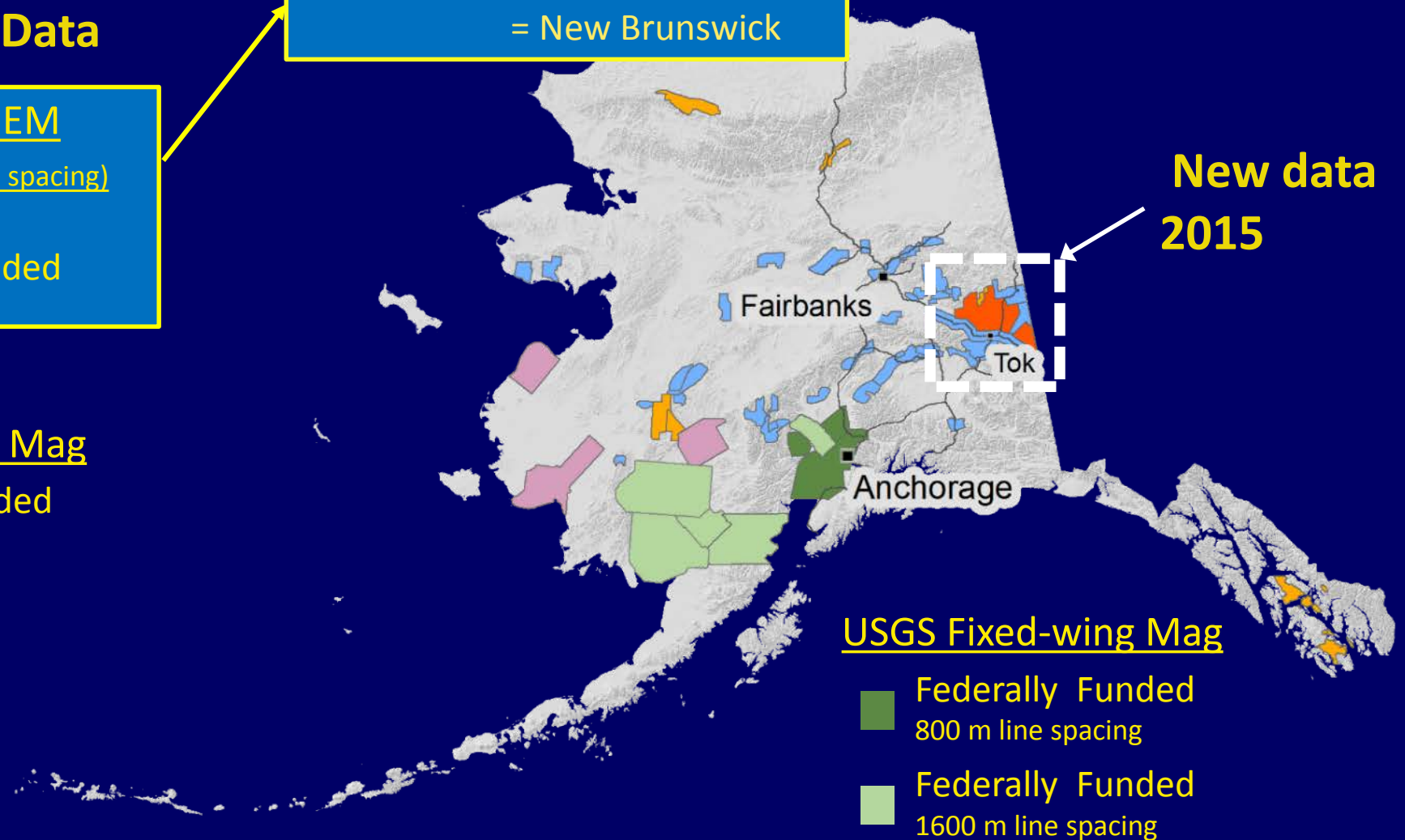
- State Funded
- Federally Funded

<75,000 Km² = 9/10 of Ireland or
= New Brunswick

DGGS Fixed-wing Mag

- Federally Funded
500 m line spacing
- State Funded
800 m line spacing

New data
2015



USGS Fixed-wing Mag

- Federally Funded
800 m line spacing
- Federally Funded
1600 m line spacing

Geologic Database – DGGS Interactive Maps

<http://maps.dggs.alaska.gov/>

Mineral Resource Information:

- **Geologic Map Index:** Published Geologic Maps
- **Alaska Geologic Data Index:** Unpublished geologic and mineral company data
- **Airborne GeophysWeb:** Publically available airborne geophysical surveys
- **WebGeochem:** Published geochemical data (coming soon) contains 59,000 samples.
- **Geologic Materials Center:** New facility, >280,000 feet of mineral core, 100's prospects, online catalog

State of Alaska myAlaska My Government Resident Business in Alaska Visiting Alaska State Employees

Alaska Department of Natural Resources
Division of Geological & Geophysical Surveys

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Natural Resources > Geological & Geophysical Surveys > Interactive Maps

Interactive Maps

Geologic Map Index of Alaska

Map Index provides outlines of DGGS and USGS geology-related maps of Alaska.

[See citation details for Geologic Map Index of Alaska](#)

Elevation Datasets in Alaska

This interactive map displays known public-domain elevation datasets in Alaska.

[See citation details for Elevation Datasets in Alaska](#)

Quaternary Faults and Folds (QFF)

This interactive map displays locations and relative activity of Alaska's faults and folds.

[See citation details for Quaternary Faults and Folds \(QFF\)](#)

Historically Active Volcanoes of Alaska

This interactive map displays the location of historically active volcanoes of Alaska.

[See citation details for Historically Active Volcanoes of Alaska](#)

Alaska Geologic Data Index (AGDI)

AGDI includes information about industry reports and maps, field notes, drill logs, and other unpublished geology-related data.

[See citation details for AGDI](#)

Airborne GeophysWeb

This interactive map is a compilation of publicly available airborne geophysical surveys conducted in Alaska since 1993 by DGGS and other cooperating agencies.

[See citation details for Airborne GeophysWeb](#)

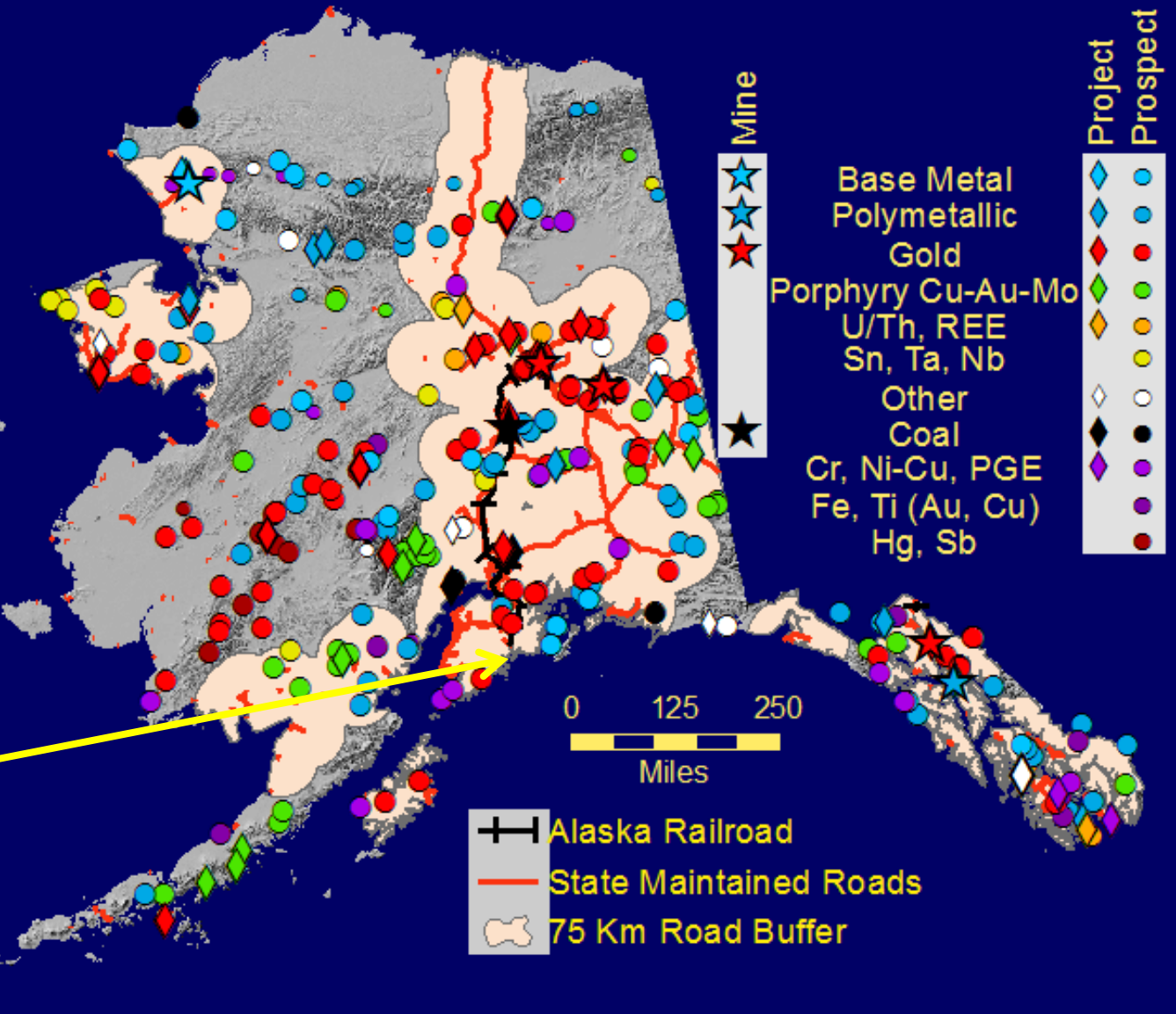
State Transportation System

Road System:

- 703,000 Km² within 75 Km of existing roads

Alaska Railroad: State-owned private corporation

- Three port facilities
- Bulk handing including Seward coal terminal
- Only U.S. rail system with license to carry LPG in ISO containers



Alaska Industrial Development and Export Authority



Ambler Mining District
access road

Evaluating LNG as a fuel
source for future mining
operations.

Delong Mountain Transportation
System expansion study

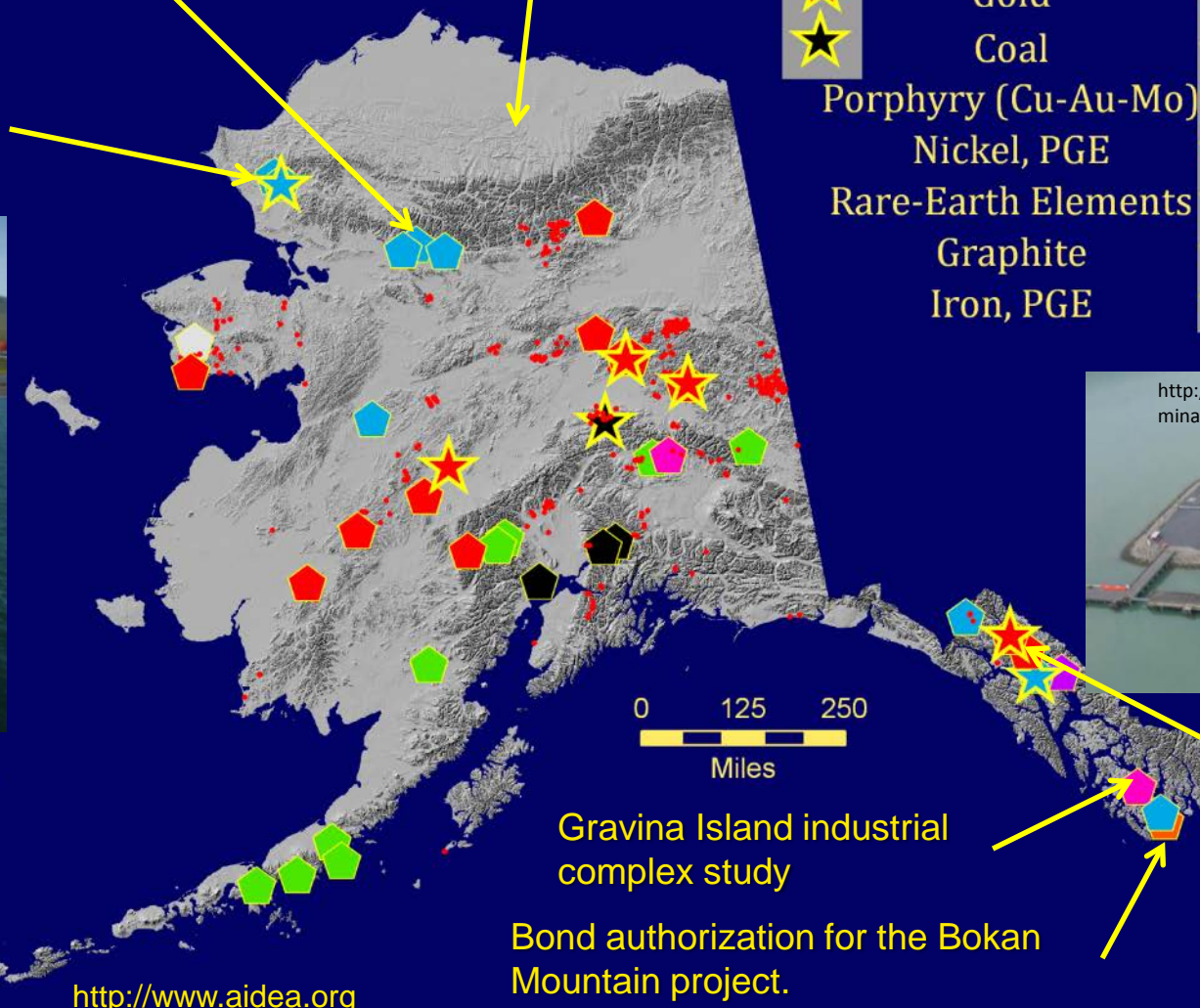
http://www.aidea.org/Portals/0/AIDEA%20Documents/AIDEA_DMTS.pdf



Mines

- Polymetallic
- Gold
- Coal
- Porphyry (Cu-Au-Mo)
- Nickel, PGE
- Rare-Earth Elements
- Graphite
- Iron, PGE

Projects



<http://www.aidea.org>

<http://www.aidea.org/Programs/ProjectDevelopment/SkagwayOreTerminal.aspx>



\$6.5 million expansion to
the Skagway Ore Terminal

Gravina Island industrial
complex study

Bond authorization for the Bokan
Mountain project.



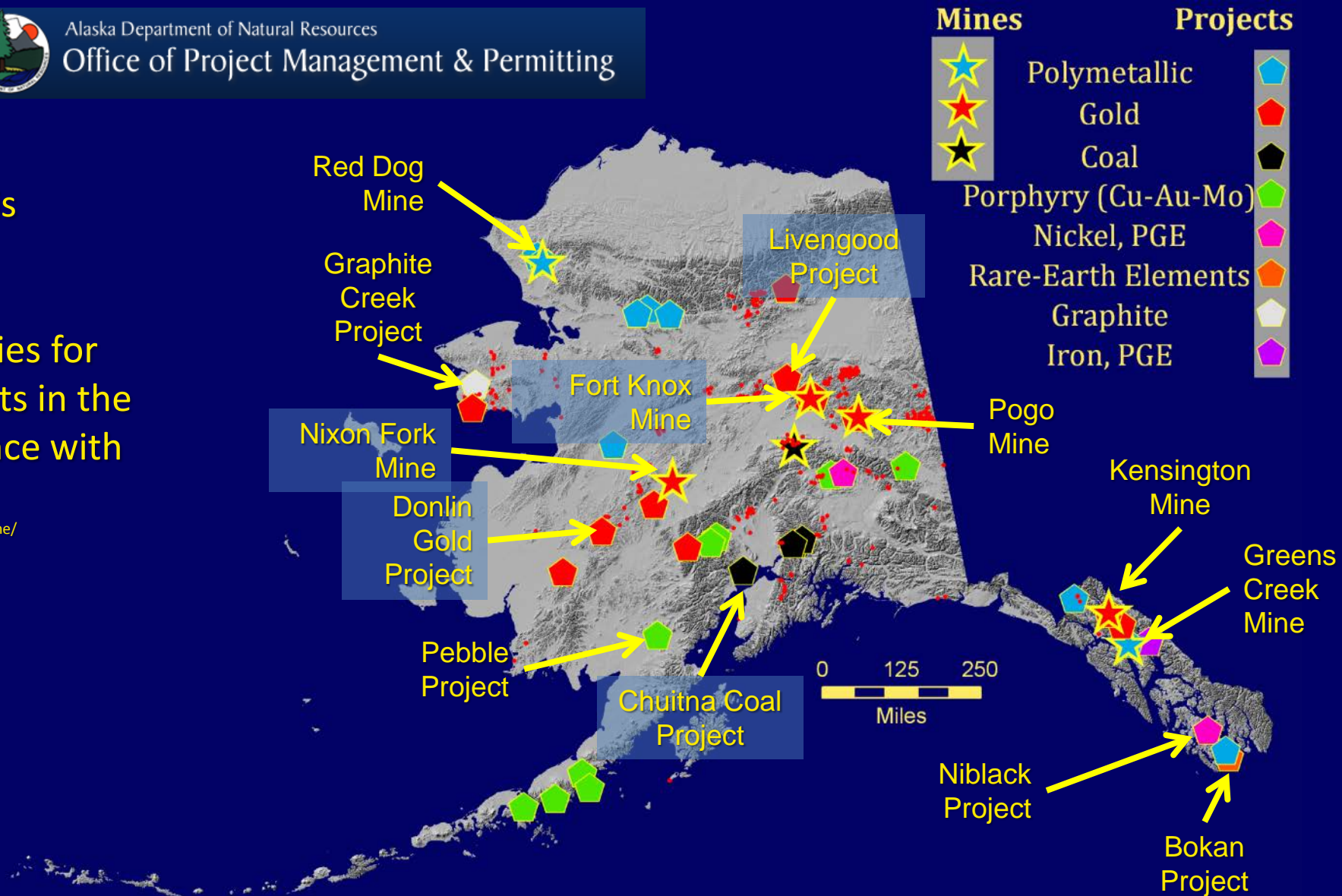
Alaska Office of Project Management and Permitting



Alaska Department of Natural Resources
Office of Project Management & Permitting

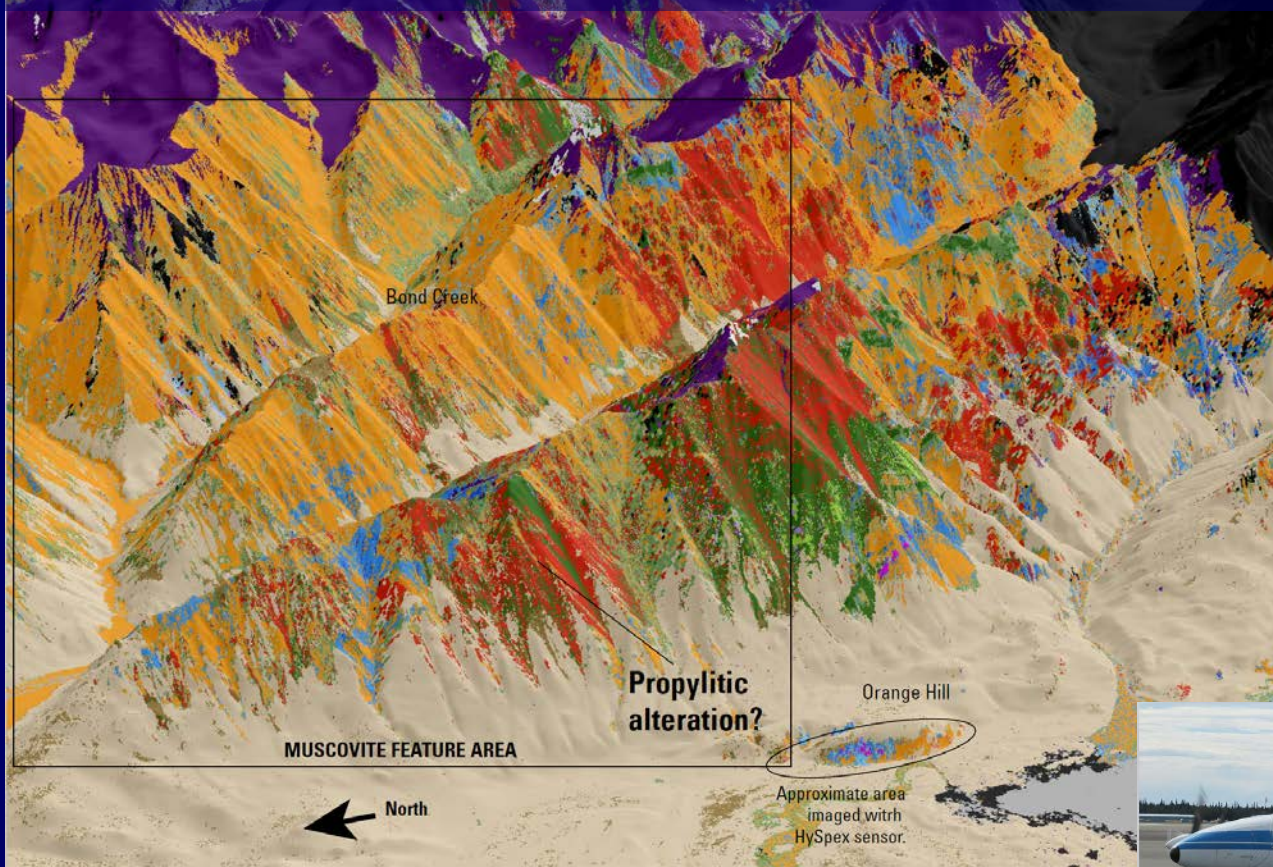
The Large Mine Permitting Team is responsible for coordinating the permitting activities for large mine projects in the state, in accordance with state law

<http://dnr.alaska.gov/mlw/mining/largemine/>



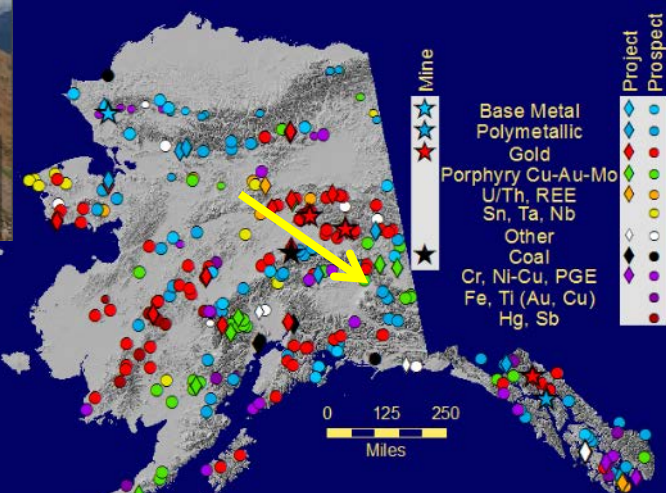
USGS & UAF Hyperspectral collaboration

Image of results for carbonate, clays, sulfates and alteration-related minerals, draped over 3-D topography – Kokaly, etal, 2015

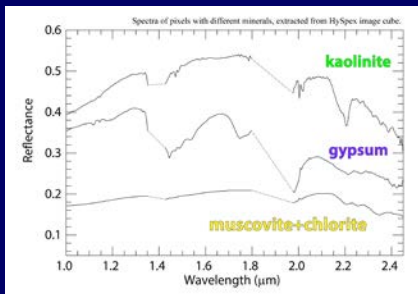
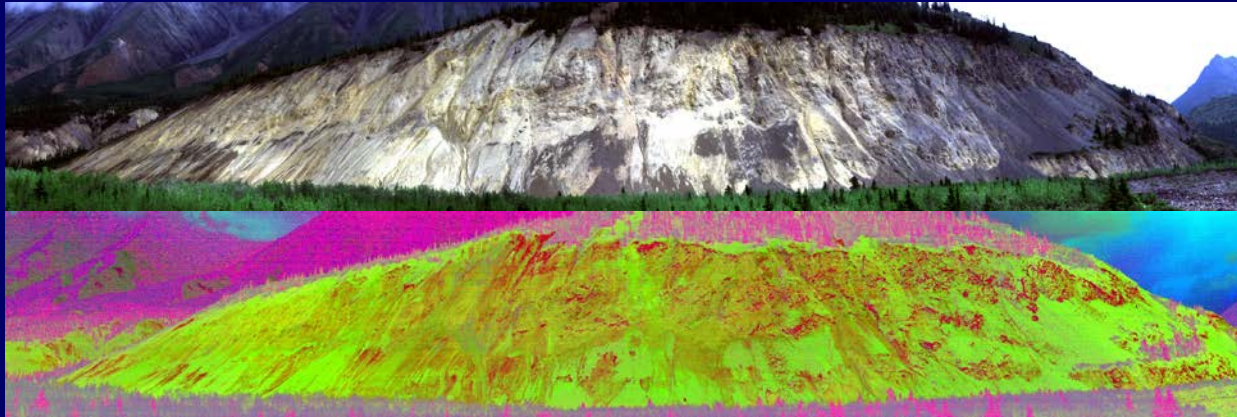


The USGS is studying the viability of using remote sensing to identification of large-tonnage, base metal deposits.

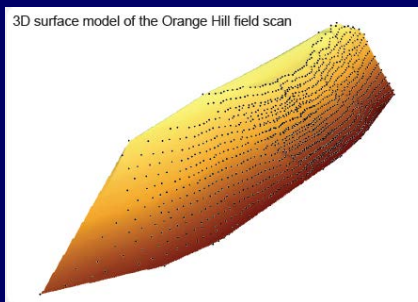
- Nabesna: Cu±Mo-Au porphyry deposits
- Imaging spectrometer data collection –
- HyMap, 126 channels, 0.44 to 2.5 microns, ~6 m pixel
- Digital camera ~30 cm pixel (true color)



USGS & UAF Hyperspectral collaboration



In this false-color composite, the different colors in the area of exposed rock relate to distributions of montmorillonite, gypsum, kaolinite, muscovite, and chlorite. Work is ongoing to make maps indicating the relative abundance of these minerals. Buchhorn, et al 2015



University of Alaska Fairbanks Hylab:

- **Hypex instrument:** Dual camera in airborne survey and field outcrop scan modes
- **Spectro-radiometer:** Direct field measurements and laboratory analysis of hand-specimens
- In field-mode, vertical scans of exposures were made with resolutions of 0.08 m to 0.30 m. Processed imagery map carbonates, clays, sulfates, and alteration-related minerals.

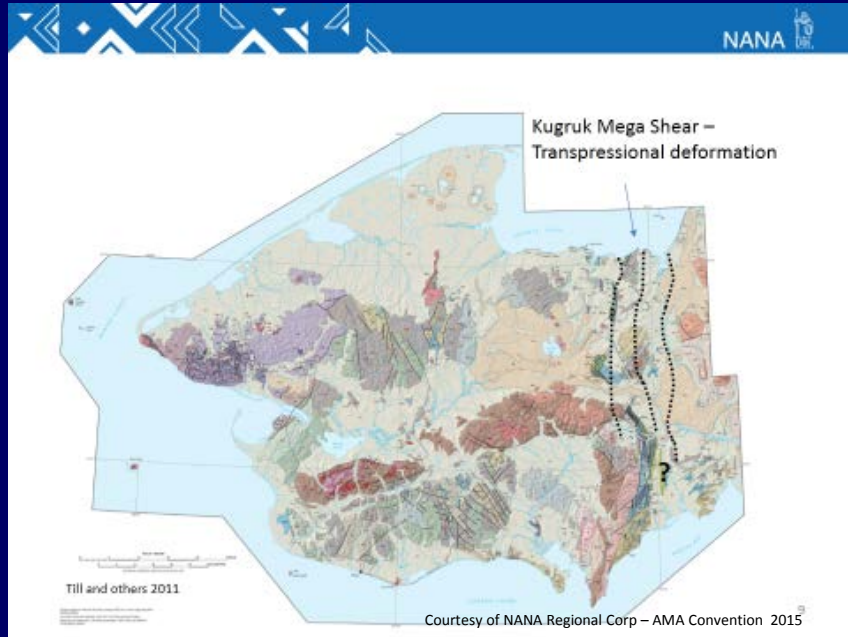


Topcon Total Station and HySpex in field configuration. Photo by M. Buchhorn



Preparation of the HySpex instrument for an overflight. Photo by J. Cristobal

NANA Regional Corporation – Kugruk Project



NANA self-funded exploration

- 2010-2011, short summer reconnaissance geological work
- 2012, 3 week field season with frost boil work and spring snowmachine soil sampling
- Staking of state claims
- 2013, mapping and rock & soil sampling
- 2014, detailed sampling and mapping and frost boils analysis
- 2015, 6 hole, 3100 ft core program
- 3 holes with >10 gpt Au intervals

NANA Regional Corp – AMA Convention 2015



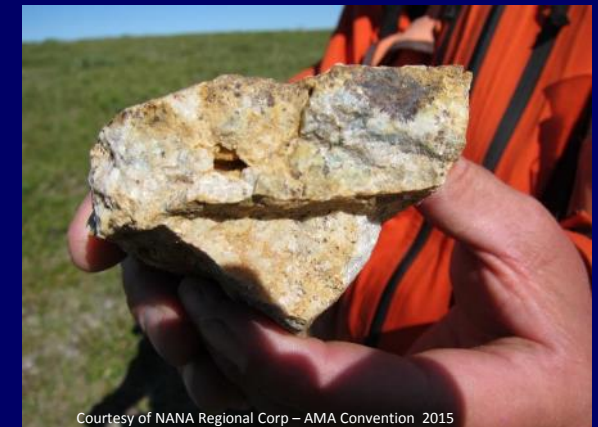
Courtesy of NANA Regional Corp – AMA Convention 2015v



Courtesy of NANA Regional Corp – AMA Convention 2015v



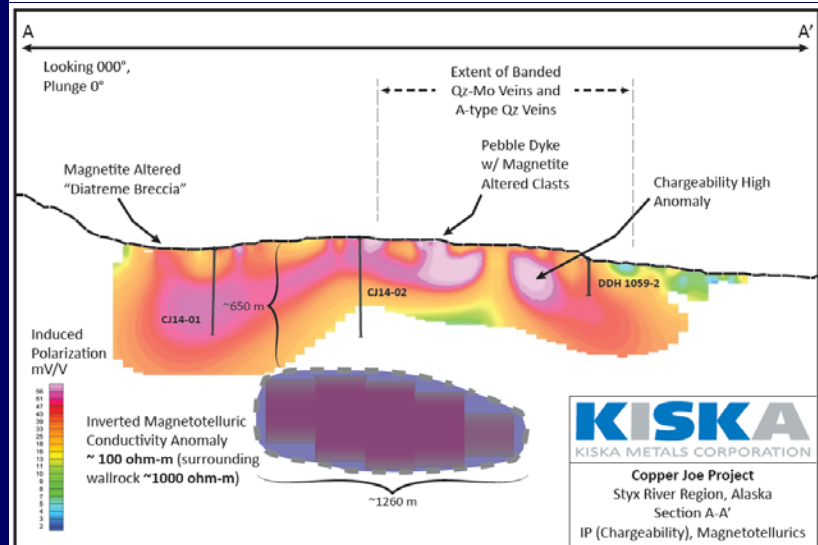
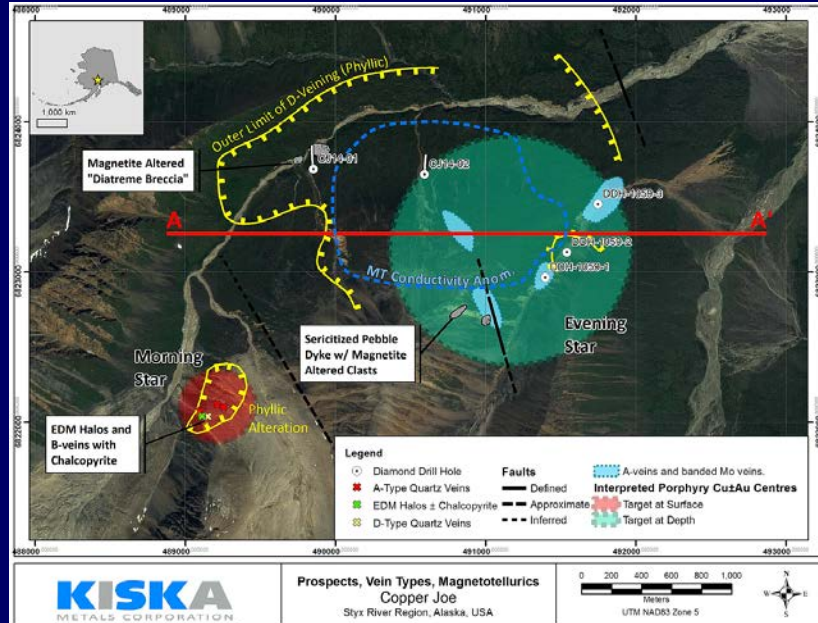
Courtesy of NANA Regional Corp – AMA Convention 2015



Courtesy of NANA Regional Corp – AMA Convention 2015



Porphyry Cu-Mo-Au Copper Joe – Kiska Metals

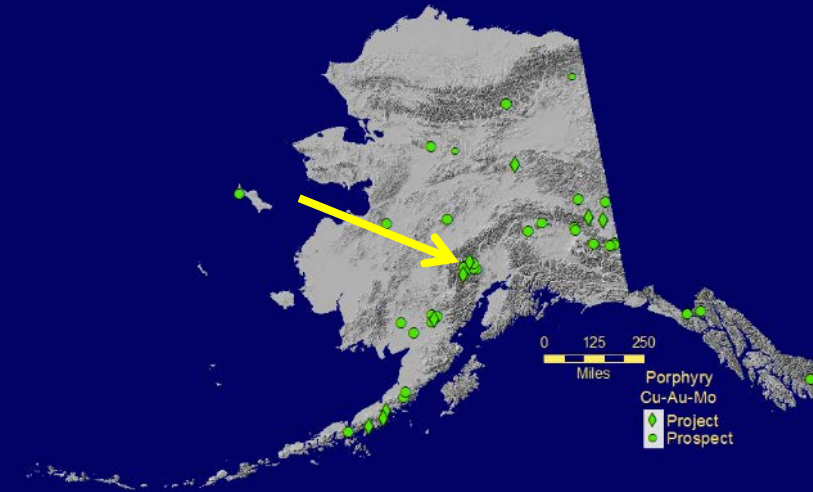


Kiska Metals Corp & First Quantum Minerals – 10 Ma Porphyry target

- 2013 IP geochemical, geologic work & 2014 two drill holes
- 2015 – 12 km² full-tensor Magneto-telluric geophysical survey
- mineral mapping (hyperspectral-white mica & chlorite geochemistry)
- Proprietary 3-dimensional porphyry footprint lithogeochemical modeling



<http://www.kiskametals.com/i/photos/copperjoe/IMG0134.jpg>

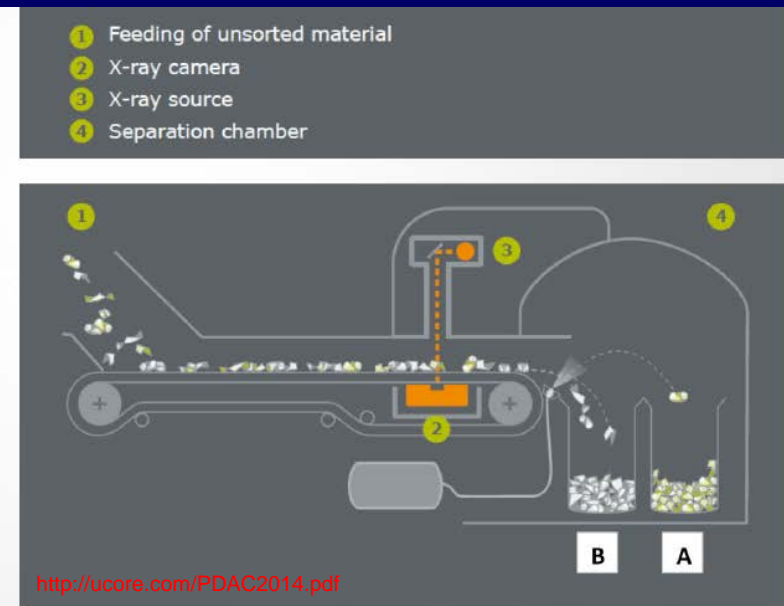
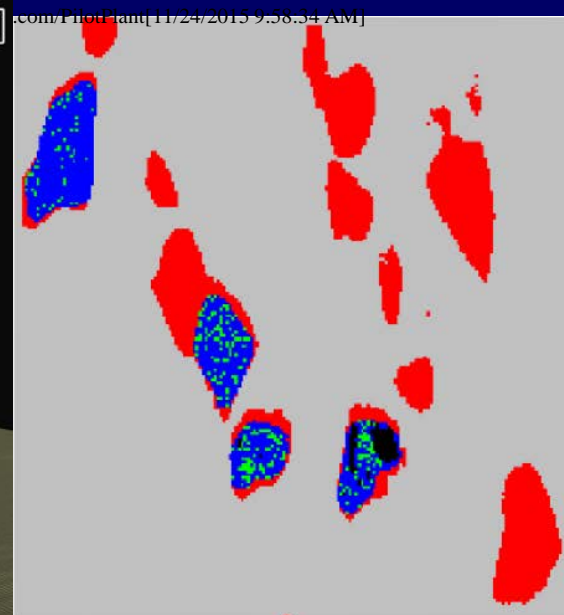


Bokan Mountain REE Project – Ucore Rare Metals Corp



Dotson vein trend – Sheeted dike/vein system

- 2013 PEA
- Bankable feasibility study in progress
- 2015 Updated Resource 5.28 M tons Indicated, & 1.16 Mtons Inferred.
- 77.5 M lbs TREO (HREE enriched) total
- Underground mine, mill XRT sort, Molecular recognition technology





NYSE: CDE



Kensington Mine Ore Sorting Project

Cautionary Statements



This presentation contains forward-looking statements within the meaning of securities legislation in the United States and Canada, including statements regarding anticipated production, costs, expenses, capital and exploration expenditures, amortization, and exploration and development efforts, expectations regarding grade, throughput, margins, cash flow, mine plans, mine life, cost improvements, efficiency gains, capital deployment, acquisition priorities, the Rochester and Palmarejo mines, the La Preciosa project, the new gold stream agreement with Franco-Nevada, share price performance, permitting, investments in infrastructure, reducing and managing risk, and initiatives to minimize exposure to declining metal prices and maximize net cash flow. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause Coeur's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, the risks and hazards inherent in the mining business (including risks inherent in developing large-scale mining projects, environmental hazards, industrial accidents, weather or geologically related conditions), changes in the market prices of gold and silver and a sustained lower price environment, the uncertainties inherent in Coeur's production, exploratory and developmental activities, including risks relating to permitting and regulatory delays, ground conditions, grade variability, any future labor disputes or work stoppages, the uncertainties inherent in the estimation of gold and silver ore reserves, changes that could result from Coeur's future acquisition of new mining properties or businesses, reliance on third parties to operate certain mines where Coeur owns silver production and reserves and the absence of control over mining operations in which Coeur or its subsidiaries hold royalty or streaming interests and risks related to these mining operations including results of mining and exploration activities, environmental, economic and political risks of the jurisdiction in which the mining operations are located, the loss of any third-party smelter to which Coeur markets silver and gold, the effects of environmental and other governmental regulations, the risks inherent in the ownership or operation of or investment in mining properties or businesses in foreign countries, Coeur's ability to raise additional financing necessary to conduct its business, make payments or refinance its debt, as well as other uncertainties and risk factors set out in filings made from time to time with the United States Securities and Exchange Commission, and the Canadian securities regulators, including, without limitation, Coeur's most recent reports on Form 10-K and Form 10-Q. Actual results, developments and timetables could vary significantly from the estimates presented. Readers are cautioned not to put undue reliance on forward-looking statements. Coeur disclaims any intent or obligation to update publicly such forward-looking statements, whether as a result of new information, future events or otherwise. Additionally, Coeur undertakes no obligation to comment on analyses, expectations or statements made by third parties in respect of Coeur, its financial or operating results or its securities.

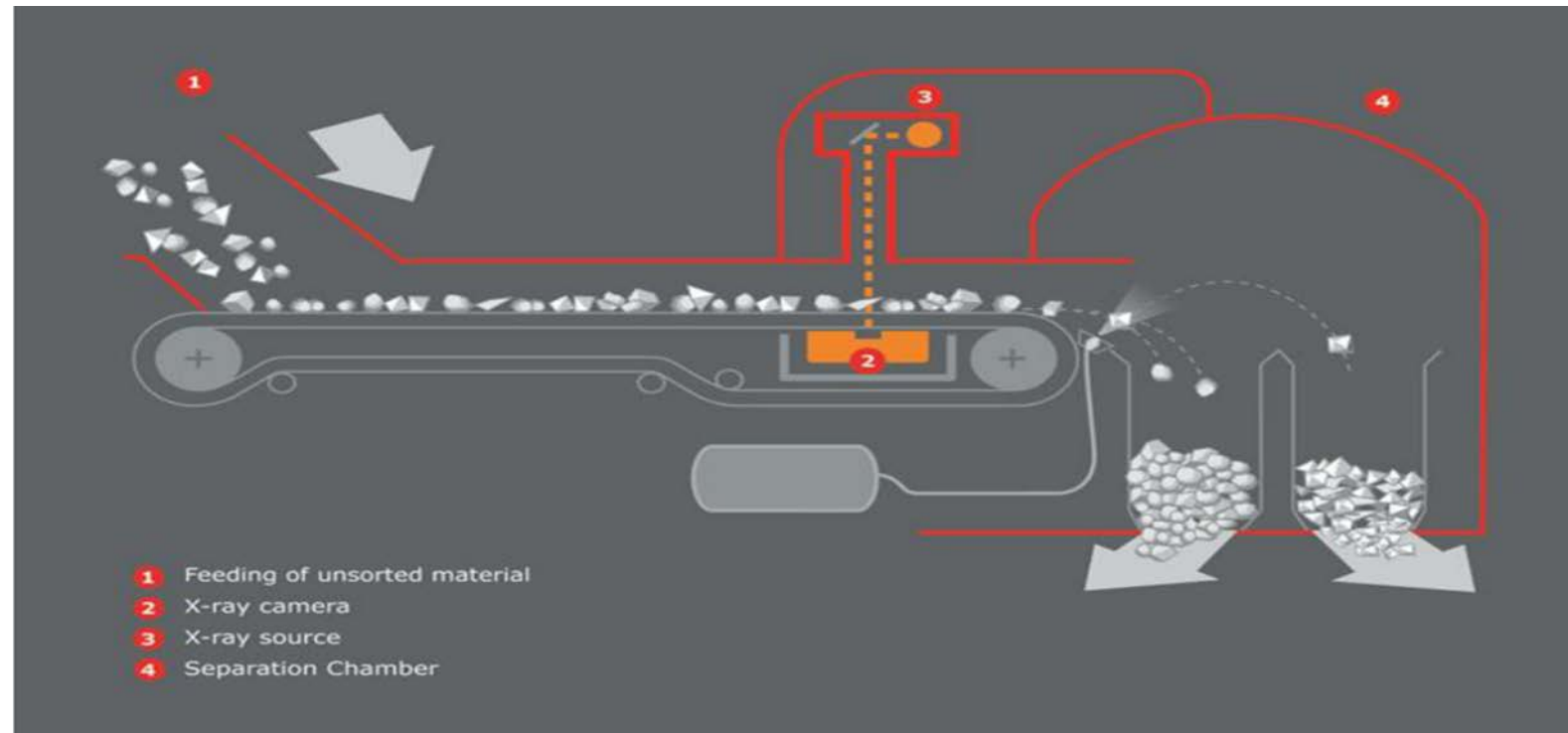
W. David Tyler, Coeur's Vice President, Technical Services and a qualified person under Canadian National Instrument 43-101, supervised the preparation of the scientific and technical information concerning Coeur's mineral projects in this presentation. For a description of the key assumptions, parameters and methods used to estimate mineral reserves and resources, as well as data verification procedures and a general discussion of the extent to which the estimates may be affected by any known environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant factors, please see the Technical Reports for each of Coeur's properties as filed on SEDAR at www.sedar.com.

Cautionary Note to U.S. Investors - The United States Securities and Exchange Commission permits U.S. mining companies, in their filings with the SEC, to disclose only those mineral deposits that a company can economically and legally extract or produce. We may use certain terms in public disclosures, such as "measured," "indicated," "inferred" and "resources," that are recognized by Canadian regulations, but that SEC guidelines generally prohibit U.S. registered companies from including in their filings with the SEC. U.S. investors are urged to consider closely the disclosure in our Form 10-K which may be secured from us, or from the SEC's website at <http://www.sec.gov>.

Non-U.S. GAAP Measures - We supplement the reporting of our financial information determined under United States generally accepted accounting principles (U.S. GAAP) with certain non-U.S. GAAP financial measures, including EBITDA and cost applicable to sales per silver equivalent ounce. We believe that these adjusted measures provide meaningful information to assist management, investors and analysts in understanding our financial results and assessing our prospects for future performance. We believe these adjusted financial measures are important indicators of our recurring operations because they exclude items that may not be indicative of, or are unrelated to our core operating results, and provide a better baseline for analyzing trends in our underlying businesses. We believe EBITDA and costs applicable to sales per silver equivalent ounce are important measures in assessing the Company's overall financial performance.

XRT Sorting – Concept Review

- Material on sorter belt is scanned by X-Rays similar to airport luggage scanners
- Pyrite is denser than quartz or diorite, preventing X-Ray Transmission (XRT), allowing it to be identified regardless if it is on the surface of the particle or not
- Particle location and size data are rapidly processed by the computer which triggers an air jet to fire at target, directing it to a separate hopper



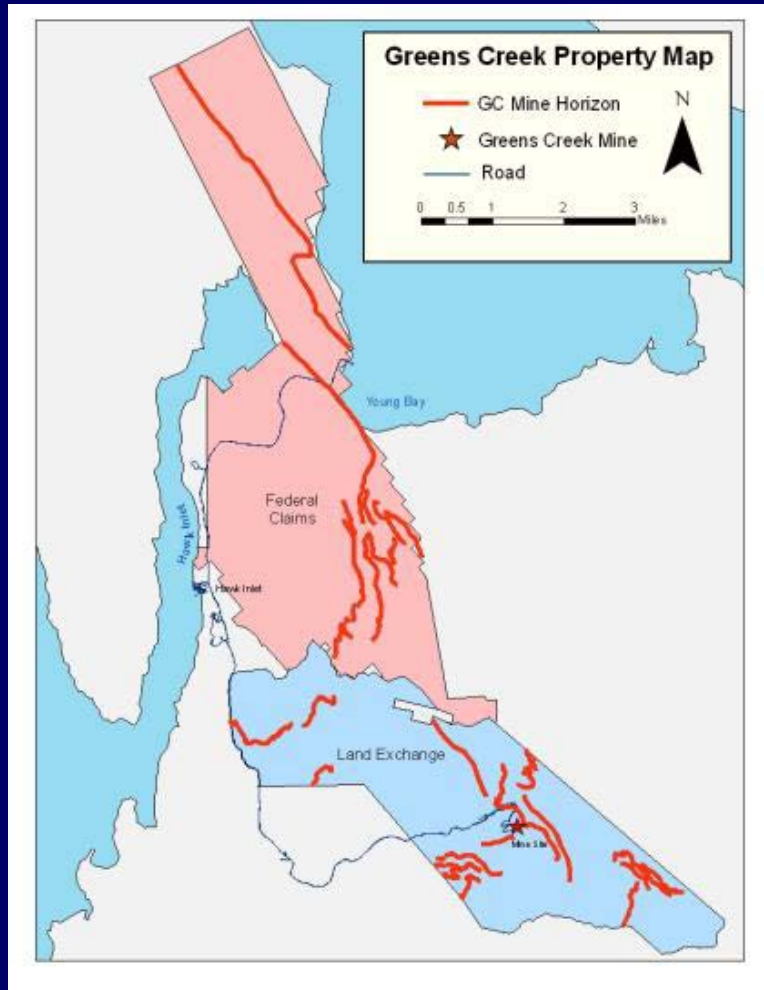
Recent Production Results



- **Production project to date:**
 - Material feeding into the Ore Sorter
 - 40,248 tons of feed has been processed
 - Feed grade has averaged 0.048 oz/ton
 - Concentrate produced by the sorting process
 - 3,050 tons of pebble concentrate produced
 - Concentrate grade has averaged .280 oz/ton-better than run of mine feed
 - 748 ounces of gold produced through the sorting process



Hecla Greens Creek Mine – 26 years of mining in Admiralty Island National Monument



Paste back-fill of half the tailings along with ARD development rock.

Dry stack tailings of remainder of tailings.

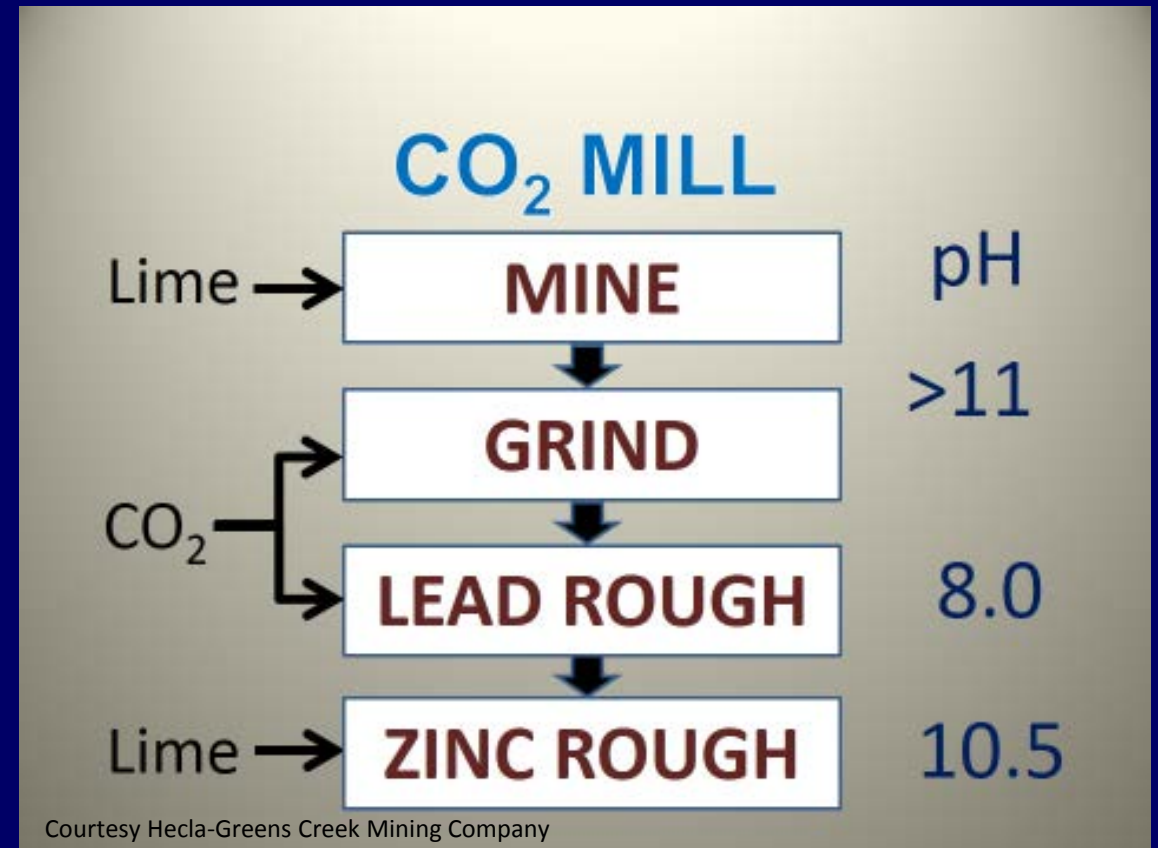


Greens Creek – Use of CO₂ to control mill pH

Lime introduced into mill feed by paste-backfill mixed with ore

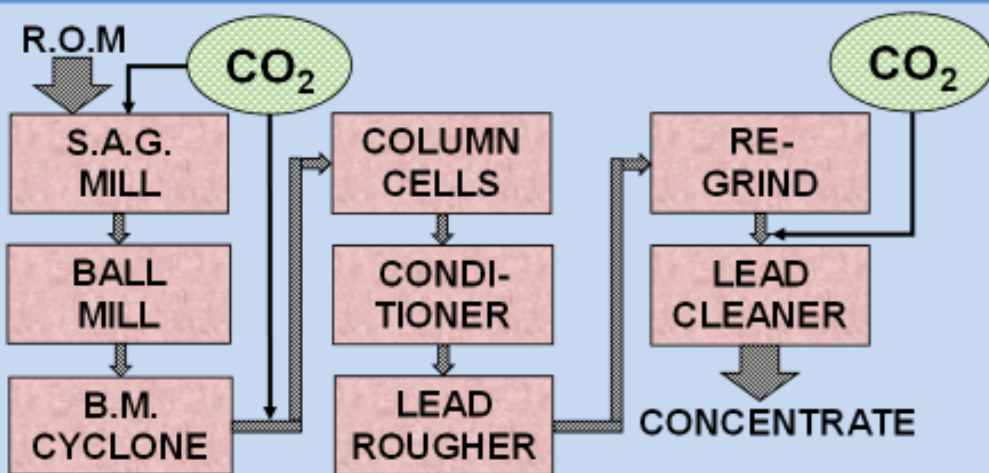
- High pH hinders recovery and selectivity
- Previously used Sulfuric acid to buffer pH
- 2015 pilot study to use CO₂ injection

Tahija, Dave, 2015, Carbon Dioxide for pH Control at Greens Creek Mill: American Exploration and Mining Association 121 Annual Meeting – Provided by Hecla Greens Creek Mining Company

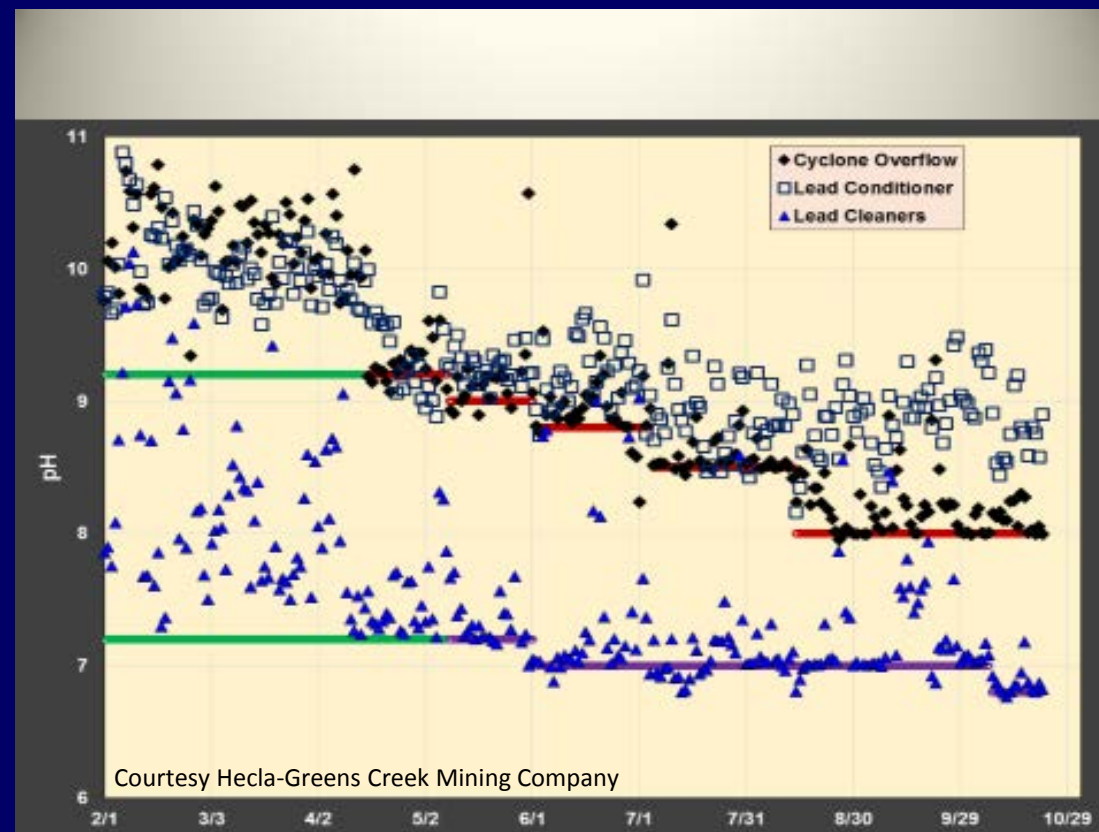


Greens Creek – Use of CO₂ to buffer mill pH

Current CO₂ Addition



Courtesy Hecla-Greens Creek Mining Company



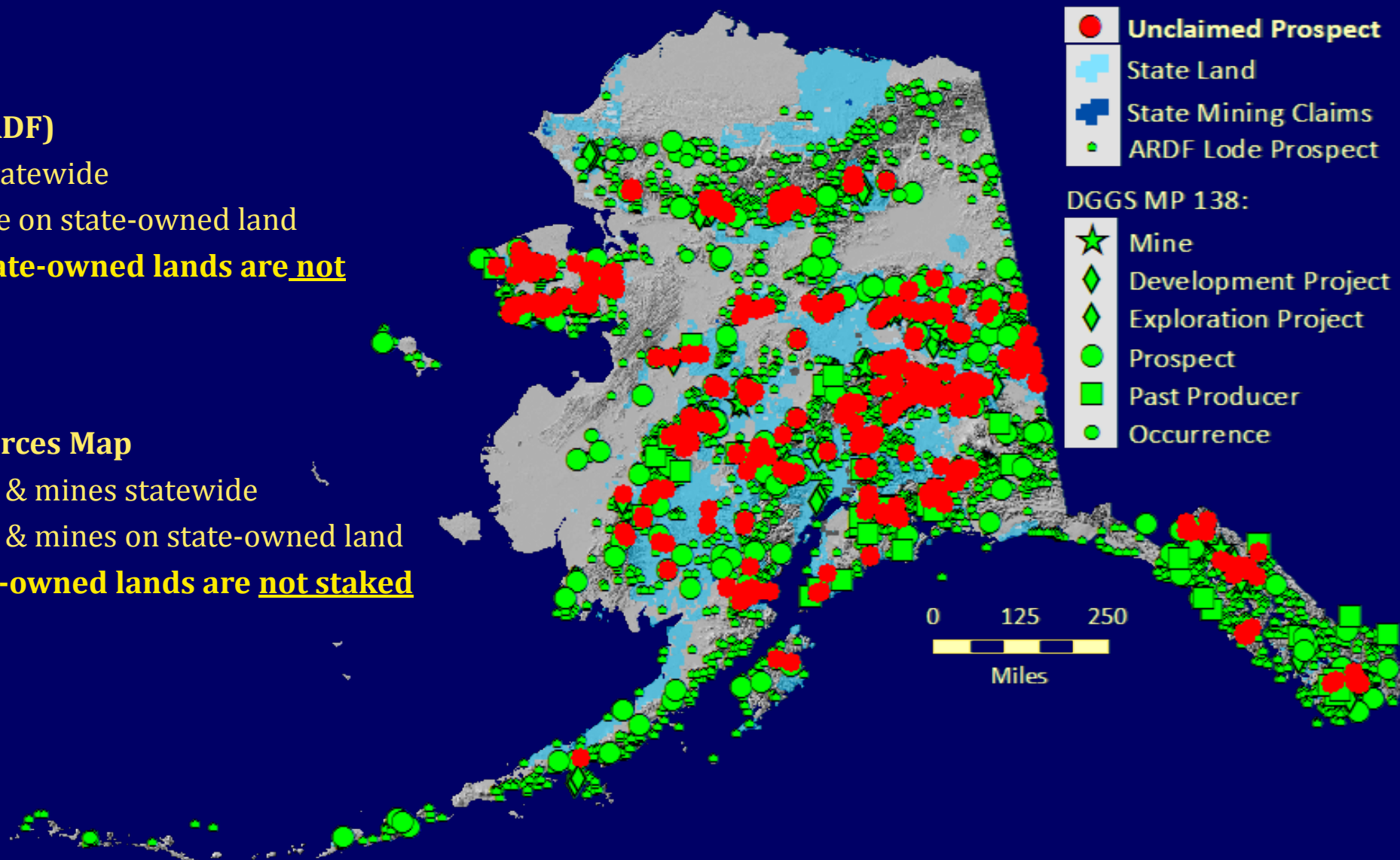
Available Lode Prospects – November 2015

Alaska Resource Data File (ARDF)

- 3,323 lode prospects total statewide
- 795 ARDF lode prospects are on state-owned land
- **459 ARDF prospects on state-owned lands are not staked**

DGGS MP 142 – Mineral Resources Map

- 307 lode prospects, projects & mines statewide
- 104 lode prospects, projects & mines on state-owned land
- **33 lode prospects on state-owned lands are not staked**



Annual Mineral Industry Report – Since 1981

DGGS Mission:

Determine the potential of Alaskan land for production of metals, minerals, fuels, and geothermal resources, the locations and supplies of groundwater and construction material, and the potential geologic hazards to buildings, roads, bridges, and other installations and structures (AS 41.08.020).

The Annual Mineral Industry Report:

The department shall conduct a continuing survey of the mineral resources and mining operations of the state and shall disseminate information regarding them to assist prospectors and miners, safeguard the lives and health of miners, protect investors in the mining industry, and foster and promote the best interests of the mining, mineral, and related industries of the state (AS 27.05.050).

