Alaska's Mineral Industry 2016: Mining, *Exploration and Discoveries*

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Photo courtesy: Heatherdale Resources Ltd. / Niblack Project LLC

Association for Mineral Exploration British Columbia - Mineral Exploration Roundup – January 23, 2017

Acknowledgments & Disclaimers

- Acknowledgements:
  - Companies and individuals who provided content
  - Shane Lasley (N of 60 Mining News); Curt Freeman (Avalon Development Corp.)
- 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
  - Forward Looking Statements are par for the course
- Minimal editorial/peer review of content – does not meet DGGS editorial standards
- **Encourage you to read company websites, news releases, and regulatory filings for definitive information**

Golden Zone Au project; historical mine: Photo Courtesy of Avidian Gold, Inc.

STATE *of* ALASKA

- ALASKA AS A STOREHOUSE: MINERALS -

The State of Alaska Ranks in the *Top Ten in the World* for Important Minerals, Including:

- **Coal**: 13% of the world's coal; *2nd most in the world*
- **Copper**: 4% of the world's copper; *8th most in the world*
- **Lead**: 4% of the world's lead; *6th most in the world*
- **Gold:** 8% of the world's gold; *5th most in the world*
- **Zinc:** 6% of the world's zinc; *6th most in the world*
- **Silver:** 4% of the world's silver; *9th most in the world*

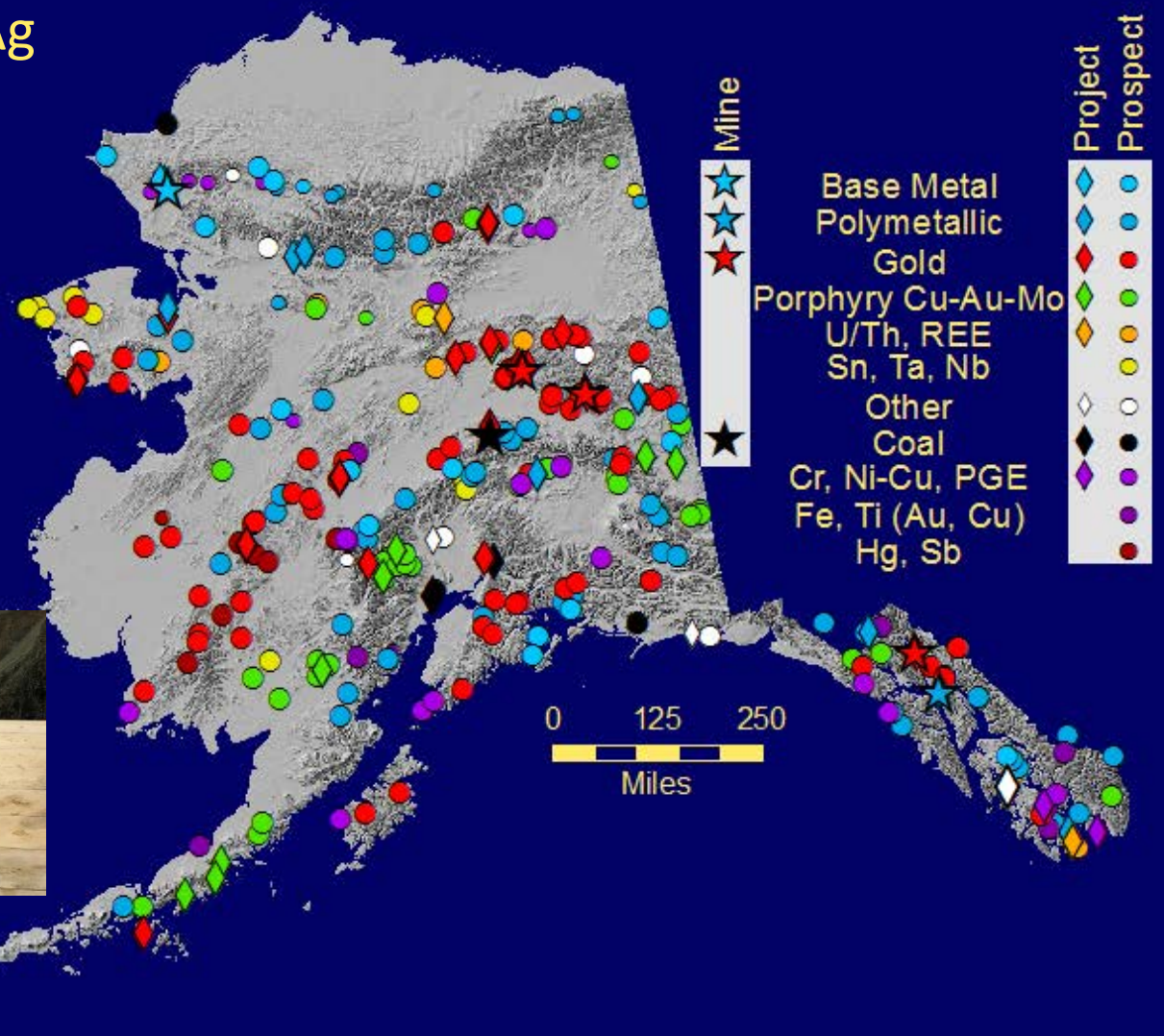
  (USGS 2015 estimates)

Alaska ranked 2nd for mineral potential in the 2015 Fraser Institute Survey of Mining Companies.

With over 7,400 documented prospects, Alaska has the potential to lead the nation in producing these and other commodities.

2016 Alaska Mineral Industry Overview

- 5 major lode mines producing Zn, Pb, Au, & Ag
- ~ 150 small placer mines
- 1 coal mine
- 23 active exploration projects with diverse deposit types



2016 Alaska Gold Production

Chandalar (Placer):

-To date:~US$26 million to develop mine

-As of August 2016: YTD Au production = 8,570 oz. alluvial Au (~7,000 ounces fine Au)

Fort Knox (intrusion hosted):

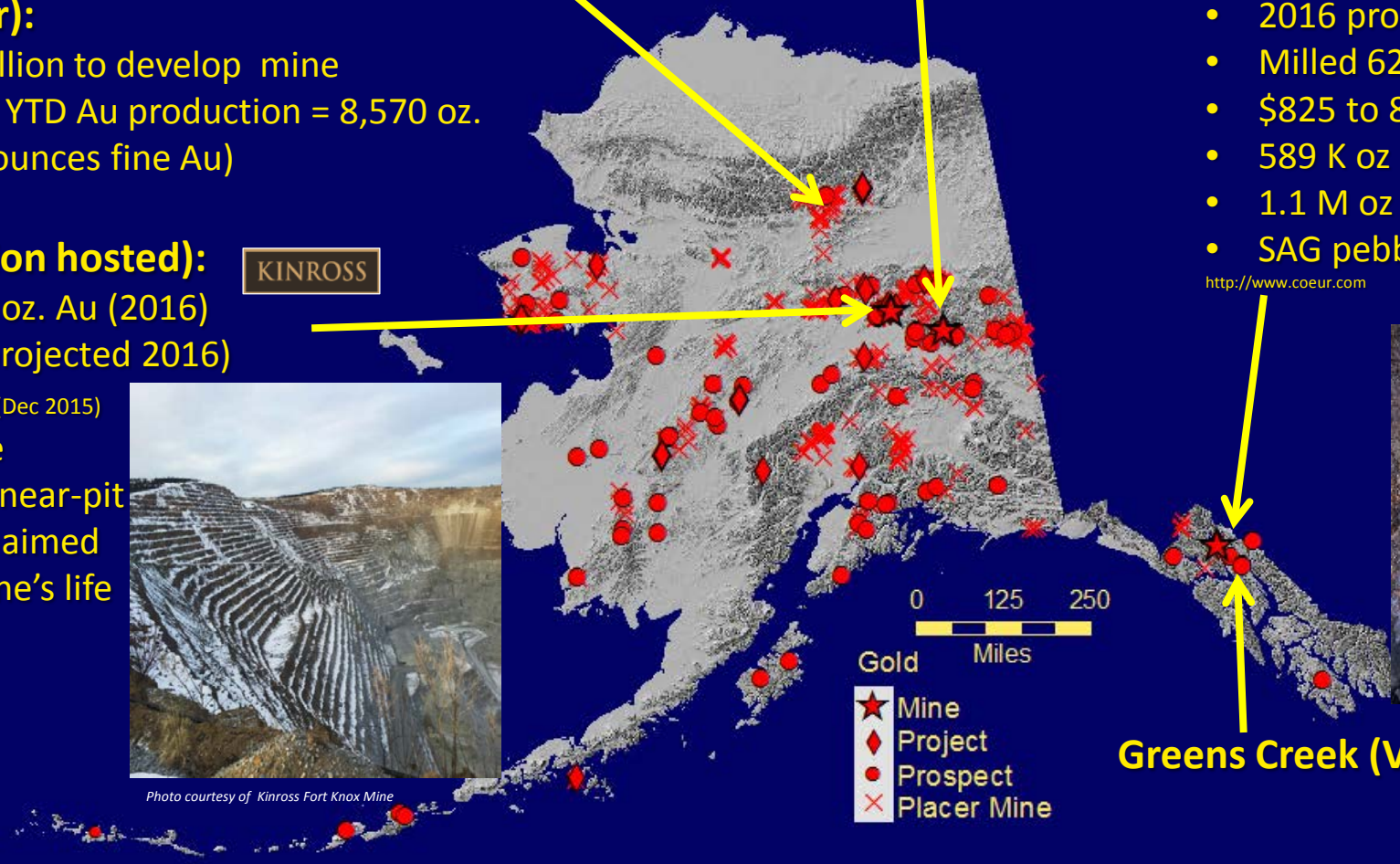
-Poured 7-millionth oz. Au (2016)

- ~393,889 oz Au (projected 2016)
- 2.0 M oz Reserve (Dec 2015)
- 1.6 M oz Resource

-Continued in-pit & near-pit exploration drilling, aimed at extending the mine's life

http://www.kinross.com

Photo courtesy of Kinross Fort Knox Mine



Pogo (vein):

- Projected 2016 production: 280,000 ounces Au
- 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):

- 2016 production = 124,331 oz Au
- Milled 620,200 tons
- $825 to 875/ounce cash cost (3Q 2016)
- 589 K oz Au Reserve (Dec 2015)
- 1.1 M oz Au Resource
- SAG pebble-reject XRT-sorting pilot plant

http://www.coeur.com

Photo courtesy of Couer Alaska, Inc.

Greens Creek (VMS):

http://pogominealaska.com/

Pogo Mine [Sumitomo Metal Mining Pogo LLC]

-Celebrating 10 years of mining operations (2006-2016)

-Initial mining in Liese zones (L1, L2, L3 stacked quartz veins)

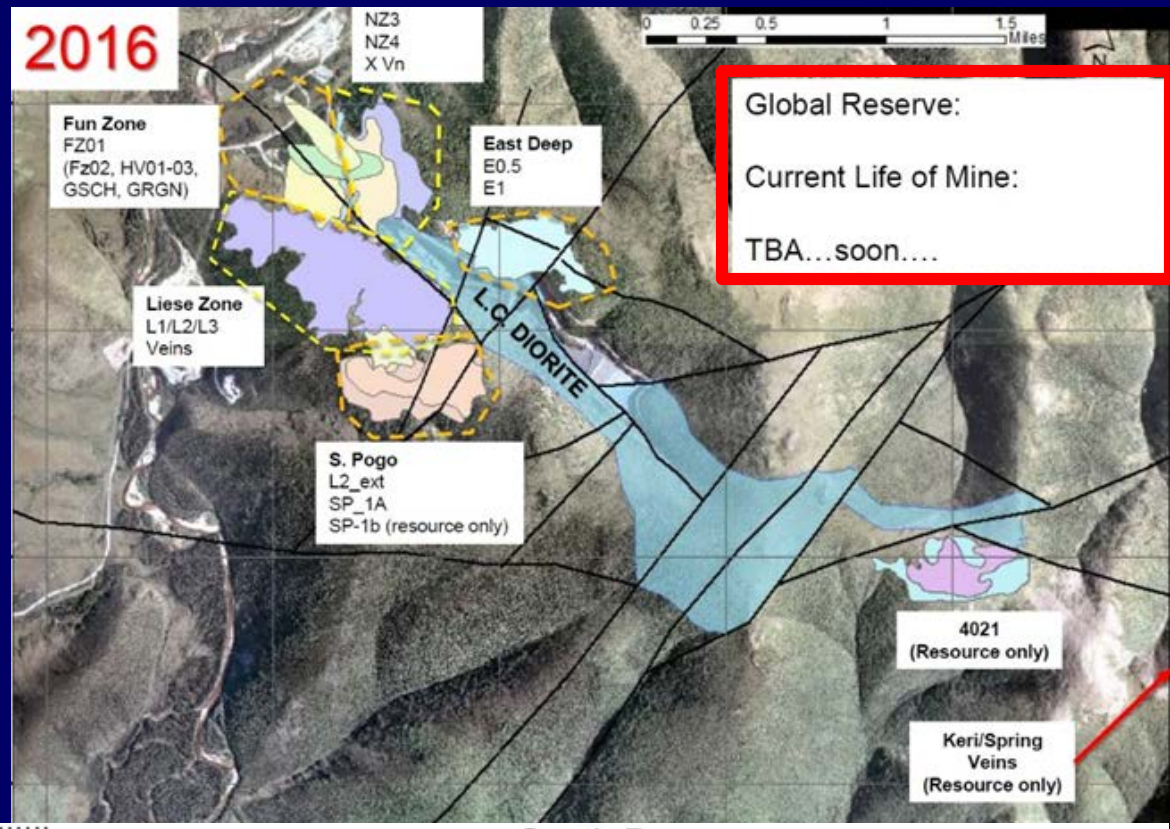
-Sumitomo Metal Mining Pogo LLC continues to invest in exploration; US$10 million in 2016; $15 million in 2015

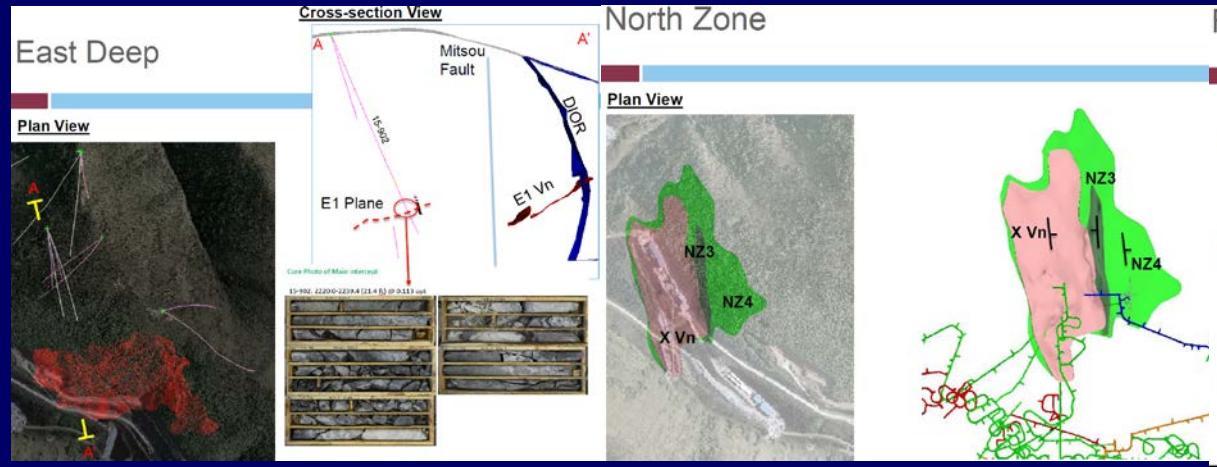
-2012, discovery of East Deep deposit (1.283 million oz. Au)

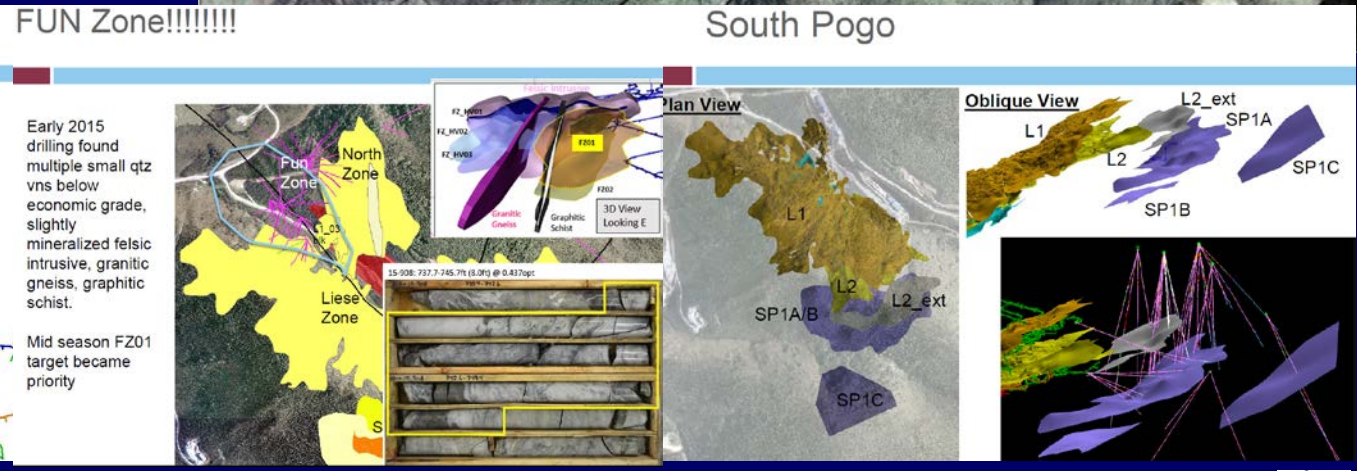
-Since 2012, discovered at least 3 additional high-grade gold zones – North, Fun, & South Pogo – within 1 mile of mill; currently contributing ore to the mill, or are expected to in near future

-Nearby 4021 and Karri/Spring vein systems hosted by Pogo shear

-New reserves to be announced soon







http://www.coeur.com/

Kensington Mine [Coeur Alaska, Inc.]

-Underground gold mine; structurally controlled, Au-bearing quartz veins

-Focusing on potential resource conversion/expansion within Kensington Main ore body, nearby Raven vein, and newly discovered high-grade Jualin deposit

Kensington Main: drilling 4 zones targeting potential expansion of Kensington resource down-dip and to the south of the current resource model; 1 DDH returned 12.2 3.7 m of 41.5 g/t

Raven: targeting down-plunge extension of high-grade ore shoot; 9,627 m has been drilled in resource infill with potential to convert to reserve; planning for 18,288 m with a projected budget of $4.6 million

Jualin: decline development 64% complete at year end; Current Jualin #4 resource (1 of 5 known veins): 179,000 oz. Au, 0.619 oz. Au/ton. New resource in preparation

2016 Zinc, Lead, and Silver Production

Red Dog – Sediment-hosted Zn-Pb-Ag:

- Projected 660,000 tonnes Zn (2016)
- Projected 116,000 tonnes Pb (2016)
- Currently mining Aqqaluk deposit; began development of Qanaiyaq deposit.
- Total Reserve: 62.4 M tons @ 14.6% Zn, 4.1% Pb, 2.15 oz./ton Ag (Dec. 2016)

www.teck.com

Teck

NANA

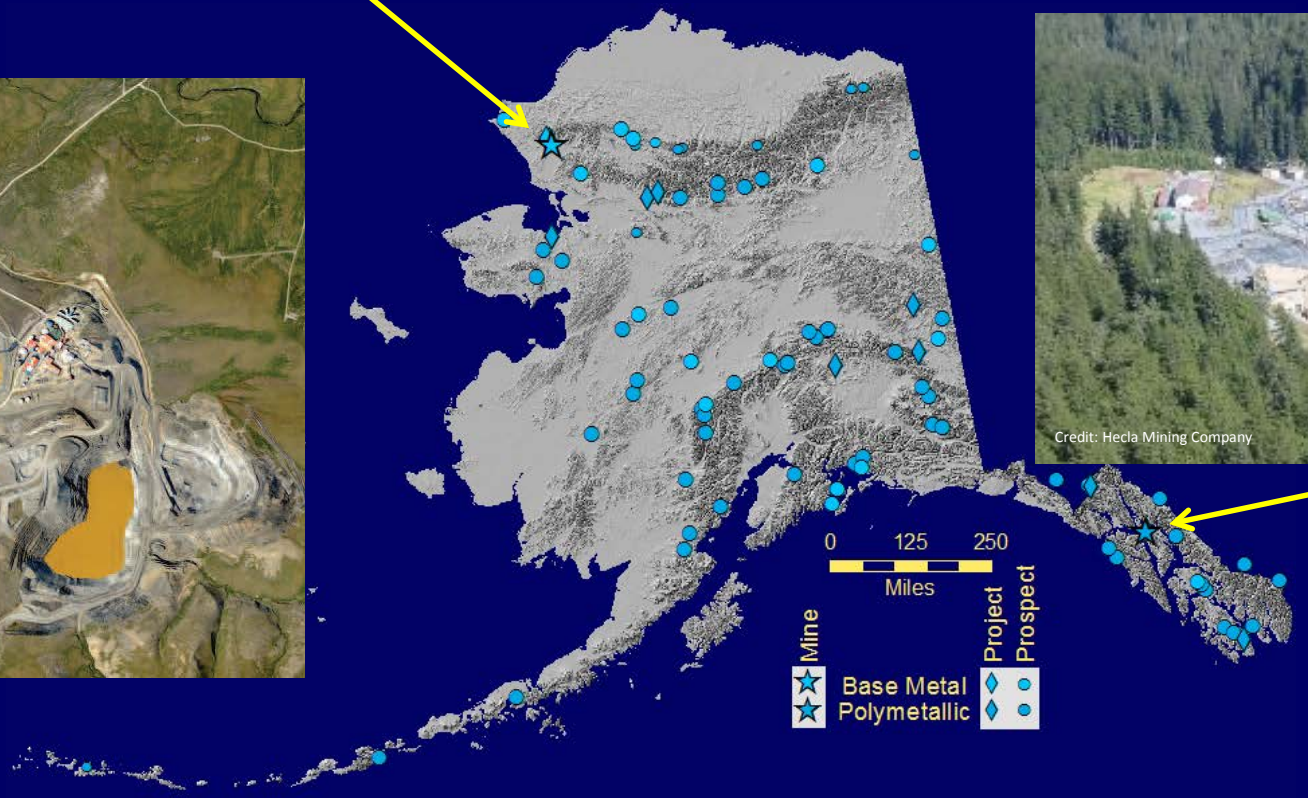
Greens Creek – VMS Ag-Zn-Pb-Au:

- 9.3 M oz Ag (2016)
- 53,912 oz Au (2016)
- Mill averaged 2,229 tons per day
- P&P Reserve 7.2 M tons @ 12.3 oz/t Ag, 0.09 oz/ton Au, 8.1 % Zn, 3.0 % Pb (Jan 2017)

http://www.hecla-mining.com

Hecla GREENS CREEK

Credit : Teck Resources Limited / www.teck.com



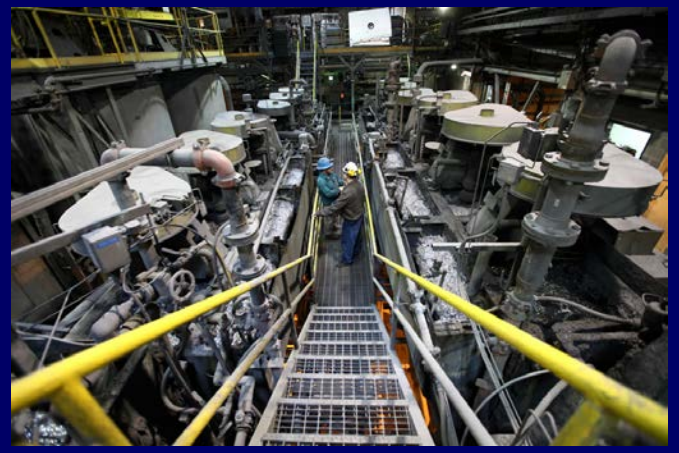
Credit: Hecla Mining Company

Greens Creek [Hecla Mining Co.]

http://www.hecla-mining.com/greens-creek/

-Hecla celebrating 100 years of operating mines (1916-2016)
-Underground Ag-rich VMS deposit

-Continue to replace production and add new reserves (11 years)
-Exploration concentrated along trend of numerous ore bodies underground; aggressively exploring highly prospective 23-square-mile, surface land package
-Definition drilling to refine resources in 9A, Upper Southwest, East Ore and NWW zones
-Revised resource models for 5250, 9A, West, NWW and Deep 200 South zones expected soon
-Exploration drilling is defining a new flat-lying zone just west of the Gallagher Fault ~450 feet beneath current Gallagher Zone resource



2016 Alaska Coal

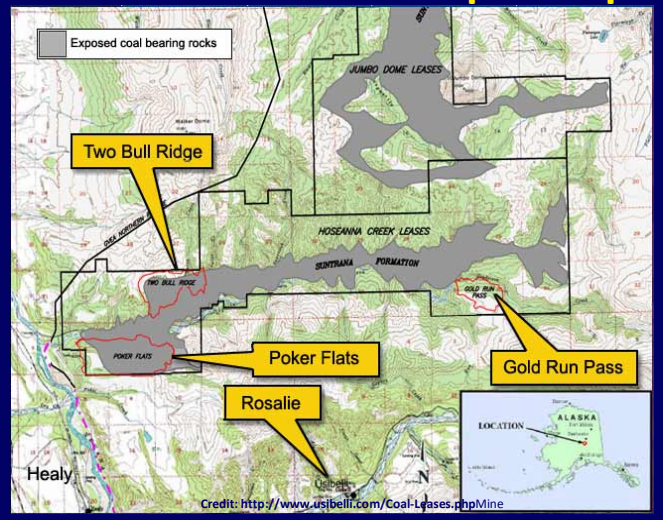
Credit Chris Arend, Usibelli Coal Mine

Usibelli Coal Mine:

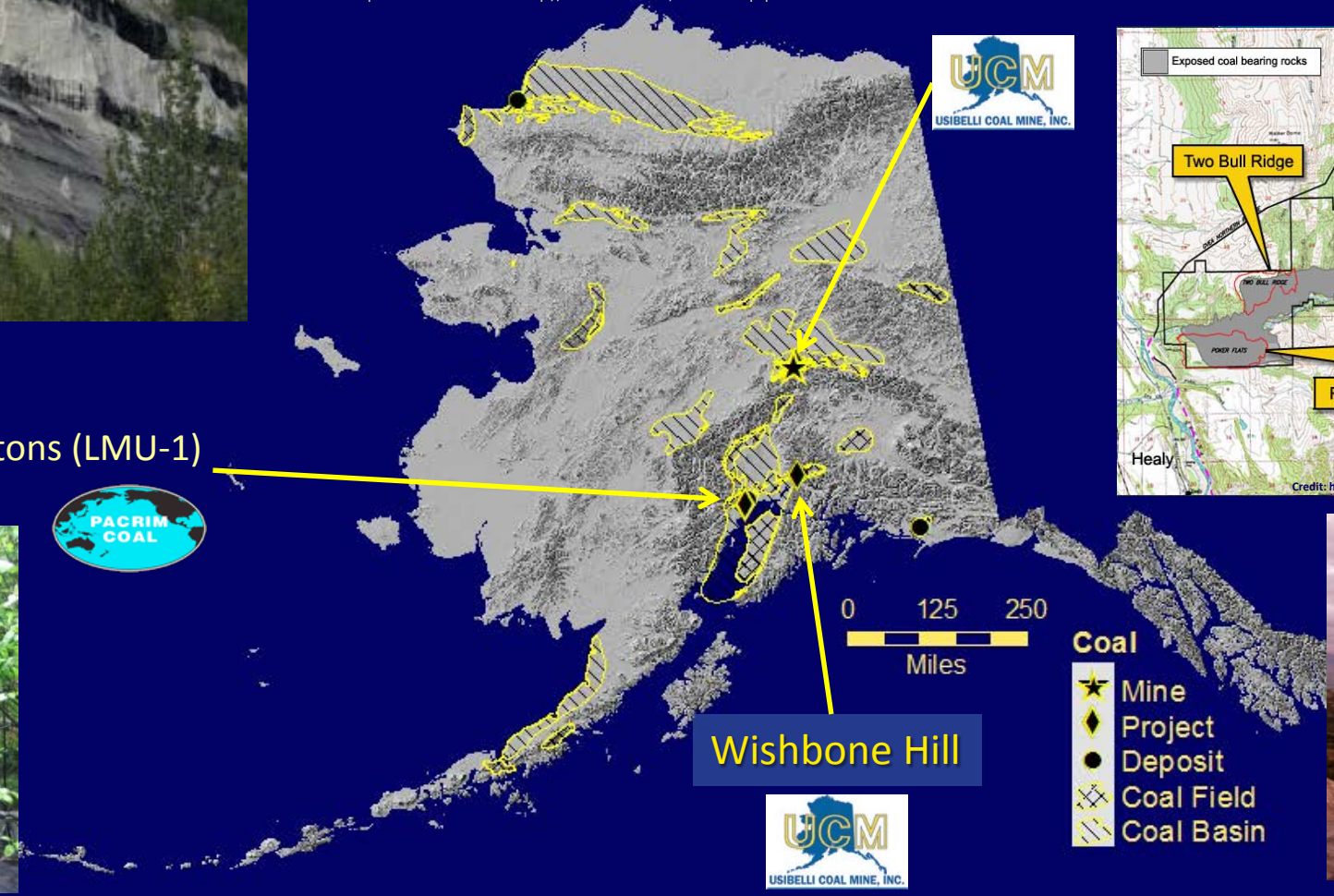
- 2016 production: 972,000 tons (producing since 1943)
- 75,000 tons exported to Japan
- Regional electrical generation at 7 power plants
- Reserves ~750 million tons

Usibelli Coal – personal communicationshttp://www.usibelli.com/Coal-Leases.php

New UAF power plant



Credit: http://www.usibelli.com/Coal-Leases.phpMine



Chuitna Coal Project:

- Proven reserves 300 million tons (LMU-1)
- Revising project plans

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

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

Donlin Gold (Advanced project)

http://www.novagold.com/investors/presentations/

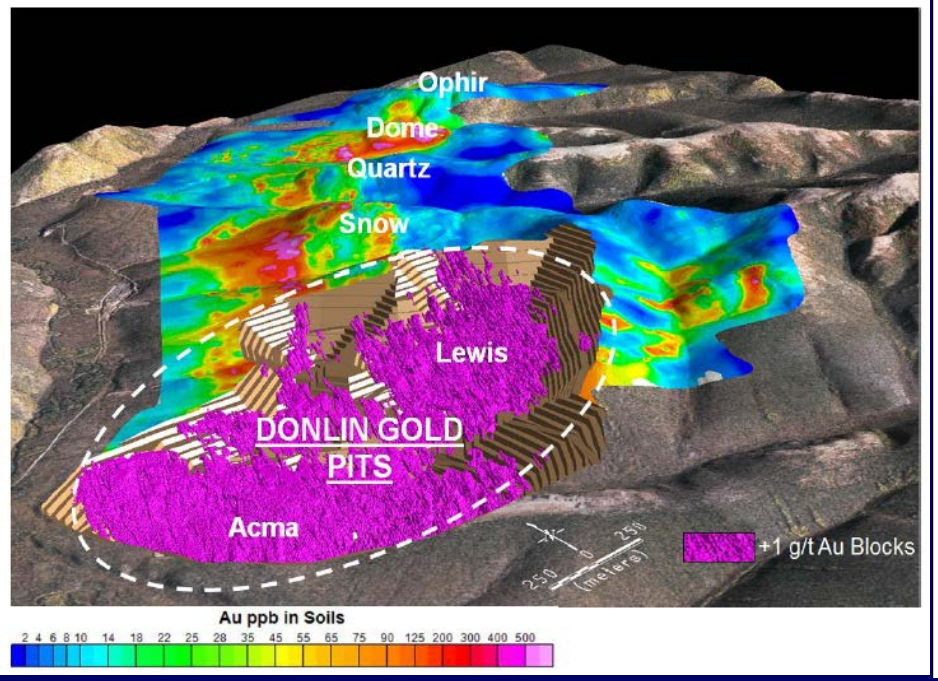
[50% Barrick Gold Corp./50% NovaGold Resources Inc.]

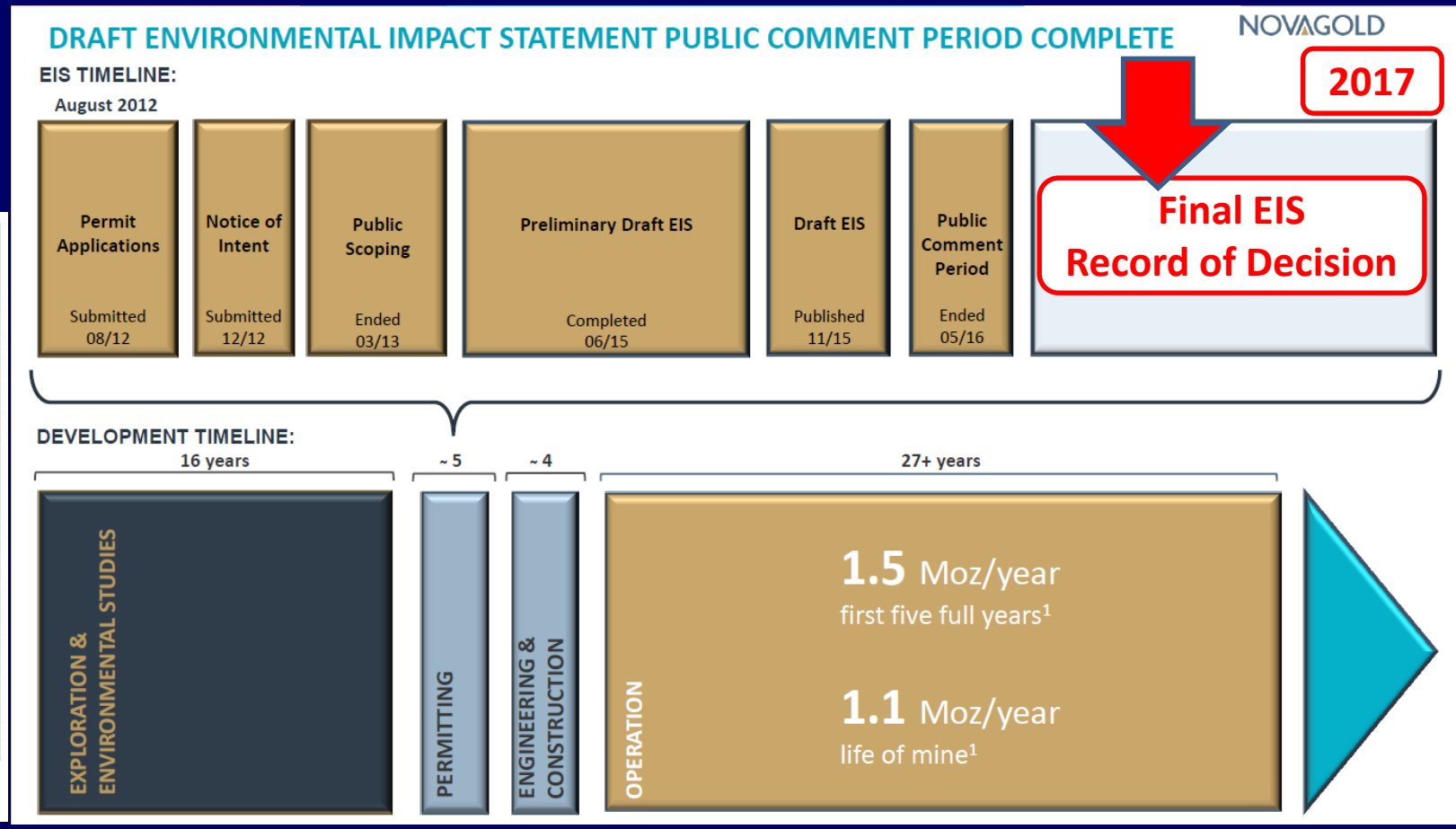
-P&P reserves: 34 million oz. of Au @ 2.09 g/t; 1.1 M oz. of Au/year projected production

-Anticipated 2016 expenditures of US$18 million for permitting and other studies

-Continued to advance permits and approvals

-Final EIS expected to be published in 2017





Advanced Exploration – Base metal & polymetallic

Arctic VMS – Cu-Zn-Pb-Ag-Au:

- **2013 PEA:** 125 M lbs Cu, 152 M lbs Zn, 24 M lbs Pb, 2.5 M oz Ag & 29,000 oz Au
- Open Pit PEA – 12 year, 210 M lbs Cu-Eq production annually
- www.trilogymetals.com

Bornite – Cu-(Ag-Co):

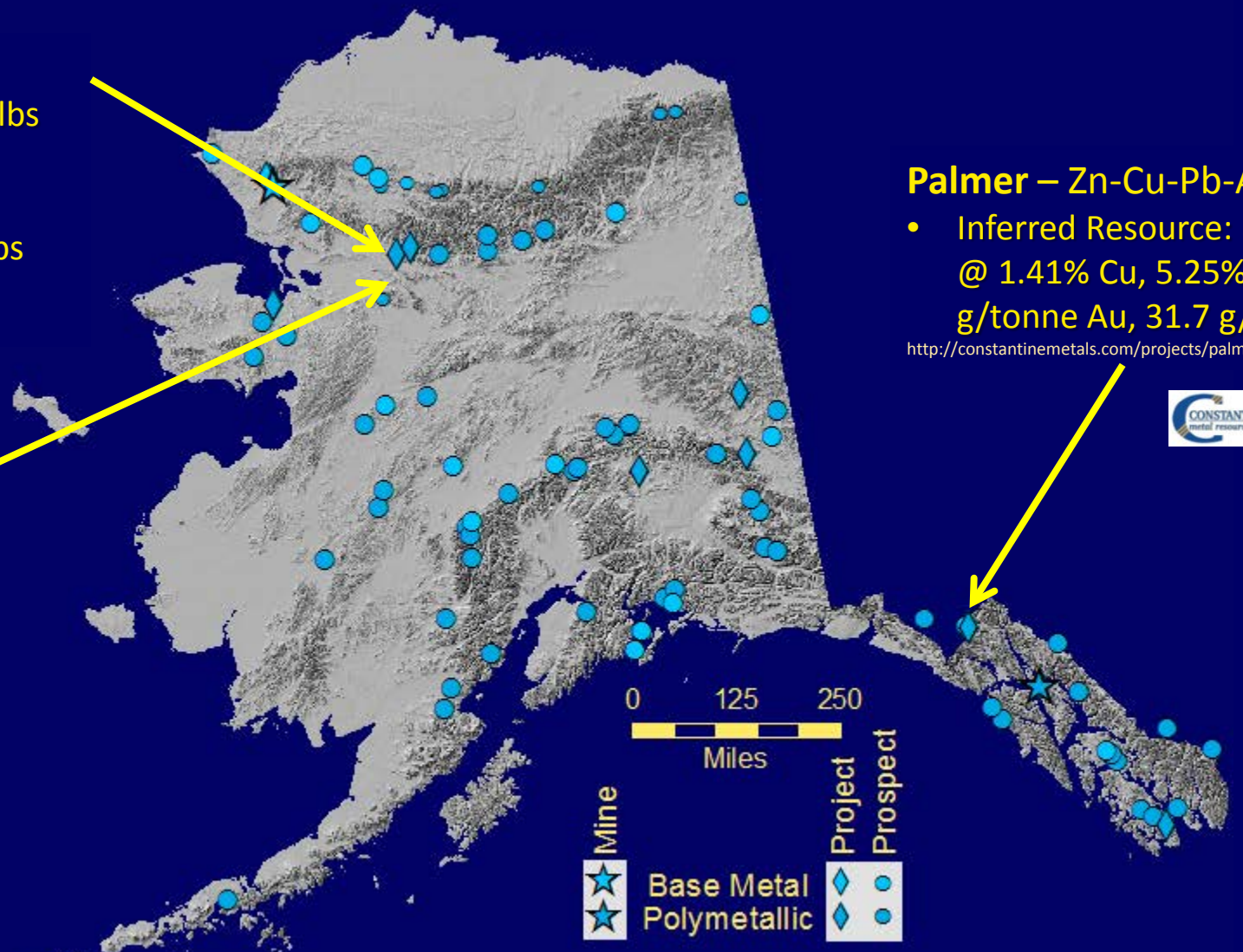
- March 2014 NI 43-101 Resource:
- 334 M lbs Cu In-Pit Indicated
- 109.6 M lbs Cu In-Pit Inferred
- 5.6 B lbs Cu Below-Pit Inferred

www.trilogymetals.com

Palmer – Zn-Cu-Pb-Au-Ag VMS

- Inferred Resource: 8.125 M tonnes @ 1.41% Cu, 5.25% Zn, 0.32 g/tonne Au, 31.7 g/tonne Ag

http://constantinemetals.com/projects/palmer



Arctic Cu-Pb-Zn-Au-Ag VMS [Trilogy Metals Inc.]

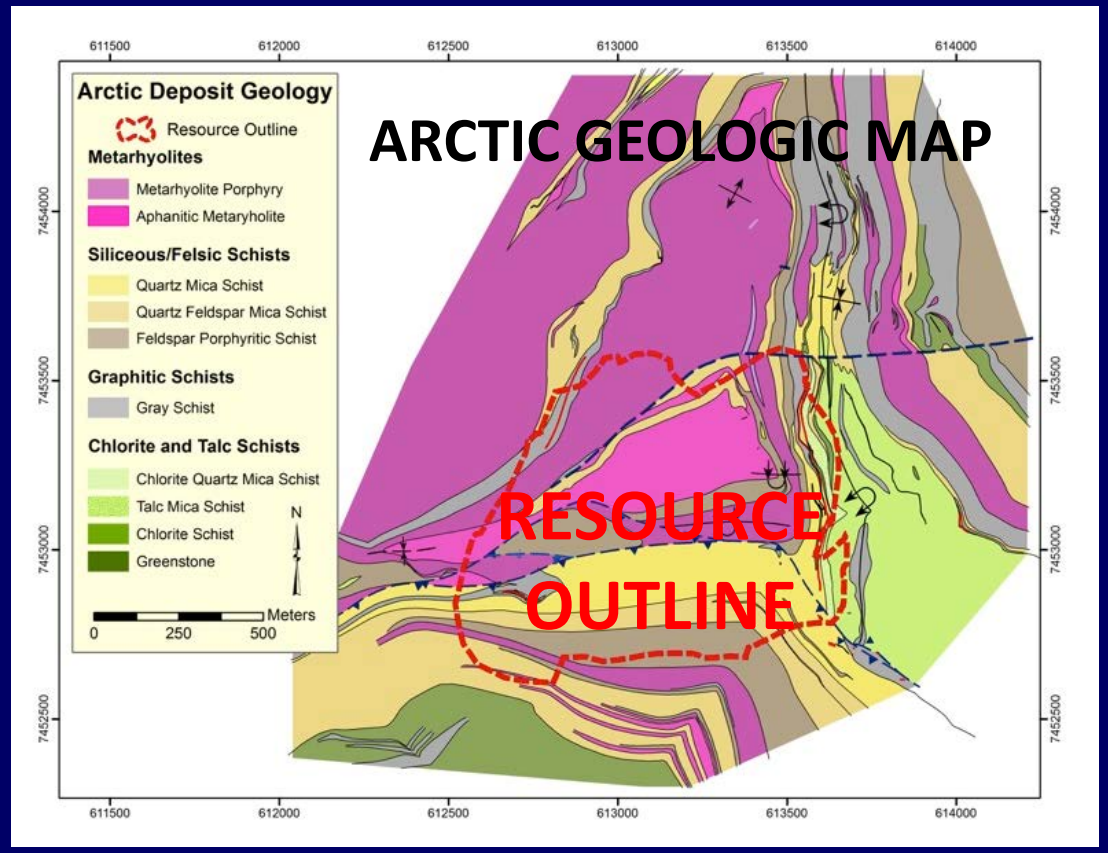
-Ambler Mining District, S. Brooks Range, NW Arctic Borough

-In 2016, ~US$5.5 million budget, 13 DDH's, 3,058 m (geotech, hydrological, waste-rock characterization, metallurgical studies, & resource definition).

DDH AR16-0148:
21.22 m; 3.79% Cu, 0.85 g/t Au, 69.1 g/t Ag, 0.99% Pb, 5.78% Zn
DDH AR16-0150:
16.60 m; 5.40% Cu, 0.20 g/t Au, 46.0 g/t Ag, 1.23% Pb, 6.69% Zn

-Conducted baseline environmental data collection; advanced acid-base-accounting static & kinetic test work

-Completed LiDAR survey for district; initiated in 2015



Bornite Cu deposit:

-Carbonate-hosted copper replacement deposit
-April 2016, released updated resource; May, new NI 43-101 report
-Indicated Cu resource **increased** from 334 to 913 million pounds (173% increase). Inferred Cu resource of 5,450 million pounds. Incorporated new 3D lithology-alteration-structural models, as well as new historical DDH.

https://trilogymetals.com/upper-kobuk-mineral-projects/project-overview

Palmer VMS Property [Constantine Metal Resources Ltd./Dowa Metals & Mining Alaska Ltd.]

http://www.constantinemetals.com/projects/palmer/

2.5 Mile Road Construction – In Progress *Permit Approved Aug 2016*

-Inferred resource: 8.1 Mt @ 1.41% Cu, 5.25% Zn, 31.7 g/t Ag, 0.32 g/t Au

-Constantine (51%) and Dowa Metals & Mining Alaska Ltd. (49%) completed JV, with Constantine as operator.

-Road access, 40 miles to deep-sea port

-Dual focus on advancing established resource and exploring multi-deposit potential of Palmer district

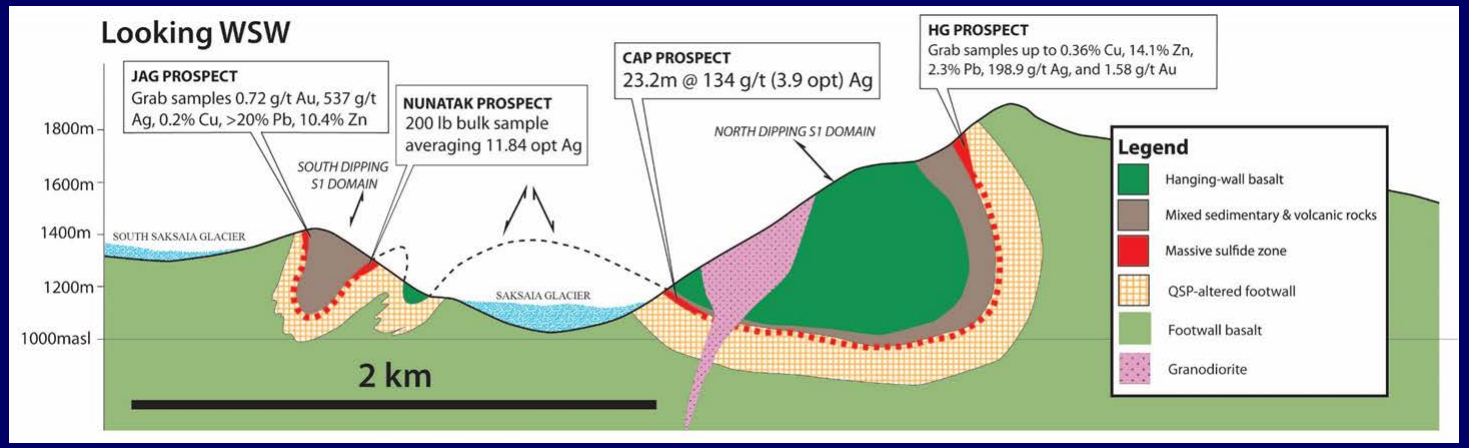
2016 activities:

-Technical studies to advance resource & evaluate underground exploration drift

-Surface work, drill testing of property wide prospects

-Drilling at CAP; 2 DDH's, 595m; semi-massive pyrite; anomalous Ag & pathfinder elements

-Completed environmental assessment with BLM; began construction of Glacier Creek Access Road



Porphyry Cu-Au-Mo-Ag Updates

Copper Joe:
- 10 Ma Porphyry System
- Very early stage exploration
- One 800-m-long DDH tested magnetotelluric anomaly
- Intersected strong hydrothermal system but no significant Cu

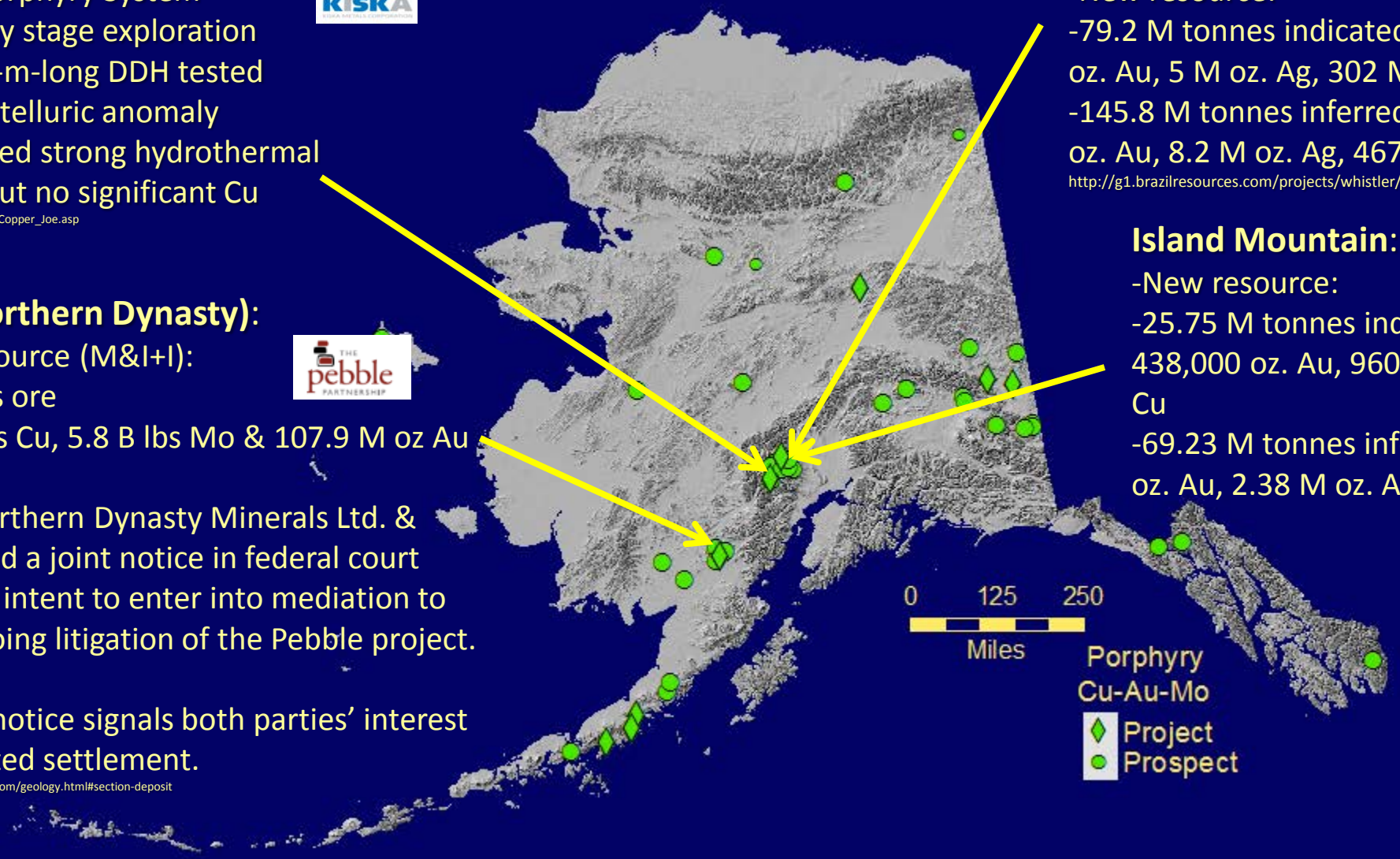
http://www.kiskametals.com/s/Copper_Joe.asp

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

-In 2016, Northern Dynasty Minerals Ltd. & U. S. EPA filed a joint notice in federal court stating their intent to enter into mediation to resolve ongoing litigation of the Pebble project.

-Mediation notice signals both parties' interest in a negotiated settlement.

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



Whistler:
-New resource:
-79.2 M tonnes indicated resource w/ 1.28 M oz. Au, 5 M oz. Ag, 302 M lbs. Cu
-145.8 M tonnes inferred resource w/ 1.85 M oz. Au, 8.2 M oz. Ag, 467 M lbs. Cu

http://g1.brazilresources.com/projects/whistler/

Island Mountain:
-New resource:
-25.75 M tonnes indicated resource w/ 438,000 oz. Au, 960,000 oz. Ag, 34.07 M lbs. Cu
-69.23 M tonnes inferred resources w/ 1.12 M oz. Au, 2.38 M oz. Ag, 91.59 M lbs. Cu

http://g1.brazilresources.com/projects/whistler/

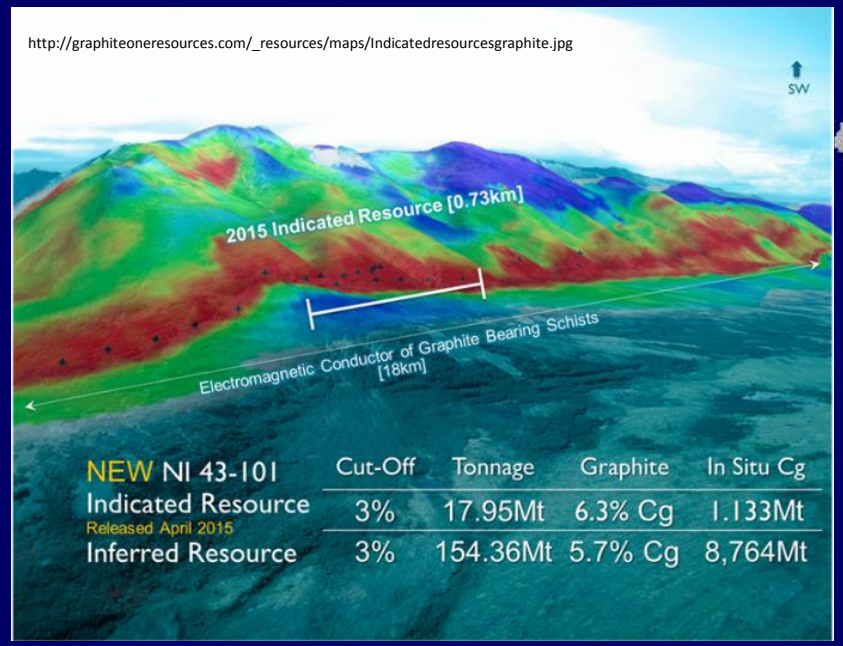
Advanced Exploration – Graphite, REEs

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

Credit: Graphite One Resources Inc.



Bokan – Dotson Ridge – REE:

- Testing SuperLig-One Pilot Plant; achieving high-purity REE separations
- Updated Resource 5.28 M tons Indicated, & 1.16 Mtons Inferred.
- 77.5 M lbs TREO (HREE enriched)

http://ucore.com

http://ucore.com/PilotPlant[11/24/2015 9:5

Graphite Creek [Graphite One Resources]

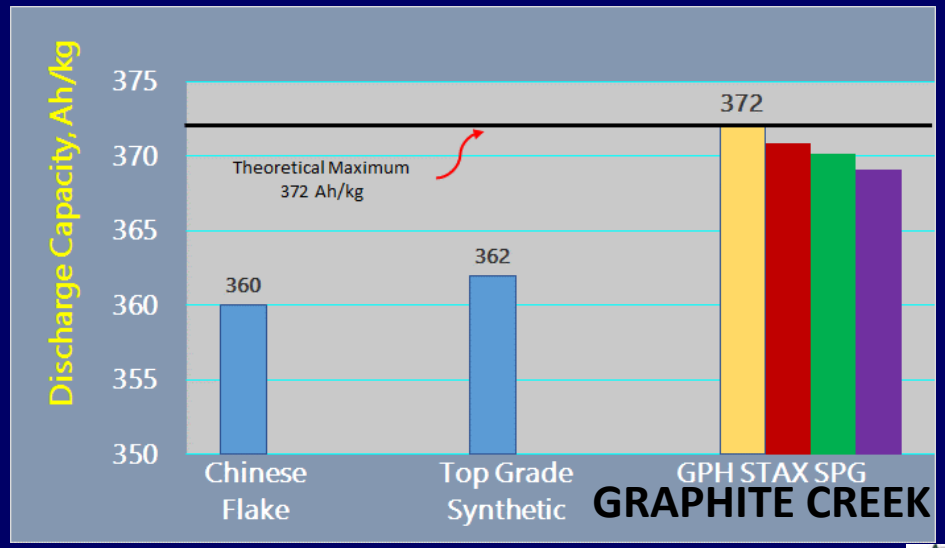
http://www.graphiteoneresources.com/

-USA's largest, large-flake graphite deposit; Seward Peninsula
-High-grade, at-surface resource with simple geology, good continuity
-Progressing from exploration to evaluation phase

-Inaugural PEA projected for completion, end of January 2017

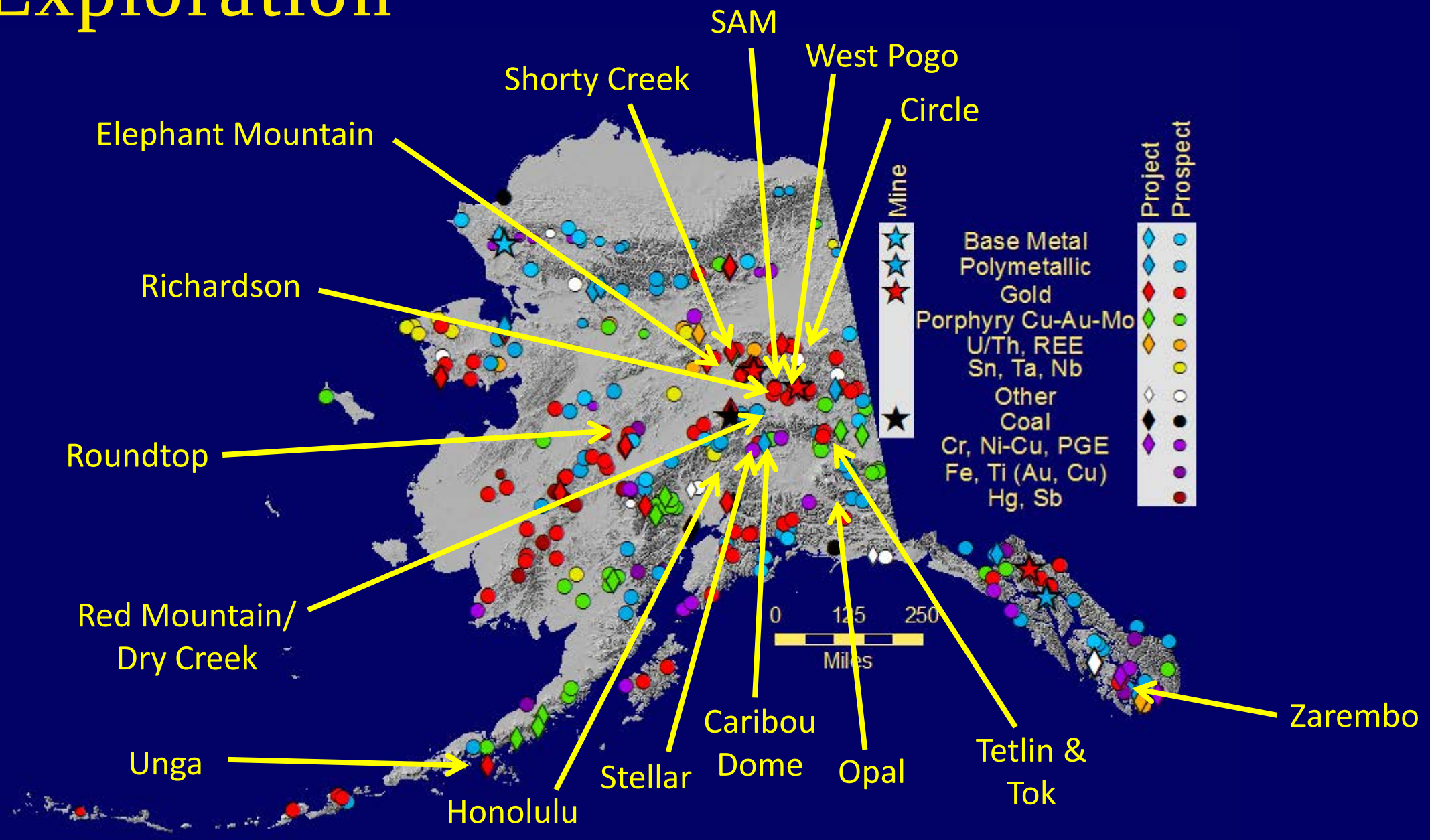
-In 2016, conducted comprehensive Product Development Program:
- -Test work exceeded graphite-purity threshold requirements
- -Produced premium-grade spherical graphite (SPG) from purified graphite
- -Achieved ~75% conversion of **STAX** graphite to SPG in size range suited for electric vehicle applications (typical industry yields = 30-40%)
- -Successful discharge-capacity tests on coated/uncoated spherical graphite
- -Nearing completion of preliminary test work on mineral-processing circuit for producing high-grade graphite concentrate

-Demonstrated potential to produce products that will effectively compete in the high-end battery market (for both electric vehicles & power storage) as well as other markets for purified graphite and graphite by-products



STAX graphite = **S**pheroidal, **T**hin, **A**ggregate and e**X**panded naturally-occurring morphologies present in graphite sourced from the Graphite Creek deposit

2016 Exploration



http://www.contangoore.com/press.html

Tetlin [Peak Gold, LLC; JV between Contango Ore Inc./Royal Gold Inc.]

-Road-accessible, Au- and Cu-rich skarn deposits (70 Ma); Native Au w/massive to semi-massive pyrrhotite-chalcopyrite-arsenopyrite; variable As, Ag, Bi, Co, Pb, Sb, Mo, Sn, Zn

2016 program:

-Alaska's largest 2016 initial-stage exploration program: US$ 11 million

-Drilling: total 20,523 m; Phase 1 = 19 DDH's; Phase 2 = 62 DDH's; Phase 3 = 37 DDH's.

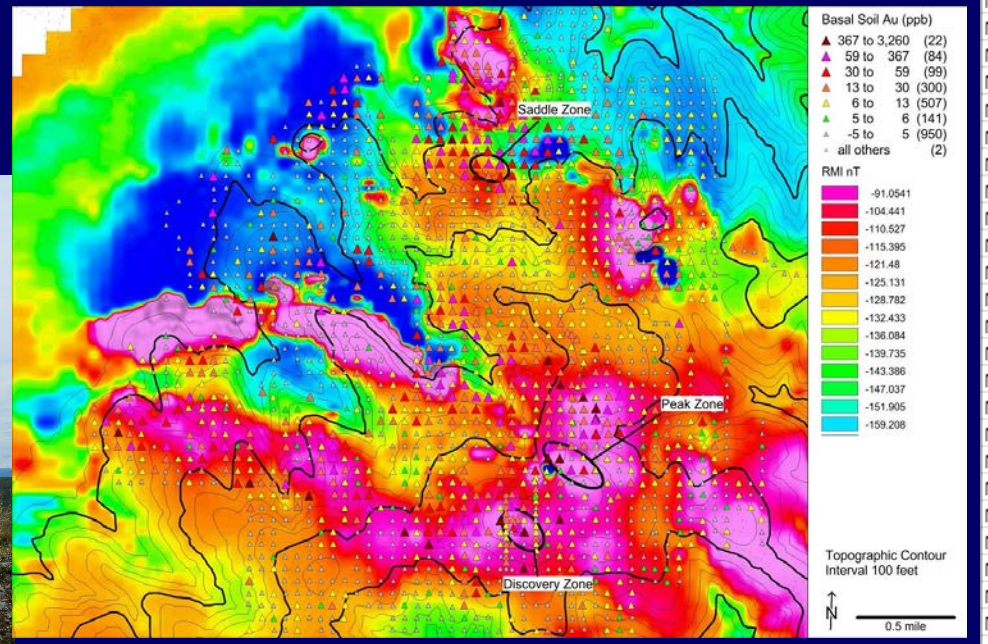
-North Peak area remains open to the NW and SE; last holes drilled were still in gold-bearing skarn.

-Intersected numerous, multi-meter intervals with up to 29.53 gpt of Au

March 2016; CnC Drilling's CS14 drill rig

Photos courtesy of Avalon Development Corporation; Fairbanks

Looking north from Main Peak zone at drill pattern on North Peak zone



Gold in soils over magnetic survey

Figure courtesy of Peak Gold, LLC

Table of select intercepts

Zone	Drill Hole	Interval (meters)	Au_gpt
North Peak	TET16274	8.02	5.56
North Peak	TET16274	6.47	0.99
North Peak	TET16275	3.81	0.9
North Peak	TET16275	1.08	2.04
North Peak	TET16276	4.5	1.21
North Peak	TET16276	16.01	3.23
North Peak	TET16276	6.56	1.67
North Peak	TET16276	3.46	1.53
North Peak	TET16276	3.98	0.7
North Peak	TET16276	5.58	1.19
North Peak	TET16278	1.15	1.46
North Peak	TET16278	5.56	2.78
North Peak	TET16278	1.55	2.14
North Peak	TET16279	4.59	1.75
North Peak	TET16279	3.53	1.52
North Peak	TET16280	1.96	1.15
North Peak	TET16280	1.93	1.96
North Peak	TET16280	1.91	0.91
North Peak	TET16281	5.49	29.53
North Peak	TET16285	14.31	11.59
North Peak	TET16286	18.78	5.02
North Peak	TET16287	6.12	7.35
North Peak	TET16289	25.48	18.73
North Peak	TET16289	16.58	13.52
North Peak	TET16291	3.41	7.1
North Peak	TET16291	21.93	4.69
North Peak	TET16291	2.68	2.05
North Peak	TET16291	2.37	5.48
North Peak	TET16293	4.78	1.26
North Peak	TET16294	7.61	6.88
North Peak	TET16295	14.99	11.67
North Peak	TET16296	2.15	0.87
North Peak	TET16297	23.18	3.72
North Peak	TET16297	1.53	11.5
North Peak	TET16298	7.55	4.37
North Peak	TET16298	6.75	15.53
North Peak	TET16298	3.04	1.4
North Peak	TET16298	6.23	2.23
North Peak	TET16299	14.55	5.46
North Peak	TET16299	3.05	9.83
North Peak	TET16299	5.72	2.14
North Peak	TET16300	1.52	1.08
North Peak	TET16301	4.37	1.37

http://dggs.alaska.gov/

Tok Project [Alaska DGGS]

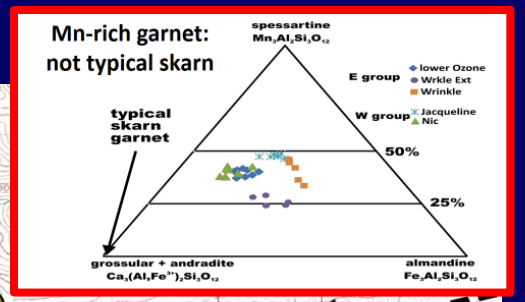
Eagle-trend prospects:

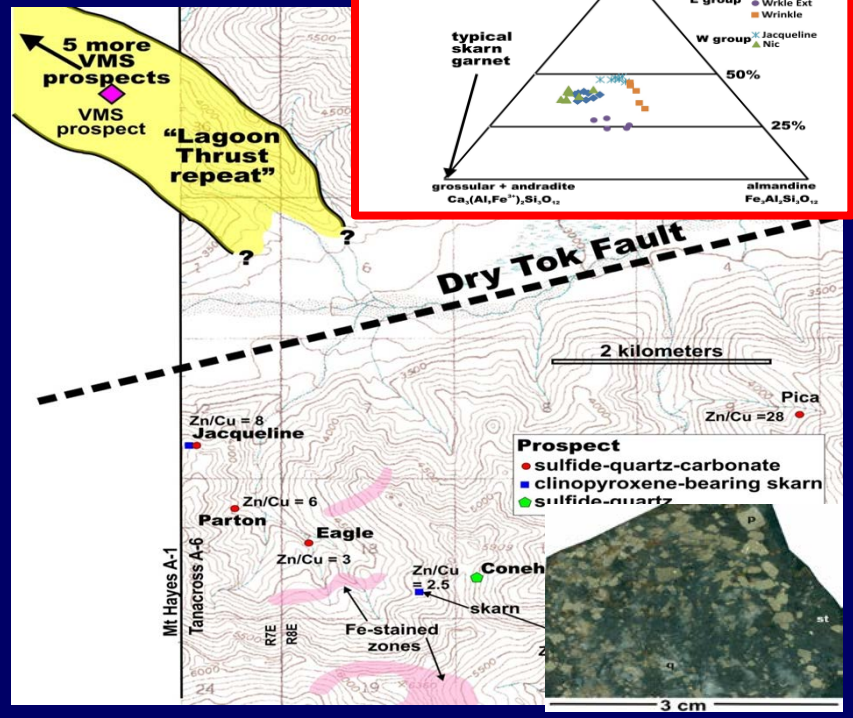
-Marble-hosted base metal-sulfides; sphalerite = High-P = Pre-metamorphic

-Garnets = NOT skarns = Not 50 Ma Tetlin skarns

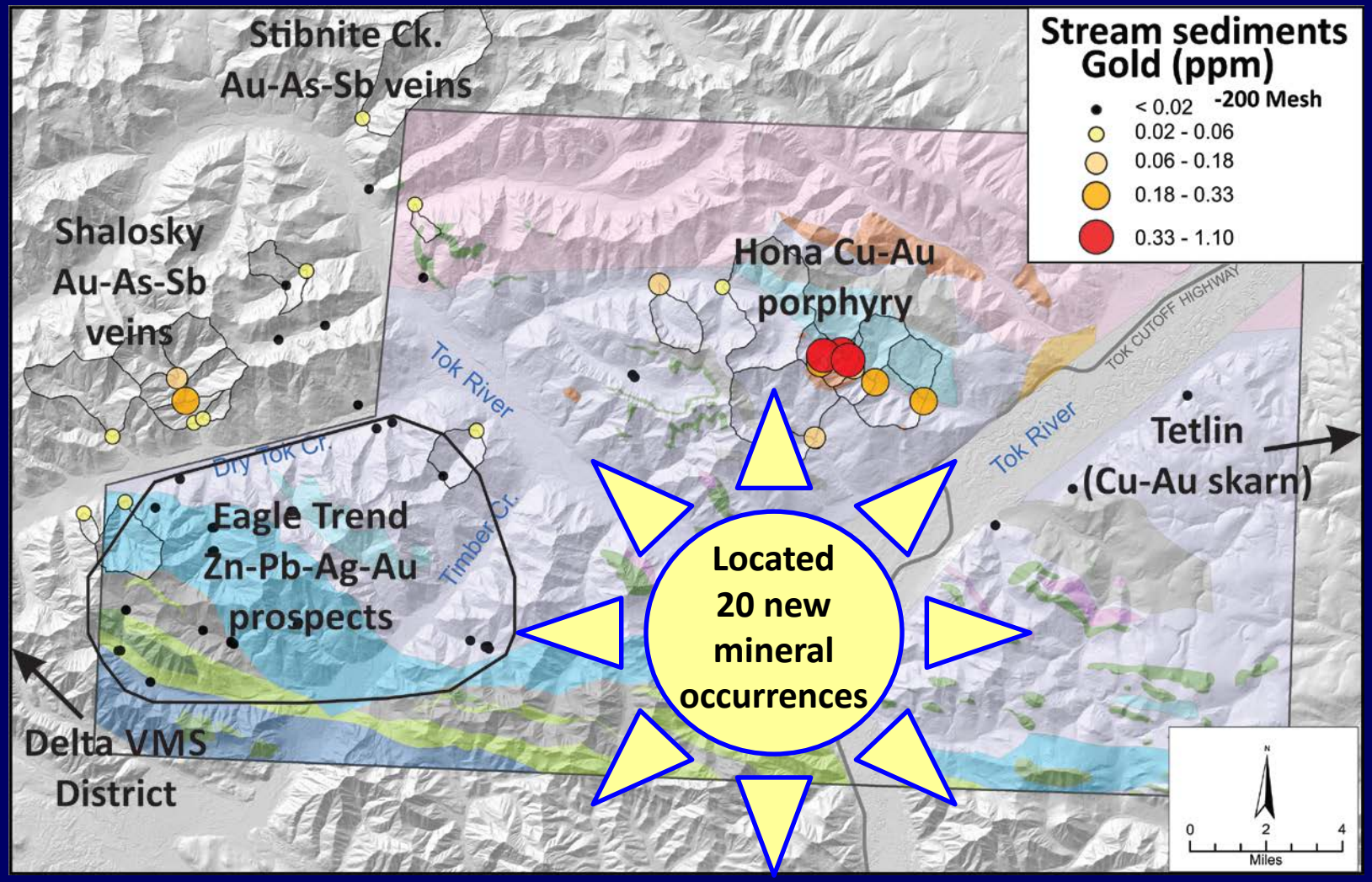
-No metavolcanic rocks = Not VMS's

-Possible models: 1) Irish-type(?); 2) Paired Devonian Ambler VMS + Bornite Cu; 3) other(?)





Delta VMS belt to west, Tetlin Au-Ag-Cu skarns to east, structurally controlled, Au-Sb-quartz vein prospects to northwest



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

Caribou Dome [Coventry Resources, Inc.]

-Road-accessible, sediment-hosted Cu; total 162 DDH's, 19,182 m

2016 program:
-22 holes, 6,520 m

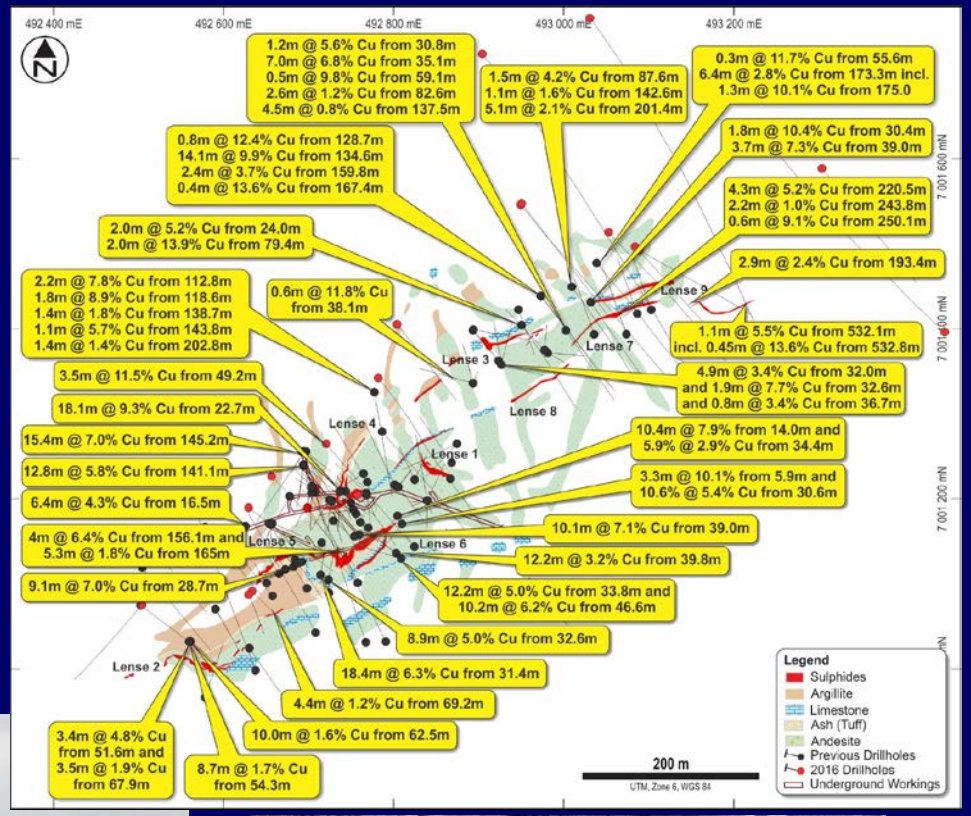
-Near-surface, high-grade mineralization extended >120 m along strike, >300 m depth to the NE

-Delineated multiple new high-priority IP targets over 7 km of strike

-Soil sampling identified new, 5-km-long, copper-in-soil anomaly at Senator Prospect, 11km from Caribou Dome deposit; follow-up rock-chip sampling revealed sediment-hosted Cu; assays to 12.1% Cu

-Metallurgy test at Lense 4/5/6 & Lense 7/8 indicate >99% recoveries; concentrates of >27.4% Cu achieved

High-grade DDH intercepts; >800 m strike



http://www.endurancegold.com/s/Home.asp

Elephant Mountain [Endurance Gold Corporation]

-Cretaceous, intrusion-related Au system w/elevated As, Sb
-Early stage exploration – drill testing Au soil anomalies (>100 ppb)

2016 program:
-3 DDH's on South Zone; 1 DDH on North Zone; total = 598 m

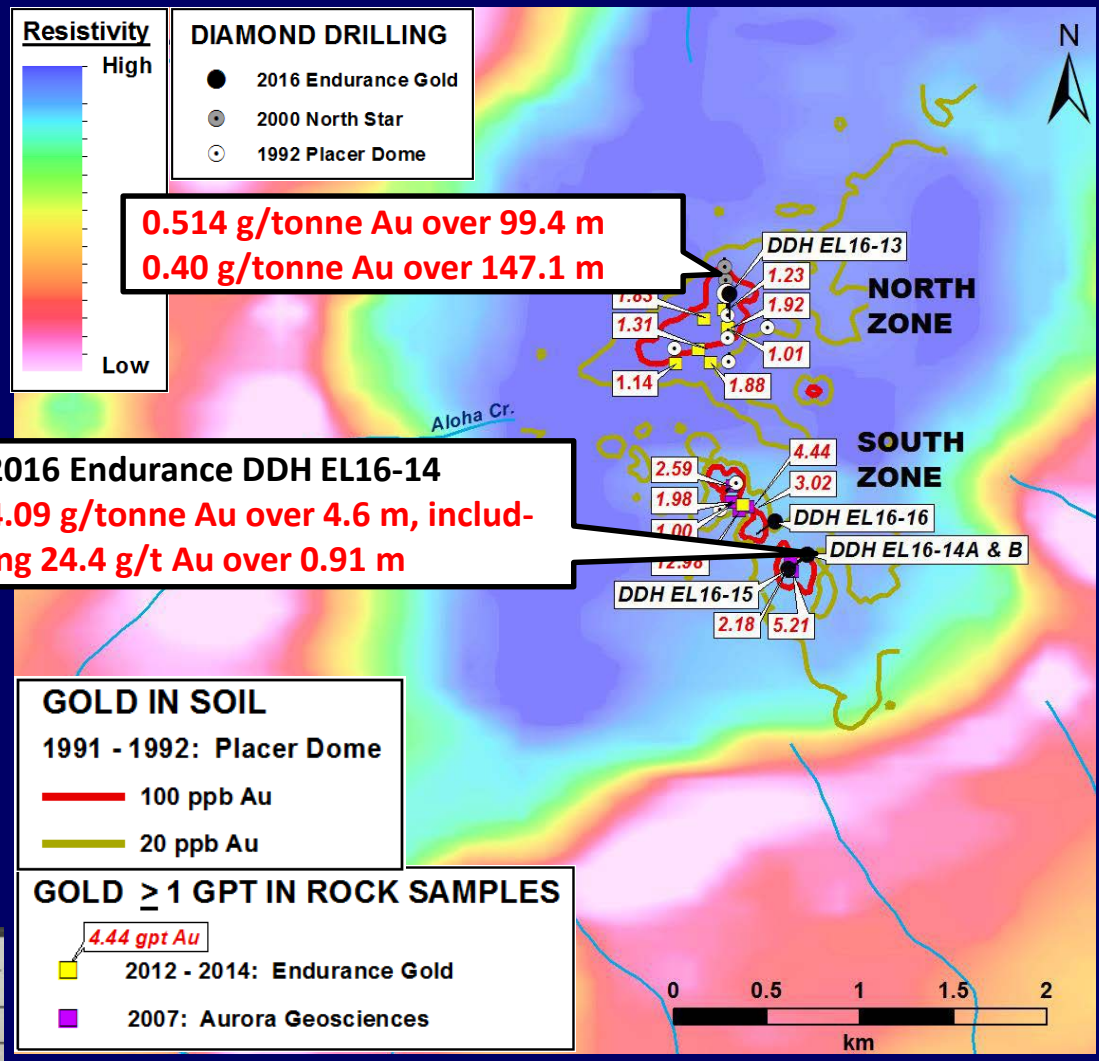
-**South Zone:** 4.09 gpt Au over 4.6 m, including 20.4 gpt Au over 0.67 m associated with 1 x 0.25 km Au-As-Sb soil anomaly

& 1.4 km to the north

-**North Zone:** 0.40 gpt Au over 147.1 m, including 0.63 gpt Au over 48.2 m; associated with 1-km^2 surface alteration zone w/disseminated pyrite + arsenopyrite in pervasively silicified, sericite, clay altered granodiorite and Au-As soil anomaly

20.4 gpt Au over 2.2 ft Stibnite – Arsenopyrite @ 69 feet

0.48 gpt Au over 5.0 ft Arsenopyrite – Stibnite @ 74 feet

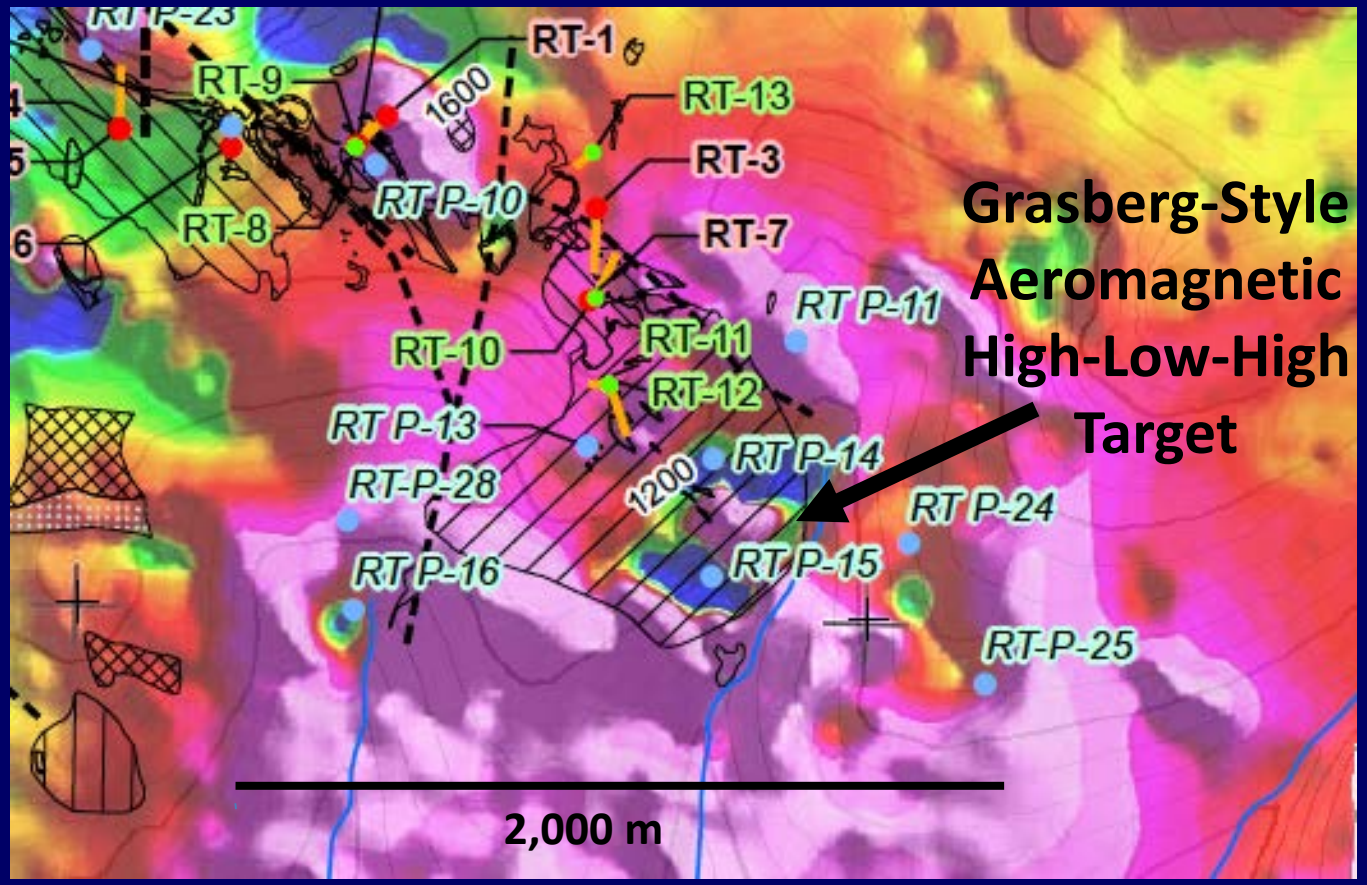


North & South Zones: DDH locations, gold in rocks & soils; overlain on 900 Hz resistivity survey

Roundtop [Western Alaska Copper and Gold]

http://www.westernalaskacopperandgold.com/index.html

-Porphyry Cu + skarn + Pb-Zn-Ag-Au carbonate-replacement styles of mineralization



2016 DDH's on Total Field Magnetic Intensity data; Quartz Monzonite porphyry (hatch pattern)

-Grasberg-style, high-low-high magnetic signature

-2016 DDH program: 6 holes, 1,461m

-Discovered secondary chalcocite beneath East Lobe Porphyry: 39m @ 0.50% Cu within 75-m interval of 0.31% Cu; chalcocite found at depths of >330 m

-2017 plans: 12 DDH's, 9,000 ft.

Hydrothermal breccia; DDH RT-11; 0.49% Cu

RT-11 @ 174.7m Sample #273473 with 2.57% Cu

Unga project [Redstar Gold Corp.]

-Epithermal Au-Ag prospects (**Shumagin**, Apollo, Centennial, Orange Mountain, Zachary Bay, Amethyst, Aquila)

-Historical DDH's (0.76m @37.7g/t Au and 1.21m @ 11.48g/t Au)

2016 Program:

Phase 1: June; surface classification of alteration assemblages and geology to target drilling

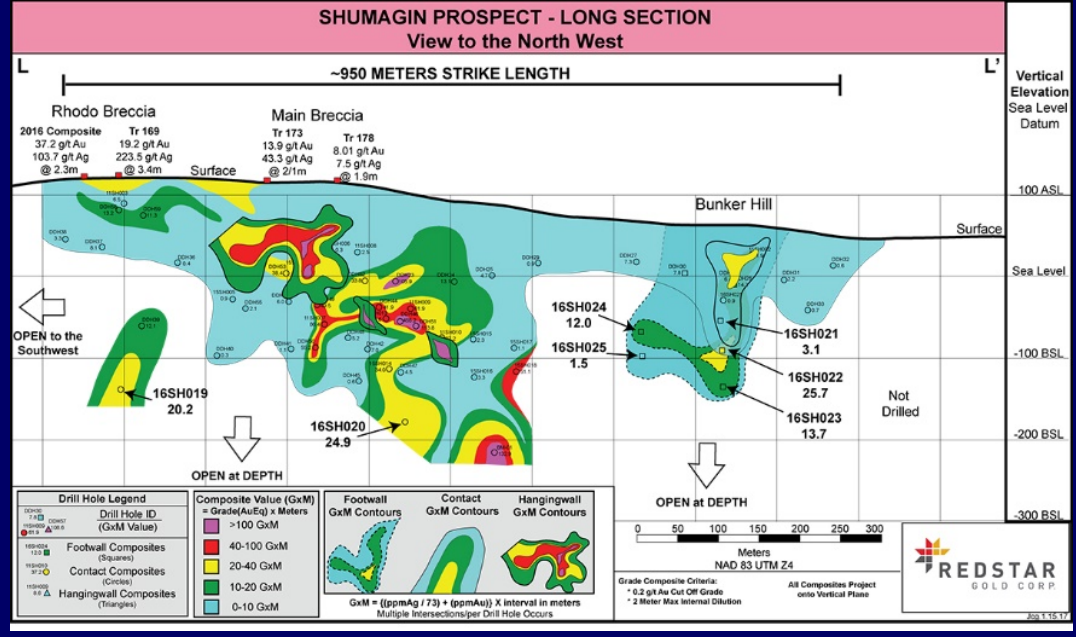
Phase 2: Oct.-Nov.; drilled 7 DDH's, 1,505 m total, spaced over ~750 m of strike length along 2,000-m-long Shumagin Gold Zone

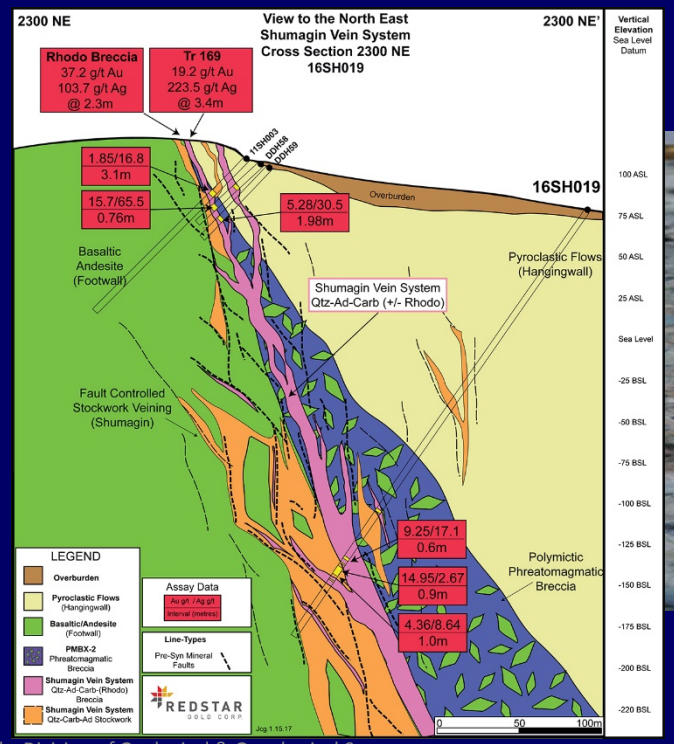
-Tested down-dip and along-strike expansion potential of high-grade vein/breccia mineralization

-All DDH's intersected target structure; breccia and stockwork zones widen at depth

-Select intervals from DDH 16SH019 and 16SH020 include 0.9 m @ 14.95 g/t Au and 1.15 m @ 11.3 g/t Au

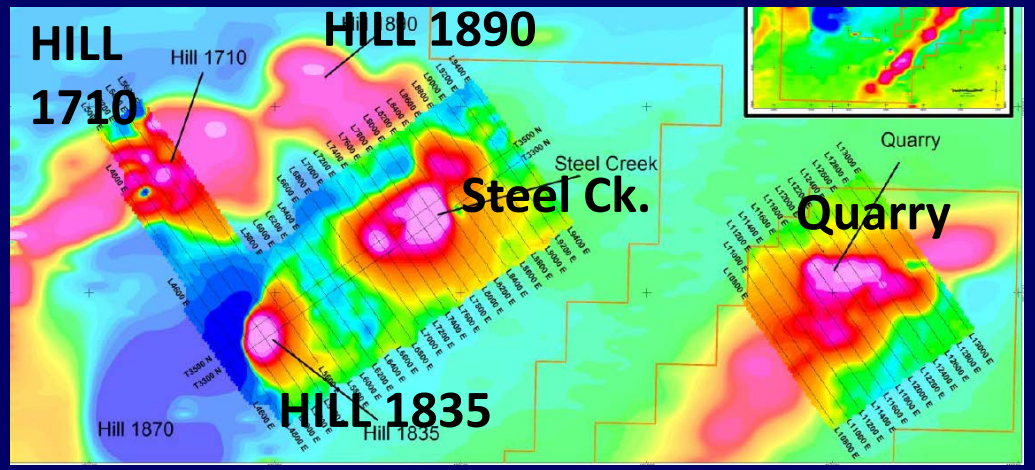
http://www.redstargold.com/s/Home.asp





http://www.freegoldventures.com/s/Home.asp

Shorty Creek [Freegold Ventures Limited]



-Porphyritic intrusions associated with Cu-Au & Cu-Mo systems

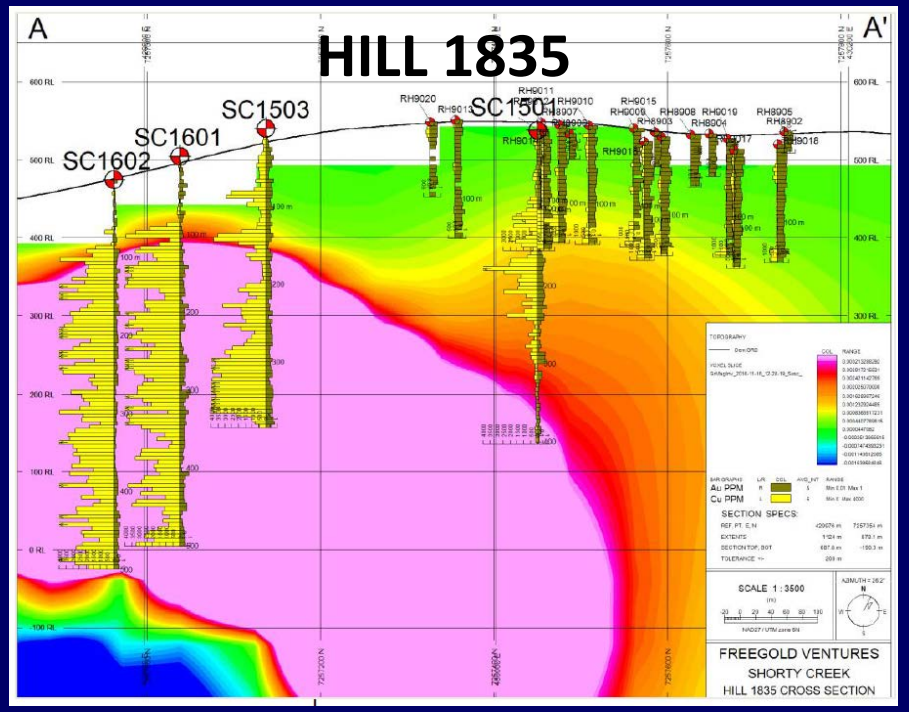
2016 program: 7 DDH's total = 3,038 m

-2 DDH's (1,017.2 m) in "Hill 1835 area"; associated with magnetic high; 434.5 m ave. 0.57% CuEq; 409.6 m ave. 0.41% CuEq

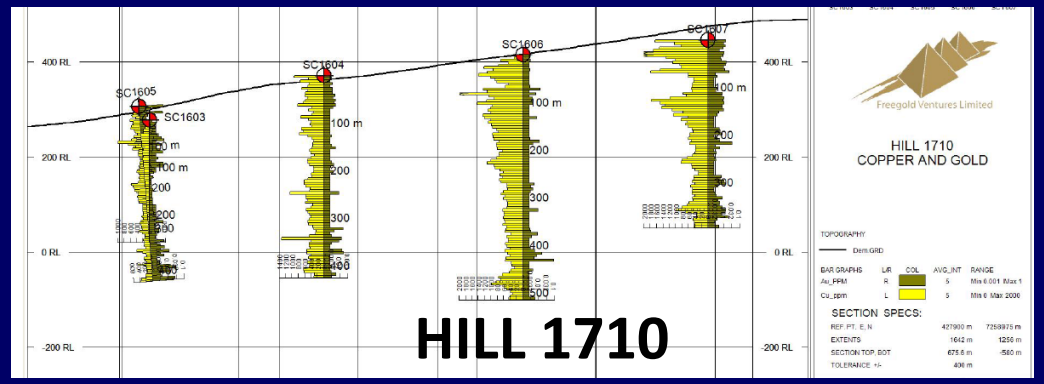
-5 DDH's (2,019.8 m) in "1710 area" to test Cu-Mo soil anomaly & magnetic high

-DDH SC 16-07 intersected 0.11% Cu & 0.011% Mo from 0-159 m, including 0.15% Cu & 0.009% Mo from 0-70.8 m within quartz-feldspar porphyry. Entire 396-m-long DDH averaged 0.08% Cu & 0.006% Mo

-New ground-based geochemistry, geophysical surveys, claim staking



-Identified new Quarry & Steel Creek target areas



honoluluprospect.com

Honolulu [Honolulu Prospect Corp.]

-7 historical DDH's totaling 1,641 feet; Ag grades as high as 124 opt
-Great infrastructure: <5 miles from Parks Hwy., 2 miles from Alaska Railroad, power intertie cuts 22-sq.-mile claim block, State of Alaska claims, 2.5 hours to Anchorage

2016 Exploration Field Season:
-16 DDH's from 5 pads totaling 8,645 feet; confirm high-grade silver deposit
-Excellent assays: 1,505 sediment, 124 rock samples; ID'd high-grade Ag, Pb, Zn, Cu, Au
-Defined mineralized structural zone: 1,000' strike length, up to 200' wide; multiple mineralized fault splays containing continuous high-grade mineralization
-Identified 4 new areas with anomalous Ag, Cu, Au

2017 Plans: 30,000-feet drilling campaign; greatly expand geochemical and geophysical surveys and geologic mapping

Tiki Chute: sheeted arsenopyrite veins (0.17 opt Au; 1.35 opt Ag)

Bertram Gulch: disseminated arsenopyrite in drusy quartz (0.03 opt Au; 7.3 opt Ag)

Tempest: SiO_2 flooding + dissem. arsenopyrite (4.28 opt Ag); Oxidized sulfide veins (8.26% Pb, 6.47% Zn, 223.8 opt Ag)

SAM District [GAME; Great American Minerals Exploration, Inc.]

http://www.gamgold.com/

-SAM District = SMMEC's Monte Cristo + GAME's Uncle Sam properties

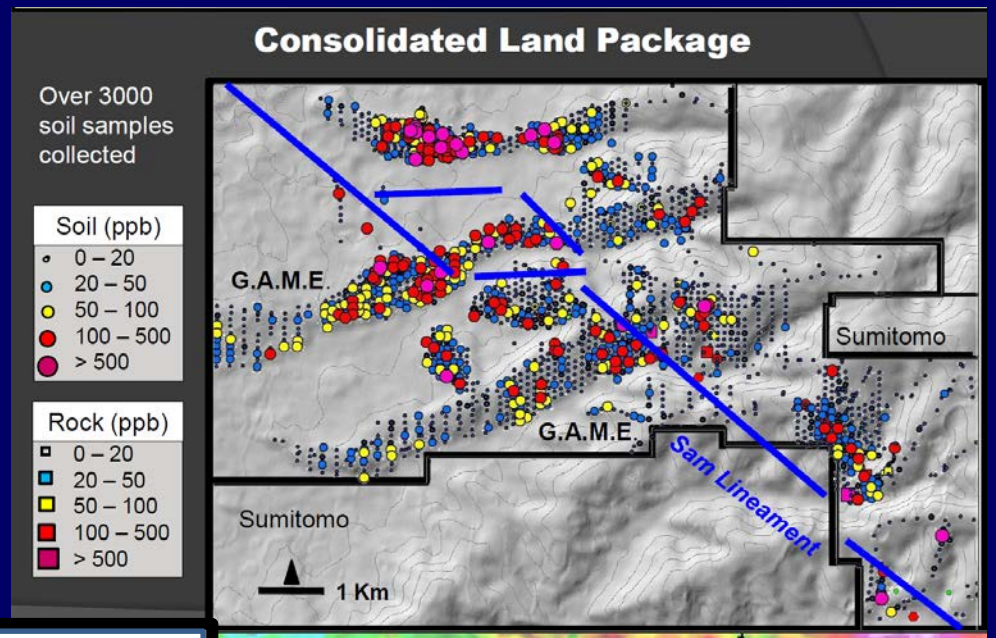
-Historical exploration ~US$22 million

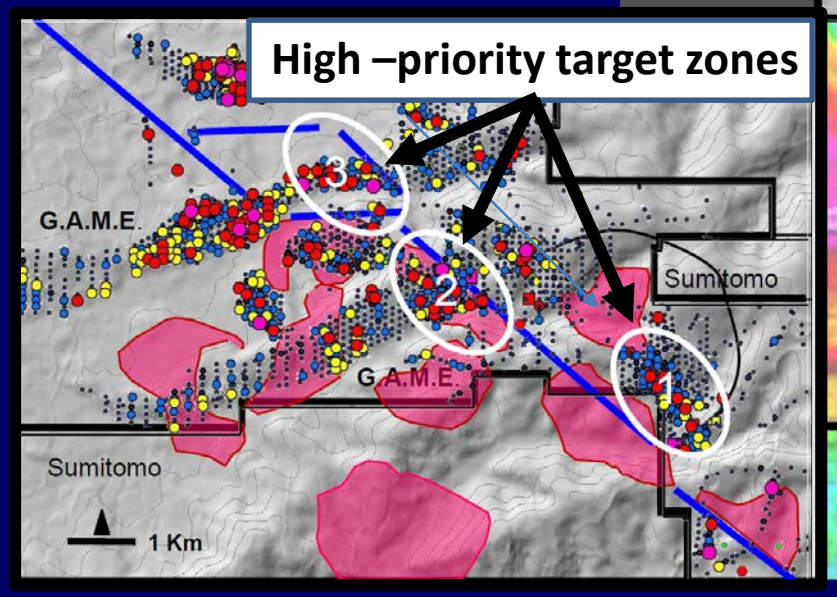
-Naosi non-NI43-101 resource: 3.42 million Au-Eq oz.

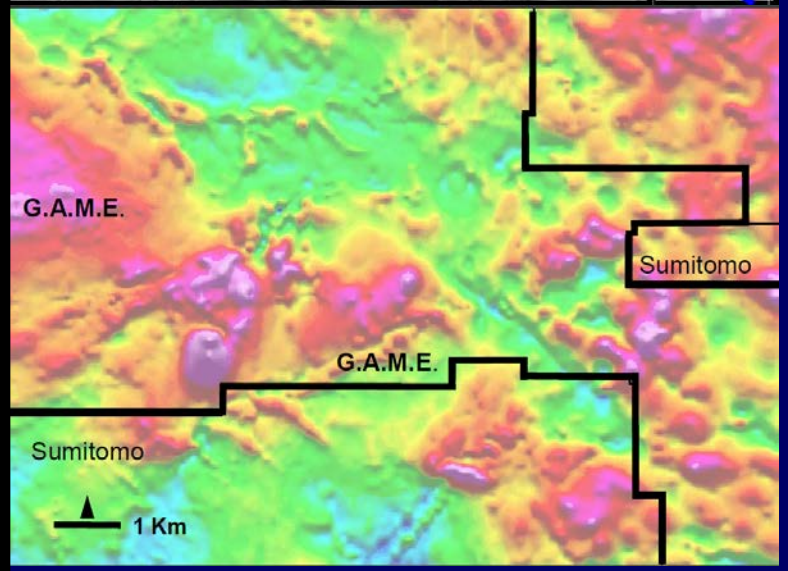
->20 discrete Au targets; excellent infrastructure; west of Pogo mine

-NW-trending & low-angle structures; intrusions; As-Au-Bi-Sb sediment signature

2017 plans:
-Winter drilling program

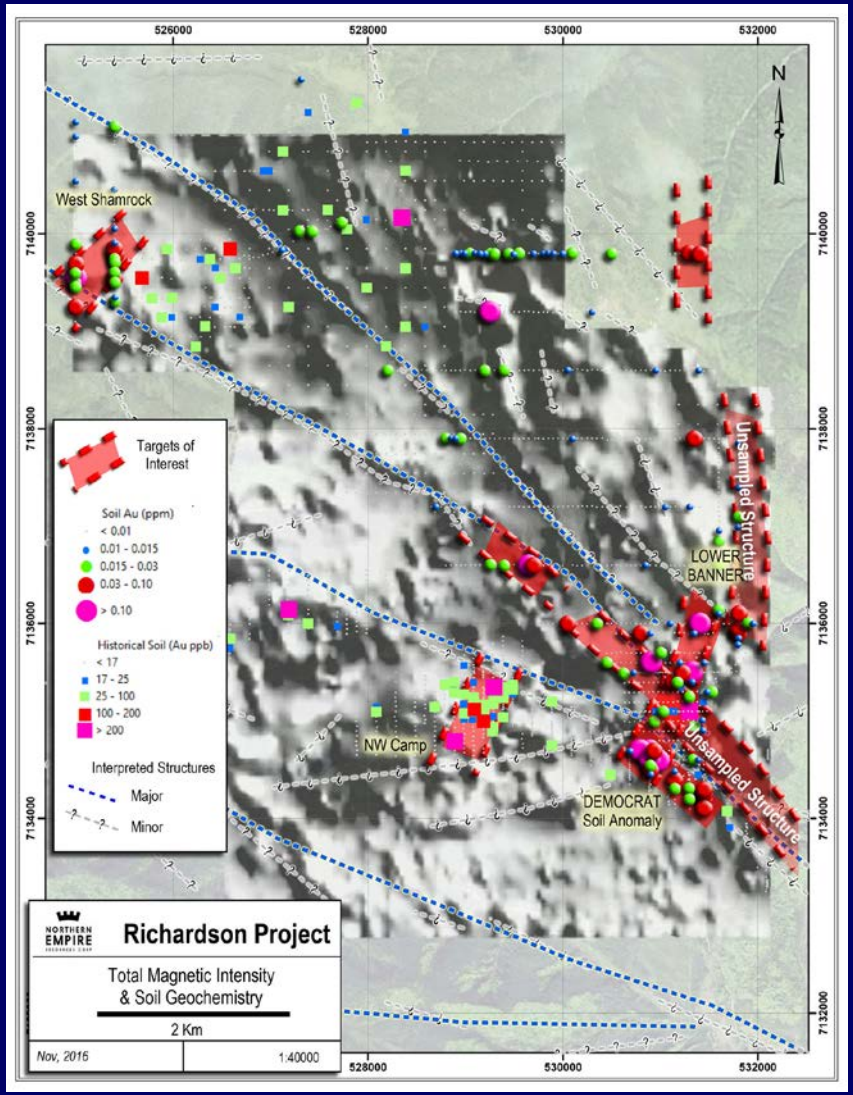


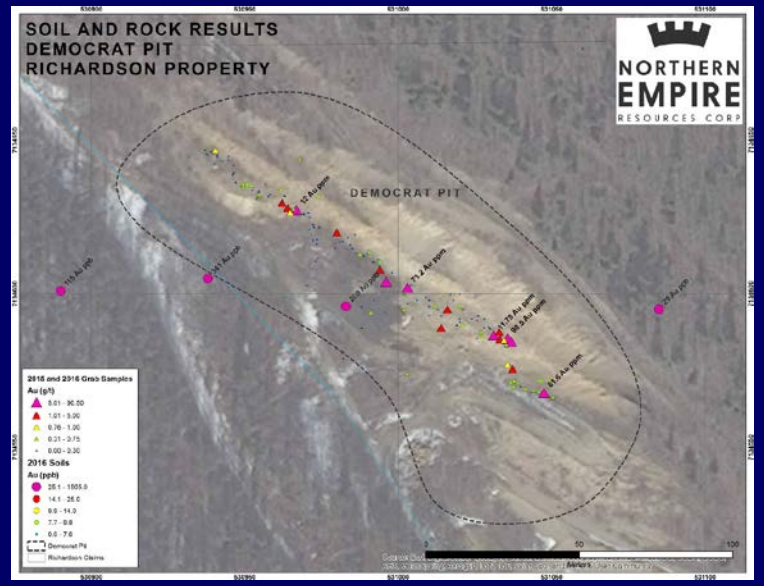




Richardson [Northern Empire Resources Corp.]

http://www.northernemp.com/projects/





-Road access, high-transmission power lines

-Historical Democrat lode gold mine hosted by 90 Ma quartz-feldspar-porphyry dike

-Multiple intrusion-related, as well as low- and high-angle fault-hosted lode gold prospects

-Au + Ag + As + Sb + Bi signature

2016 program:

-Rock chip-channel samples, 1-m intervals across 130 m, in Democrat lode. One 32-m-long sample = 5.73 g/tonne Au, 29.8 g/tonne Ag, including 6 m of 18.33 g/tonne Au, 48.95 g/tonne Ag

-Collected 1,298 soil samples

-Trenching, prospecting, ground geophysics, identifying structures in airborne geophysics, re-logging historic core holes, delineating future drill targets

https://www.millrockresources.com/

West Pogo project [Millrock Resources Inc.]

-Located immediately west of Pogo Mine; Pogo road on claims

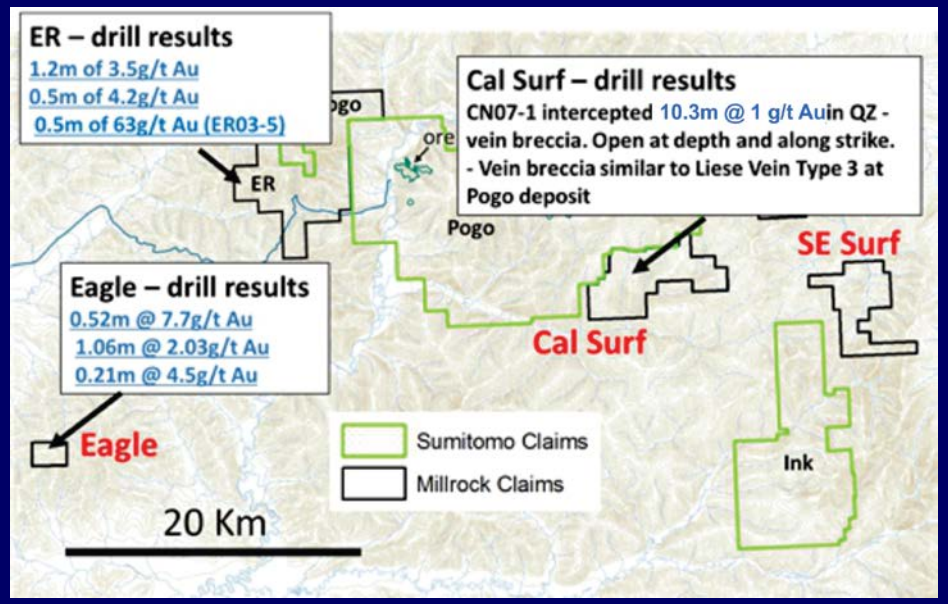
-Consolidated ER, Aurora, Hansen, & Corvus properties + staked new claims

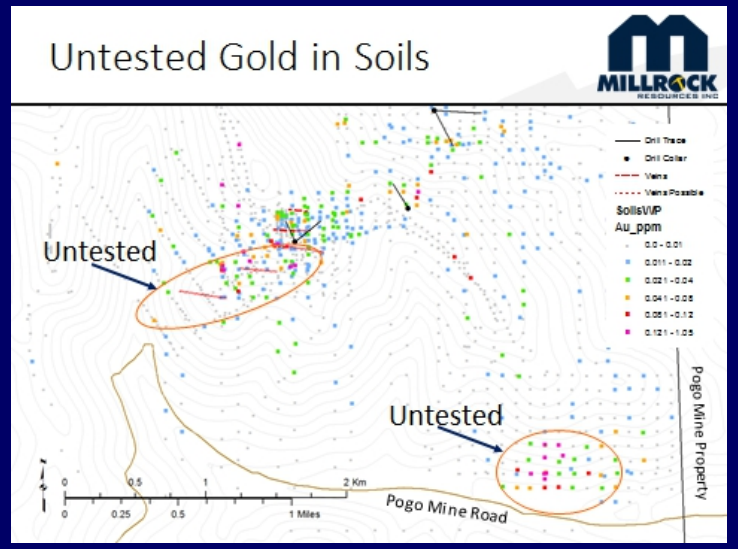
-**2016 program:** ~US$250,000

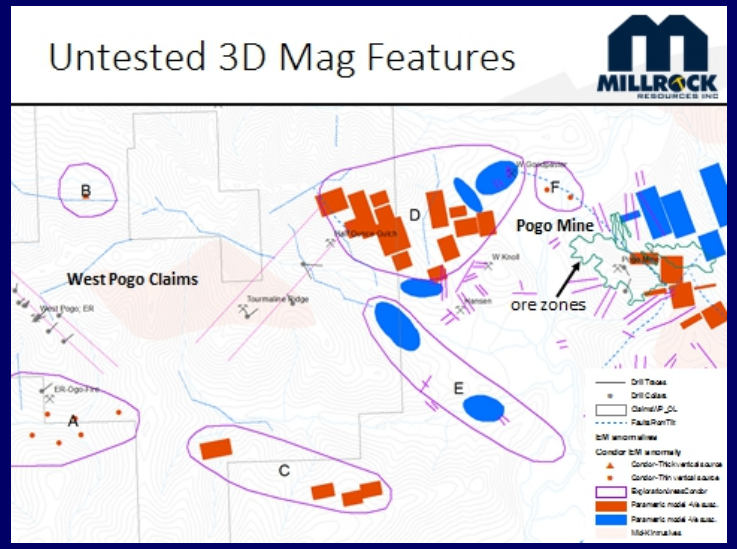
-Re-logged core, surface geology, soil/rock sampling, & SWIR study of both core and surface samples (>930 spectra)

-Defined NE-SW corridor of anomalous Au values and several E-W quartz vein systems as well as a small, low-angle, NW-dipping quartz vein with similar characteristics to the tabular bodies at Pogo

View of Pogo Mine from West Pogo claims







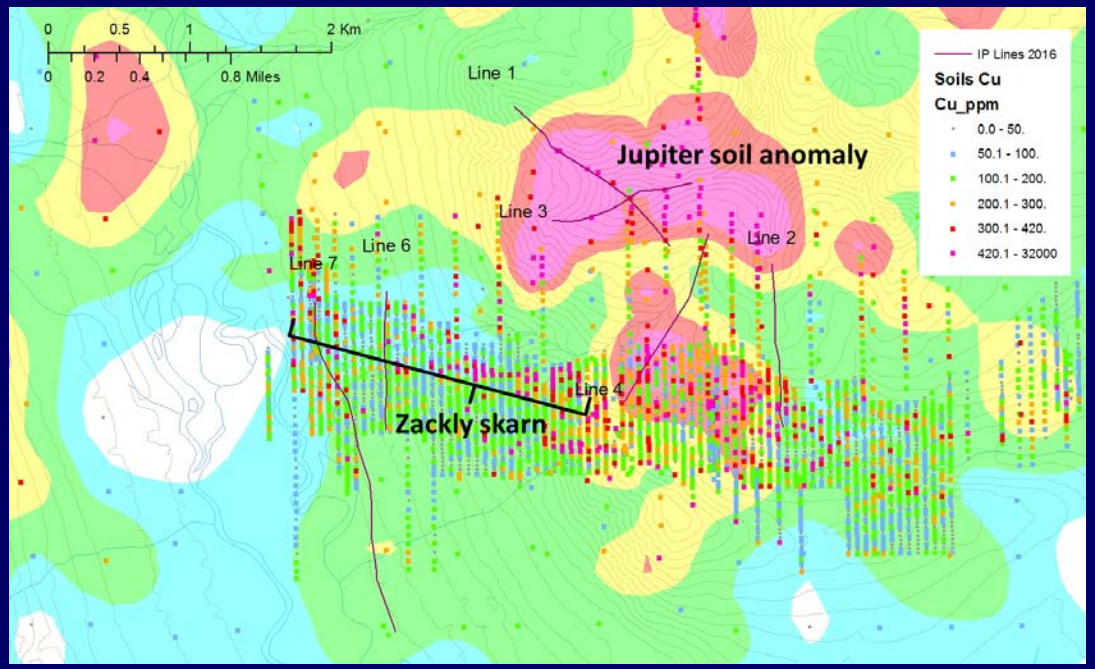
Stellar project [Millrock Resources Inc./Vista Minerals Party Ltd.]

http://www.millrockresources.com/projects/alaska/

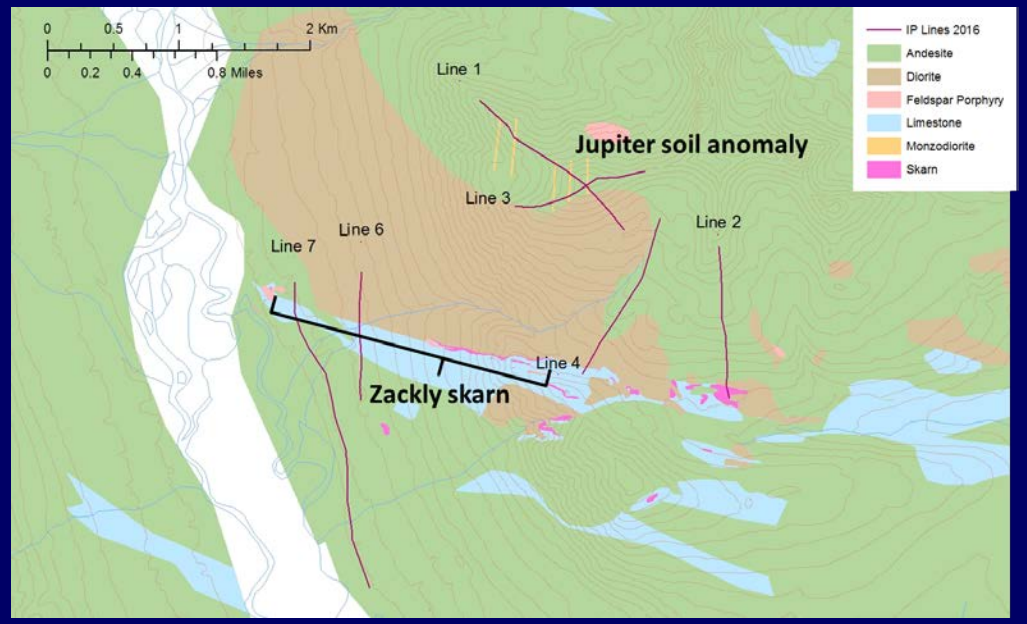
-Road accessible, north of Denali Highway
-Multiple porphyry copper and skarn targets
-JV with Vista Minerals Pty Ltd.

2016 program:

- 7 lines of IP over Jupiter Cu and Zackly Cu-Au skarn
- Chargeability anomalies within Cu-in-soil anomalies



Contour map of widely spaced Cu-in-soils overlain by detailed sampling results; pink = 420 to 32,000 ppm Cu

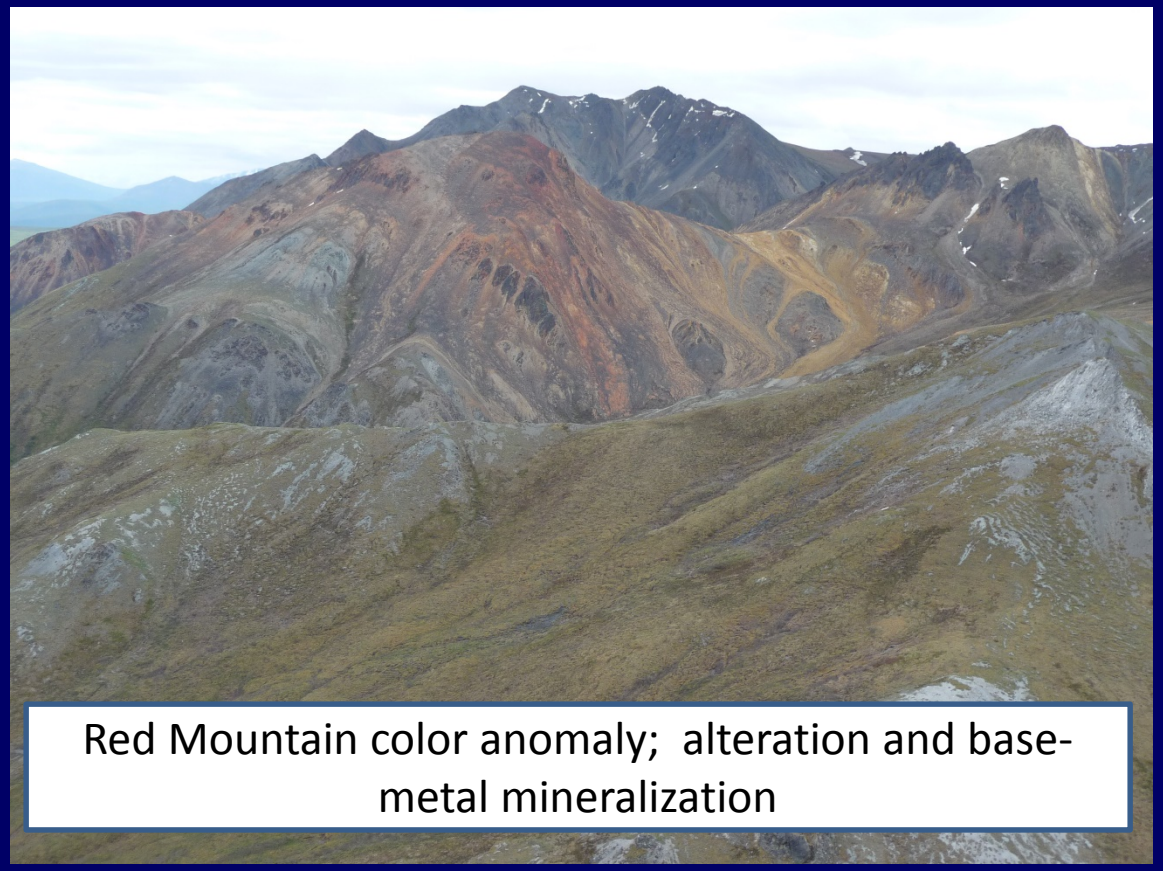


IP survey lines (red) crossing geochemical anomalies and key geologic contacts

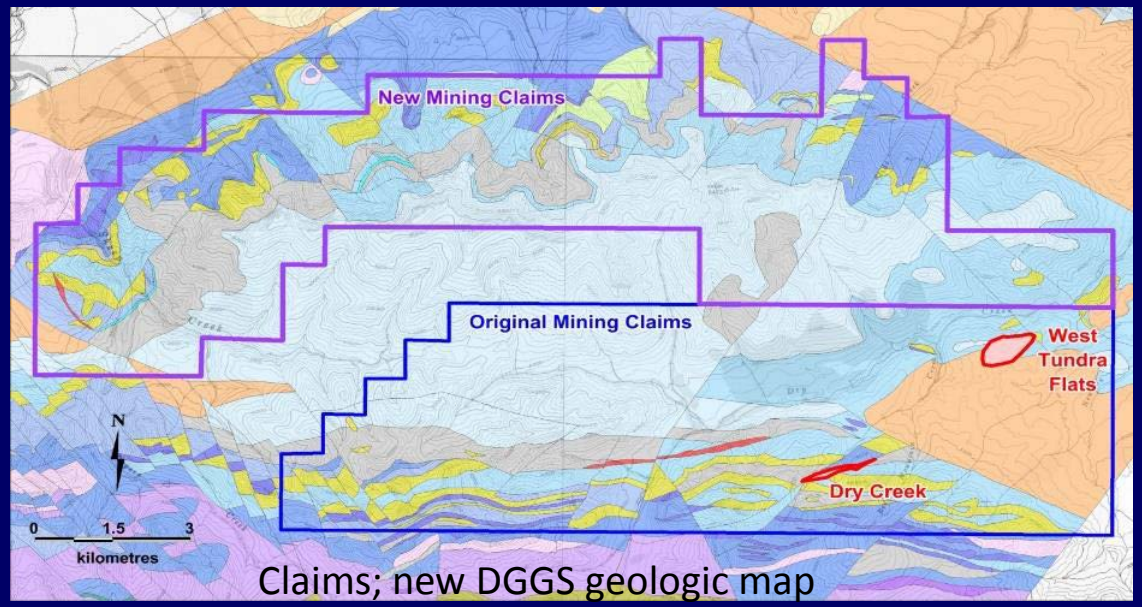
http://www.whiterockminerals.com.au/

Red Mountain/Dry Creek [White Rock Minerals Ltd.]

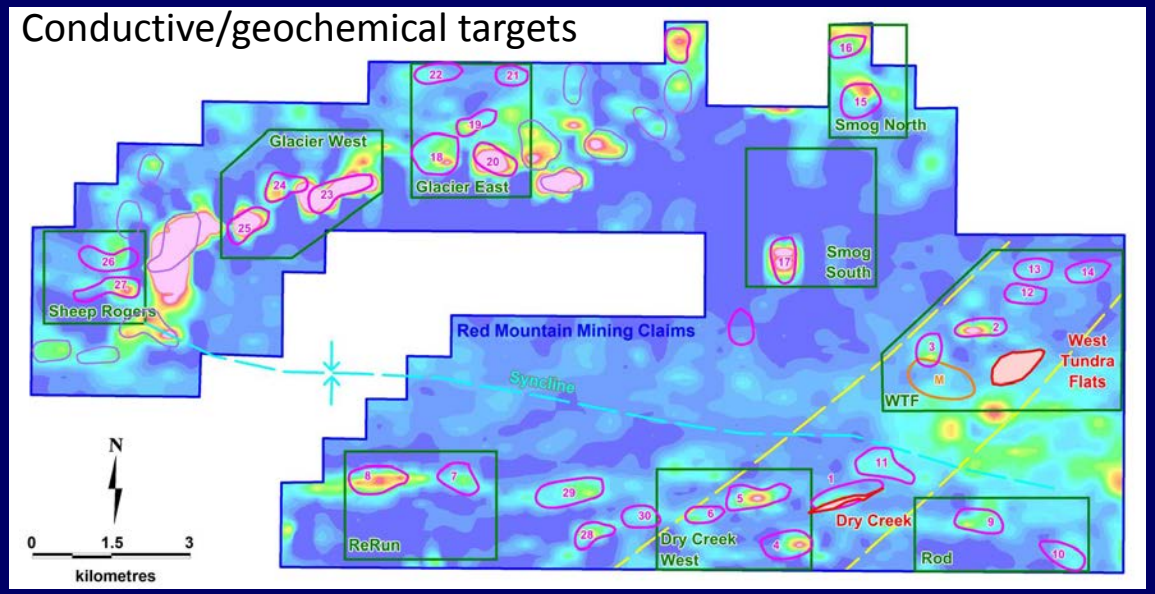
-Bonnifield VMS district (Zn-Ag-Pb-Au-Cu)
-Airborne magnetic & electromagnetic survey coverage
-2 known VMS deposits (West Tundra Flats & Dry Creek)
-In 2016: staked claims; identified 30 priority conductivity + geochemical targets for follow-up work



Red Mountain color anomaly; alteration and base-metal mineralization



Claims; new DGGS geologic map



Opal [Porterfield]

-Au-bearing, polymetallic quartz veins hosted in white mica-altered, 52 Ma, tonalite-sill

-High Au grades; up to 7 opt; visible gold common; associated with galena, sphalerite, pyrite, arsenopyrite

-Exploring high-angle shear zones cutting sill and pods at wall-rock contact at top of sill

-Road access, steep terrane

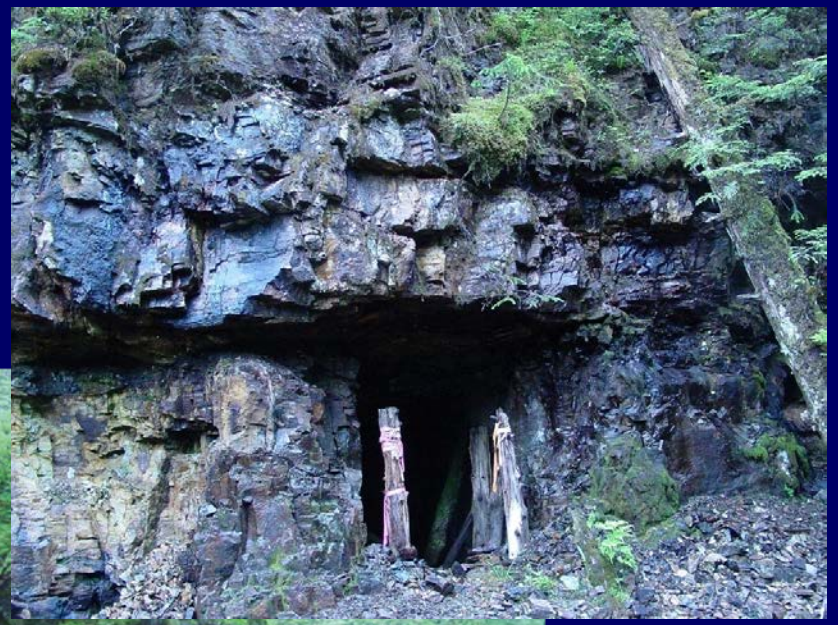
Banded, high-grade Au vein

Bucket-pulley system for sample transport

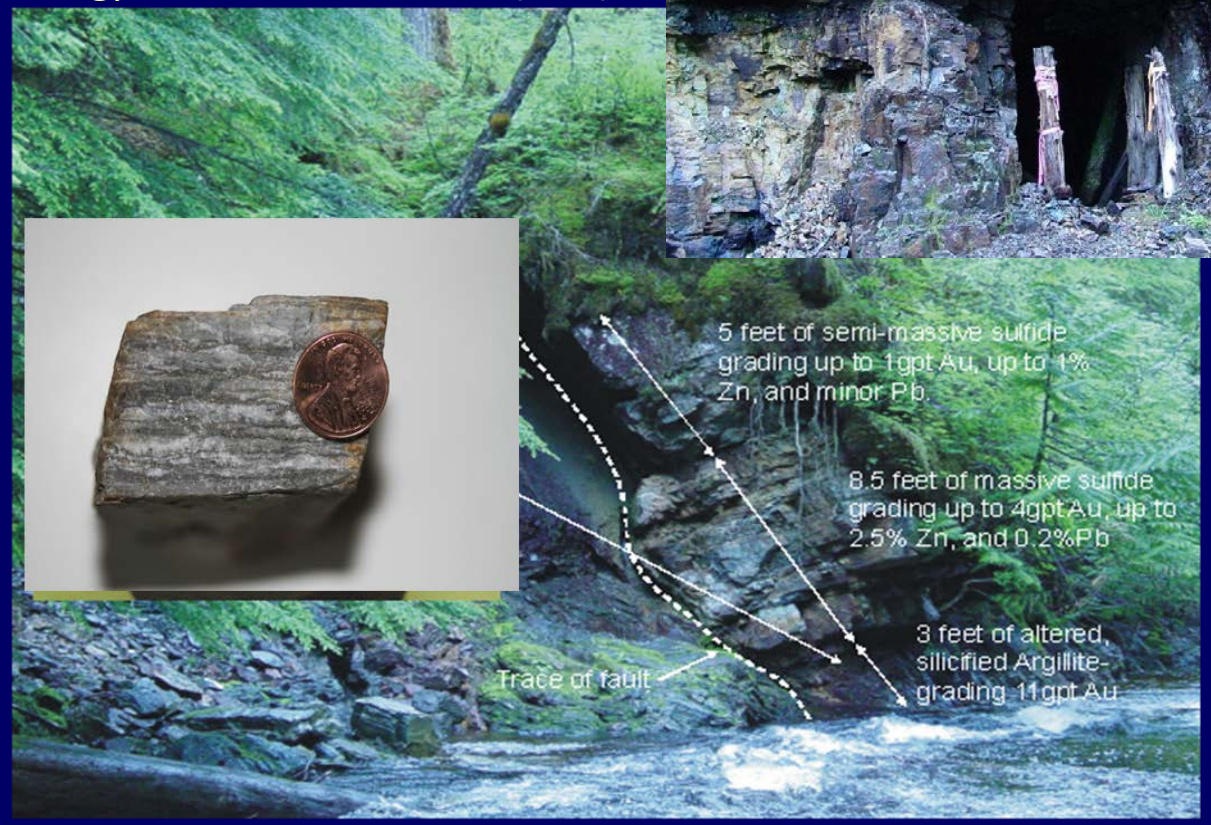
White mica-altered tonalite sill

Zarembo [Zarembo Minerals Co. LLC]

Frenchie prospect



Massive & semi-massive sulfides
W of Main Frenchie Showing
4.36 gpt Au over 16.5 feet (5 m)



-Similarities to Greens Creek Mine (VMS)

-Widespread Pb-Zn-Ag-Au anomalies

-Bedded, semi-massive to massive, precious-metal-enriched, Zn-Pb-Cu sulfide mineralization in pervasively quartz-sericite-altered metasedimentary/metavolcanic host rocks

-Airborne geophysical survey (DGGS, 1996)

2016 program:

-Better defined Au grade and distribution

-Conducted metallic-sieve analyses; 92% of Au in re-analyzed samples is in coarser, plus-80-mesh size fraction, which is normally discarded in a standard gold fire assay.

-Previously sampled, 16-foot-thick outcrop now grades 4.4 g/t gold, up to 4% Zn, and minor Pb and Ag

Alaska
Division of Geological & Geophysical Surveys

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www.dggs.alaska.gov