

# 2024 Alaska Mining Industry Overview – Rocking The Arctic



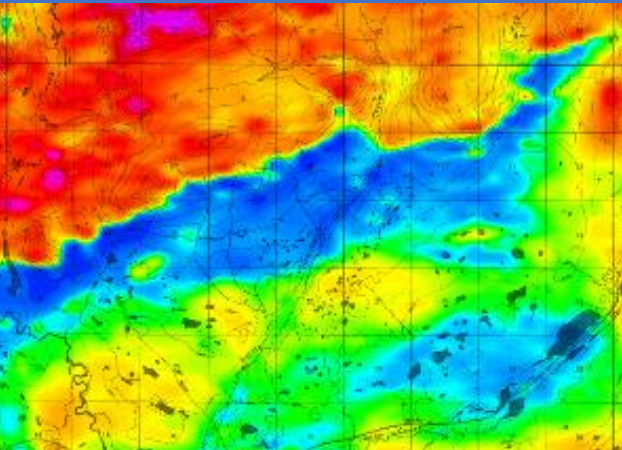
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AME Roundup

January 20, 2025





# ACKNOWLEDGEMENTS



## Thank you

- Data and images from Alaskan mining and exploration companies
- Presentation and interpretation of data collected is solely the author's responsibility
- Incomplete full year picture at this time (volumes and values are preliminary estimates)
- Many more projects were active than can be mentioned due to time constraints



# PRELUDE



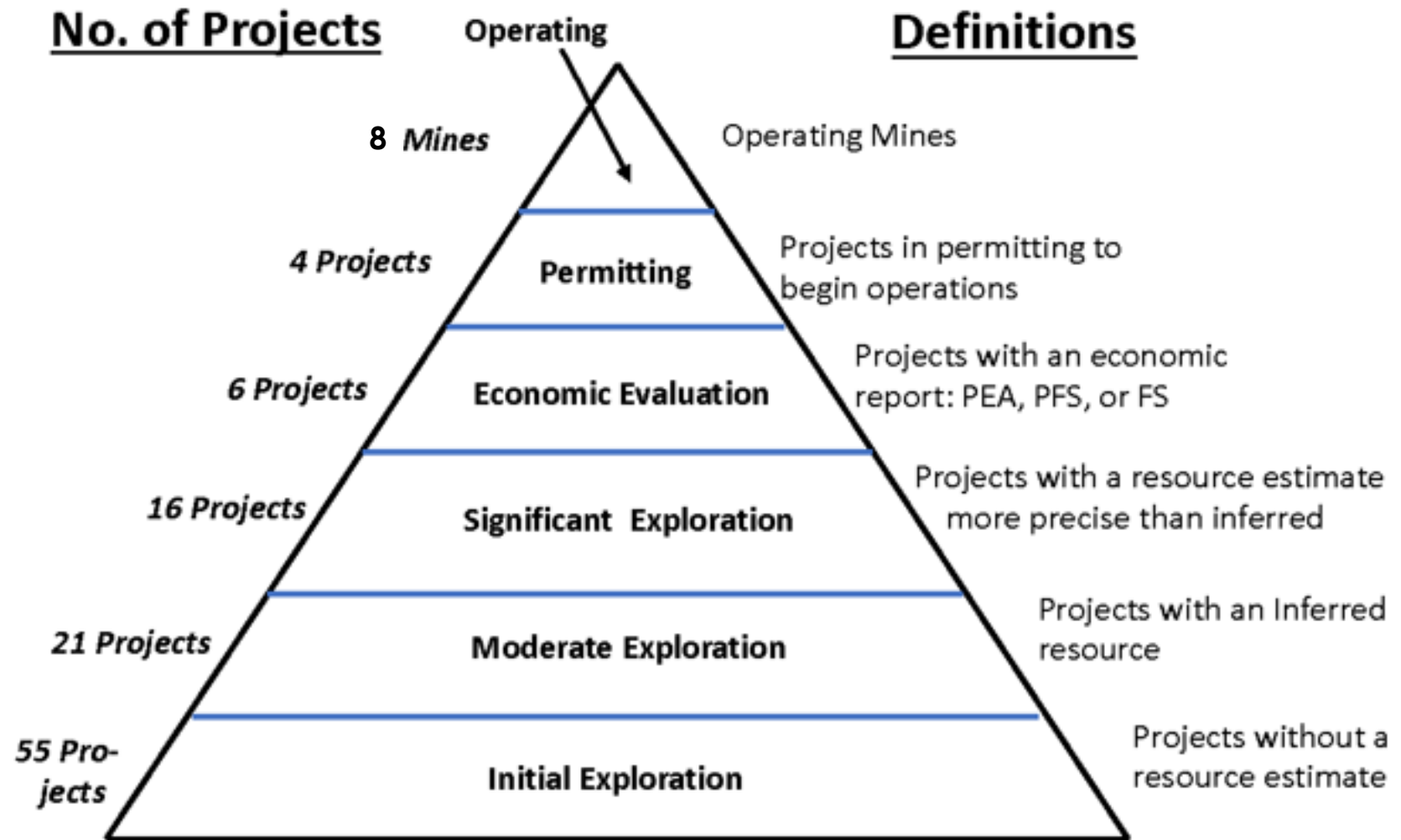
- Alaska is BIG and has enormous mineral potential
- 773,354 sq km (191.1 million acres) of Alaska open to mining (more than mineral entry lands of British Columbia)
- Alaska has diverse geology with associated diverse mineral endowment
- Exploration for various minerals will likely create the opportunity to discover or leverage other mineral commodities (like critical minerals, hydrogen capture, etc.)



# Alaska Mine Development Pyramid



- Significant investment needed to move a project up the pyramid
- Large number of mineral exploration projects needed to overcome low odds of an eventual mine developing



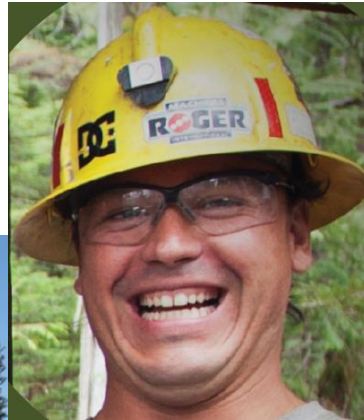
*Credit: Loeffler and Watson*





# AK MINERAL INDUSTRY ECONOMIC BENEFITS

- \$1.1 billion to 450+ local businesses for goods and services
- \$50 million in local-tax and \$136 million in state-government revenue for libraries, road repairs, airports, schools, public safety
- \$235 million in royalty payments to Alaska Native Corporations
- \$4.5 million in charitable contributions to ~280 non-profits
- \$1.5 million to University of Alaska and vocational schools for education and workforce development
- 11,400 total direct, indirect, and induced jobs
- 72% Alaska resident hire at large mines, with employees from 90+ communities
- \$1 billion in wages statewide



Source: McKinley Research Group - 2023 update

# 2024 ALASKA MINERAL PRODUCTION SUMMARY

**7 lode mines**  
**1 coal mine**  
**~ 150 placer Au mines**  
**~ 50 exploration projects**  
**80 active sand and gravel operations**

## 2024 Mineral Production (Estimated)

Zinc (Zn)	567,000 – 620,000 tonnes
Lead (Pb)	104,500 – 123,000 tonnes
Gold (Au)	753,000 – 812,000 troy ounces
Silver (Ag)	14 - 16 million troy ounces
Copper (Cu)	1,400 – 2,300 tonnes
Coal	910,000 tonnes
Industrial Minerals	680,000 tonnes Rock 5.9 million tonnes Sand & Gravel

**Red Dog**  
**520 - 570 Ktonnes Zn**  
**90 - 105 Ktonnes Pb**  
**~5-7 M oz. Ag**  
**By-product Germanium**

**Fort Knox & Gil mines**  
**320 - 350 Koz. Au**

**Pogo**  
**260 -270 Koz. Au**

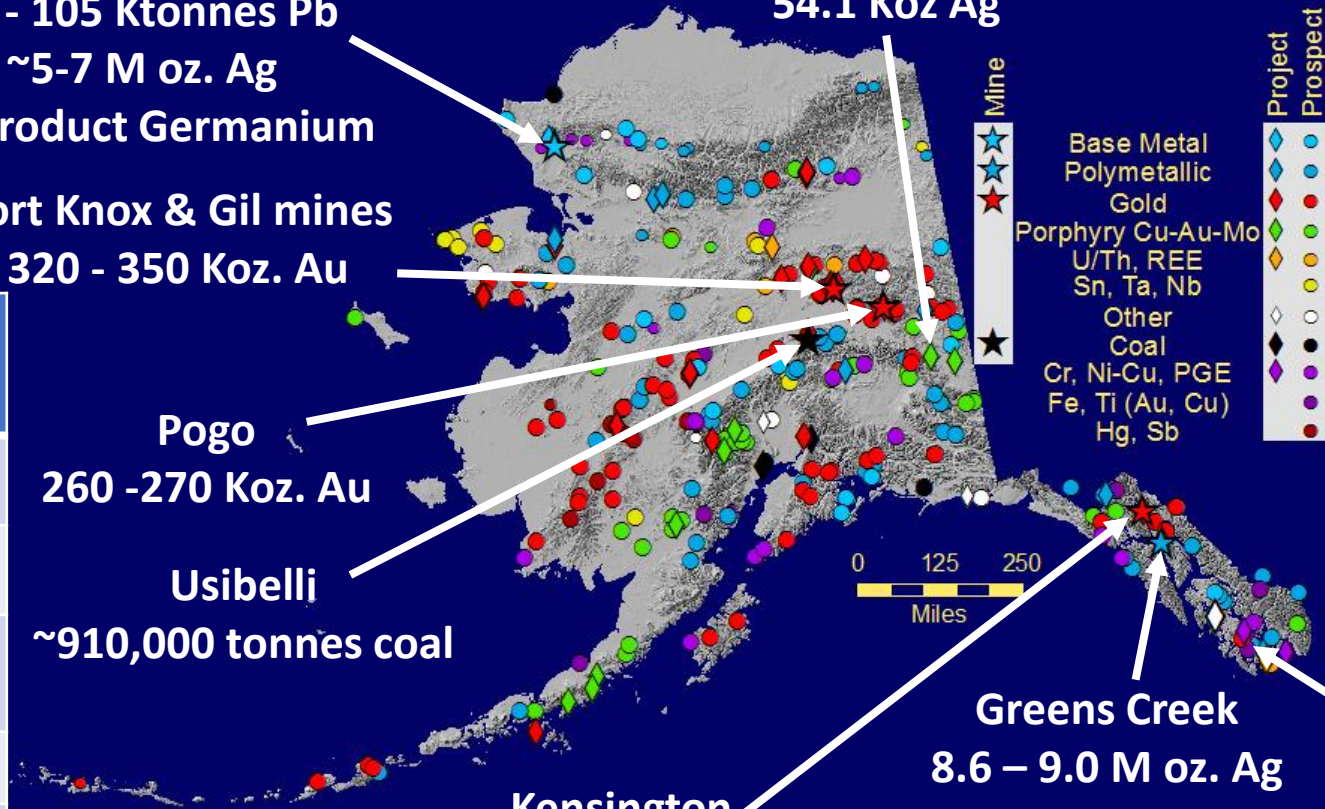
**Usibelli**  
**~910,000 tonnes coal**

**Kensington**  
**92 - 106 Koz. Au**

**Manh Choh**  
**140 Koz Au**  
**54.1 Koz Ag**

**Greens Creek**  
**8.6 – 9.0 M oz. Ag**  
**46 - 51 Koz. Au**  
**45 - 50 Ktonnes Zn**  
**14.5- 18 Ktonnes Pb**

**Dawson Mine**  
**~12,500 oz. Au**



**2024 Production Value - ~\$3.7 B– \$4.1B**



# TECK ALASKA - RED DOG MINE



**Sediment-hosted Zn-Pb-Ag deposit, open-pit**

Largest critical minerals mine in the United States

600 direct jobs and 700 contractors (52% NANA shareholder)

Open pit; Began operating in 1989

Mine life through 2031

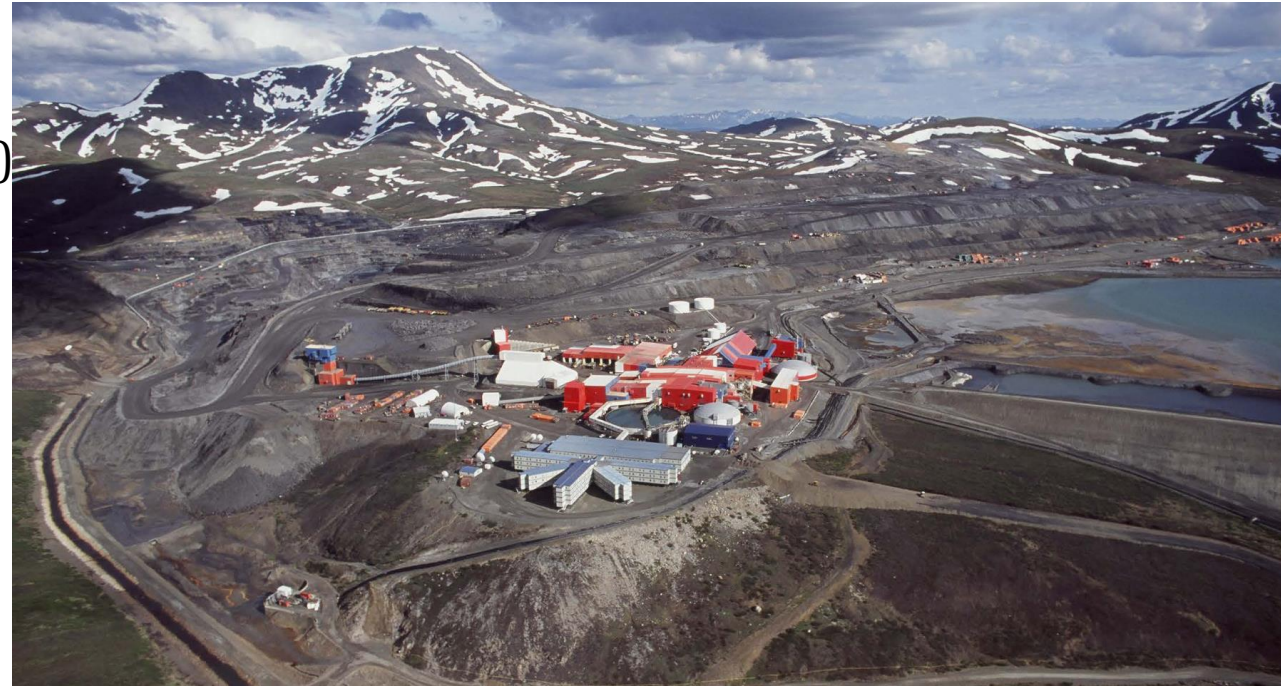
## 2023 Production:

539,800 tonnes Zn,

93,400 tonnes Pb

~6.5 million ounces Ag

By-product germanium

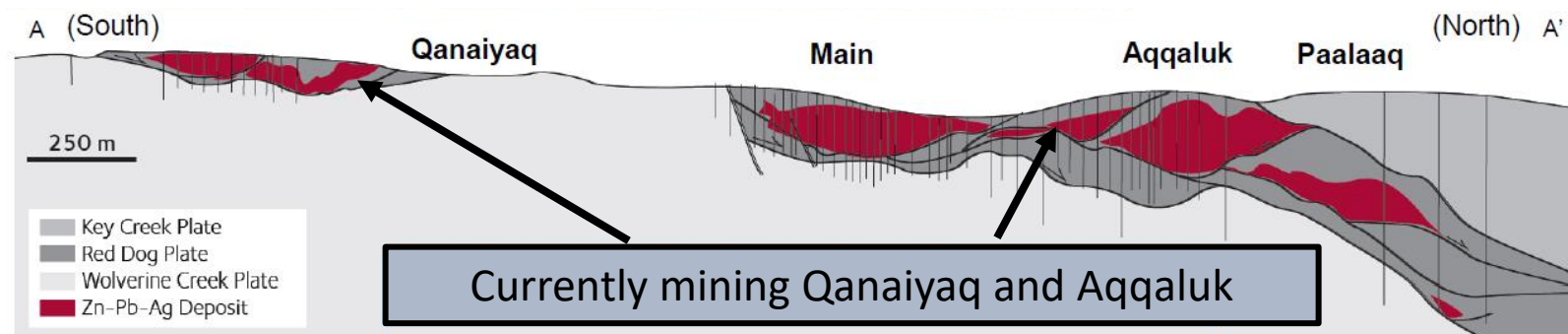


2024 Red Dog zinc production forecast at 520,000-570,000 tonnes, with 90,000-105,000 tonnes lead (with continued decreased production in 2025-27)

*Data from Teck, 2024*

-Ore grade for first 3 Quarters of 2024 averaged 15.5% Zn and 4.8% Pb

Dec. 31, 2023	Million Tonnes	Zn %	Pb %	Ag g/T
Reserves	34.3	12.0	3.4	63.9
Indicated	7.8	7.6	5.8	100.0
Inferred	9.0	12.6	4.5	88.4
<b>Total</b>	<b>51.1</b>	<b>11.8</b>	<b>3.9</b>	<b>76.9</b>





# KINROSS ALASKA - FORT KNOX MINE



Open-pit gold mine; intrusion hosted, 9+Moz

730 employees and 300 contractors

## 2024 production:

272,357 ounces produced thru 3rd Q (include Manh Choh)

320,000-350,000 ounces expected 2024 production

## Gilmore (West-Pit) Expansion

-Extends mine life through 2027, with continued exploration

## Development:

Mill modifications continued for Manh Choh ore

## Exploration:

Testing extent and continuity of higher-grade ore-shears outside of current resource shell & exploration in district



**Gilmore  
Expansion**

“new”  
Barnes Creek  
Heap Leach Pad



Reserves & Resources (Dec. 31, 2023)	Million Tonnes	Au g/T	Ounces Au (million)
P&P reserves	136,623	0.4	1,586
Measured & Indicated	70.269	0.3	0.747
Inferred	19.265	0.3	0.193
<b>Total</b>	<b>313.6</b>	<b>0.36</b>	<b>2.526</b>

*Data from Kinross, 2024*



# KINROSS/CONTANGO ORE – MANH CHOI (PEAK)

Open-pit; Au-Ag-Cu skarn; Tetlin tribe native land

**First gold pour on July 8, 2024 54,000 oz Au & 11,600 oz Ag**

**Lawsuit filed by NGO on October 23, 2023 against SOA DOT regarding ore haulage on Alaska highway system (~225 miles)**

Kinross 70% interest: Contango ORE retains 30% interest

- Truck ore 225 mi north to Fort Knox mill (NE of Fairbanks), ~3,000 tons/day
- Utilizes existing mill and infrastructure at Fort Knox Mine
- Will add ~220,000 oz. Au/year to Fort Knox production for planned 5 years
- Planned production mid-2024 – 2028, 500-600 jobs in Tok and Fairbanks areas

2024 Manh Choh production - 3 ore batches processed = 139,000 oz Au, 54,380 oz Ag



Reserves & Resources (Dec. 31, 2023)	Million Tonnes	Au g/T	Ounces Au (million)	Ag g/T	Ounces Ag (million)
P&P reserves	4.121	7.6	1.013	13.5	1.784
Measured & Indicated	0.623	2.3	0.046	9.1	0.183
Inferred	0.014	4.1	0.001	10.2	0.004
<b>Total</b>	<b>4.758</b>	<b>6.9</b>	<b>1.060</b>	<b>12.9</b>	<b>1.971</b>

Data from Kinross, 2023 and Contango ORE, 2024



# NORTHERN STAR RESOURCES - POGO MINE



Data from Northern Star Resources, 2024

Underground, shear zone/quartz vein-hosted gold,  
5Moz mined, 660 Employees

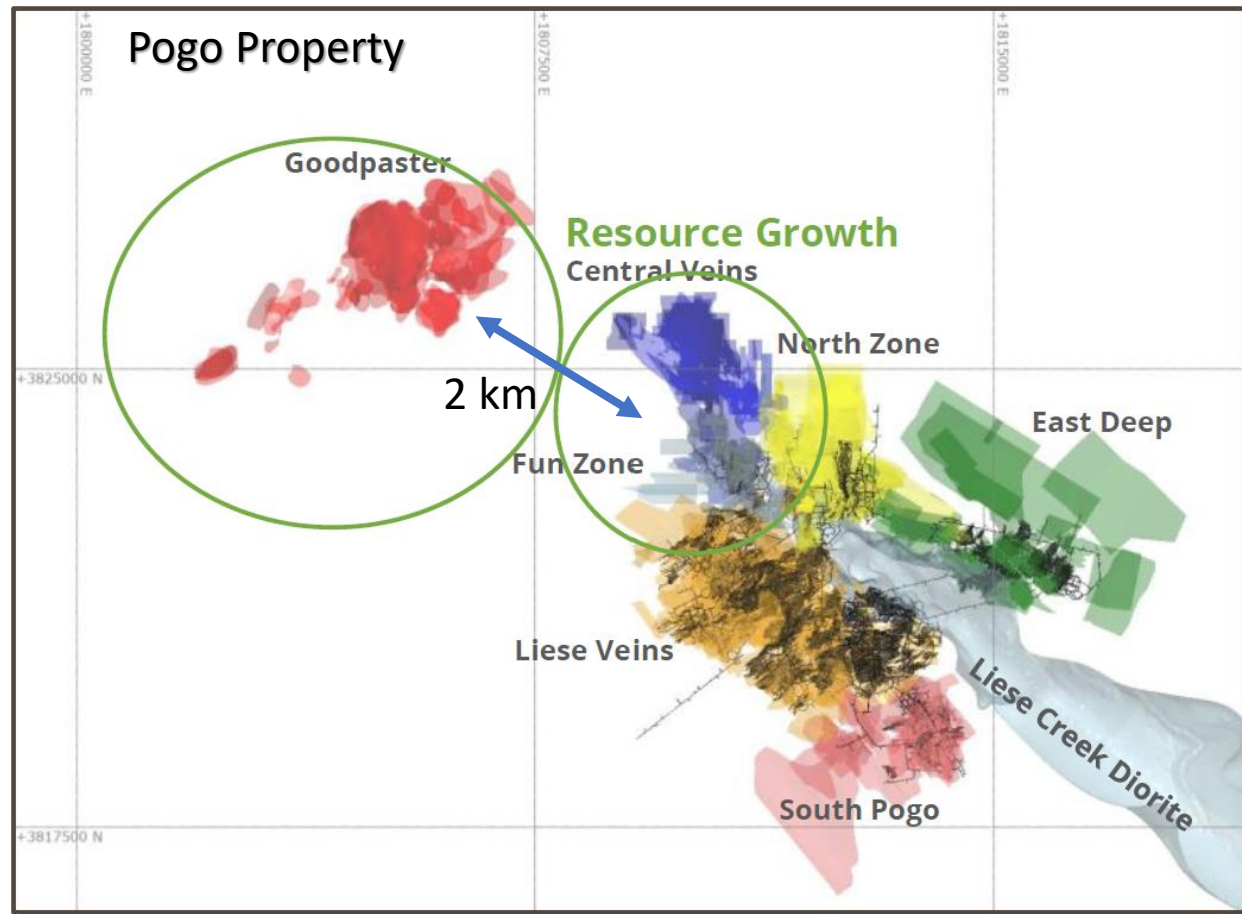
CY2024 production forecast:

- 206,641 ounces of gold produced through 3rd Q
- 260,000 - 270,000 ounces gold projected in CY 2024
- 1,015,804 T ore mined through 3rd Q
- 87% gold recovery
- 10+ Years Minelife

-Focusing on optimization initiatives to reach 300,000 oz Au annual production rate



March 31, 2024	Million Tonnes	Au g/T	Ounces (million)
Reserves	5.884	8.0	1.516
Resources (MM&I)	20.498	10.1	6.681

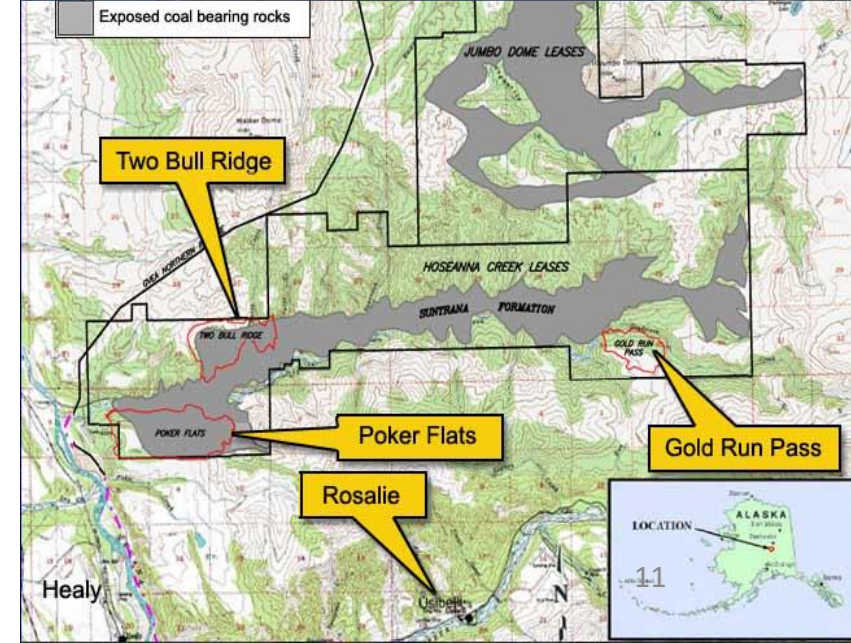




# USIBELLI COAL MINE



- **Mining since 1943**
- 2024 production steady at ~945,000 – 947,000 tonnes (1 million tons)
- Regional Interior Alaska electrical generation
- New Safety Record – 1,214 days without a lost-time accident (2024)



**Currently mining on Jumbo Dome**  
**104–110-person workforce**  
**More than 50+ years of production on current permits with future expansion potential**  
**Extending powerlines approximately 10 miles to connect Jumbo Dome to current infrastructure.**





# COEUR ALASKA - KENSINGTON MINE



Underground mesothermal gold quartz-vein system  
378 Employees

- Guidance (2024): 92,000-106,000 oz. Au
- Produced 68,740 oz. Au thru 3<sup>rd</sup> Q
- Current mine life through 2026
- Mining Kensington, Jualin, Raven, Elmira veins
- Multi-year exploration program to extend mine life
- New zone (30C) drilled in Upper Kensington Vein
- Expansion & infill: Elmira, Kensington, Johnson veins, Zone 50, Zone 10



Dec. 31, 2023	Million Tonnes	Au (g/T)	Au Ounces (million)
P&P Reserves	1.921	6.06	0.411
Measured & Indicated	2.659	8.72	0.819
Inferred	1.422	7.75	0.388
<b>Total</b>	<b>6,002</b>	<b>7.87</b>	<b>1.618</b>

Data from Coeur Mining, 2024



# HECLA - GREENS CREEK MINE



Volcanogenic massive sulfide deposit, Southeast Alaska

Dec. 31, 2023	Million Tons	Zn %	Pb %	Au opt	Ag opt
P&P reserves	10.018	6.6	2.5	0.09	10.5
Measured & Indicated	8.040	8.0	3.0	0.10	13.9
Inferred	1.930	6.9	2.9	0.08	13.4
<b>Total</b>	<b>19.849</b>	<b>7.2</b>	<b>2.7</b>	<b>0.09</b>	<b>12.0</b>



**United States Largest Silver Producer**

**495 Direct Jobs**

2023 Production:

9.731 M oz. Ag; 60,896 oz. Au; 51,496 tons Zn; 19,578 tons Pb

2024 Production Guidance – 8.6-9.0 Moz Ag, 46-51 Koz Au

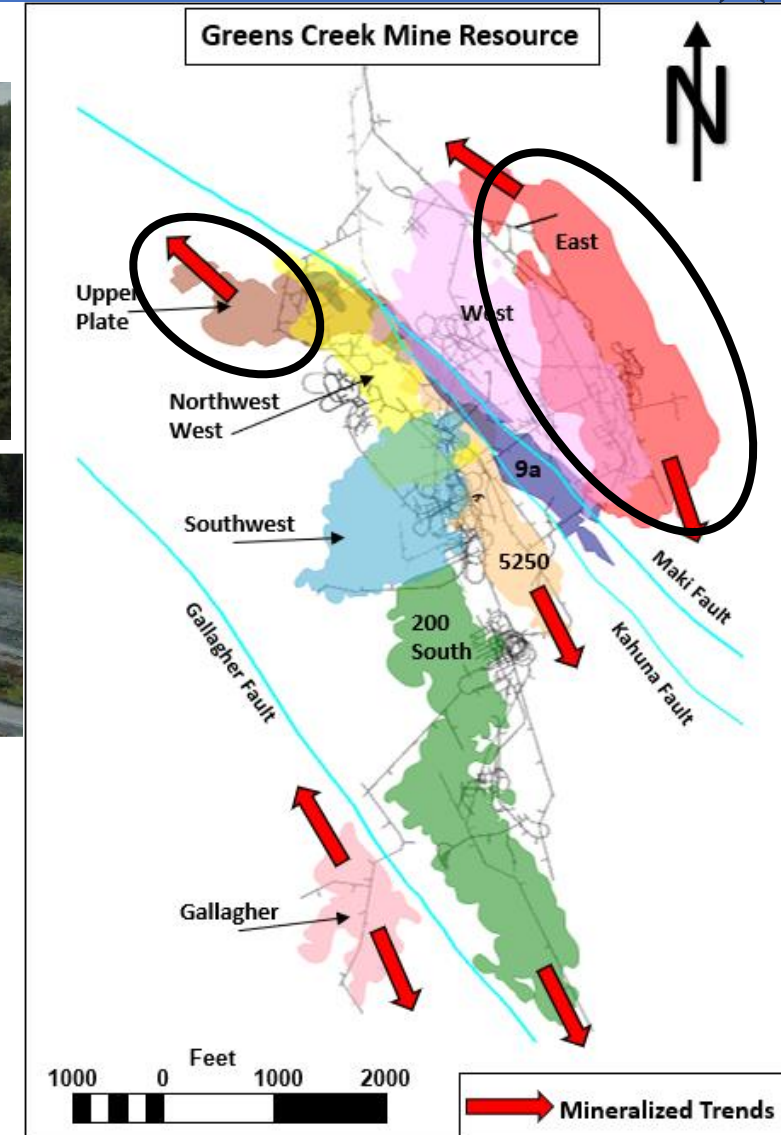
-Through 3 Quarters 2024, produced 6.58 Moz Ag, 40,471 oz Au, 13,512 tons Pb, 38,047 tons Zn, 1,447 tons Cu (**Cu added as a payable metal in 3Q**)

-Reserve-only mine life increased out to 2037

-Ore tonnes have doubled in past 15 years

-Currently mining East Ore Zone and Upper Plate reserves

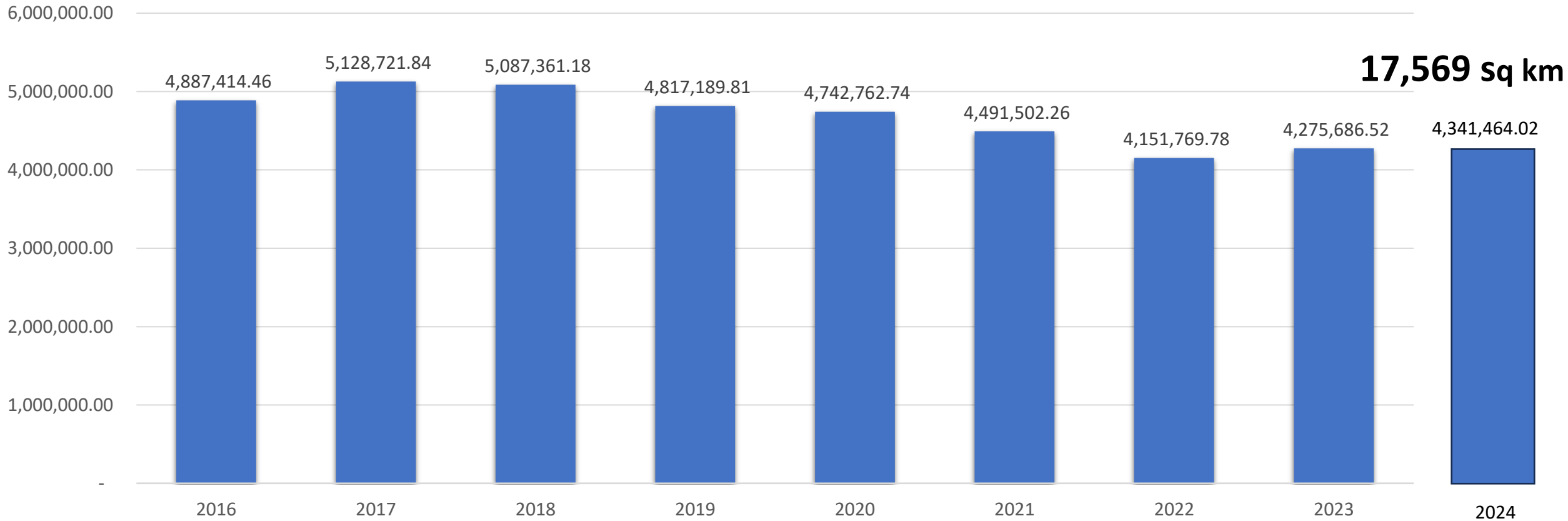
-Capital Expenditures forecast at \$50M-\$55M



# Mining Claim Acreages

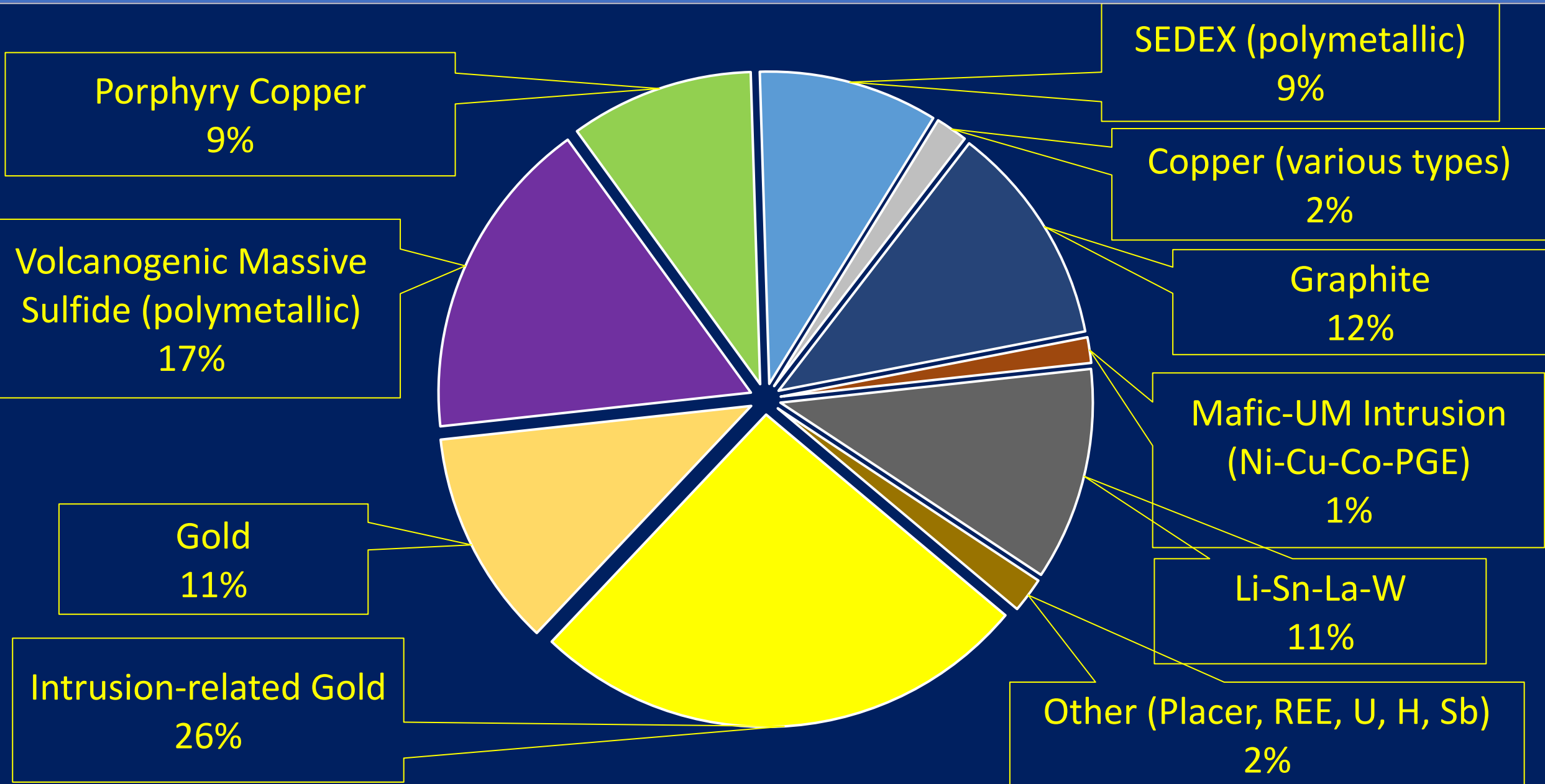


## Average Acres of Active Claims by Year

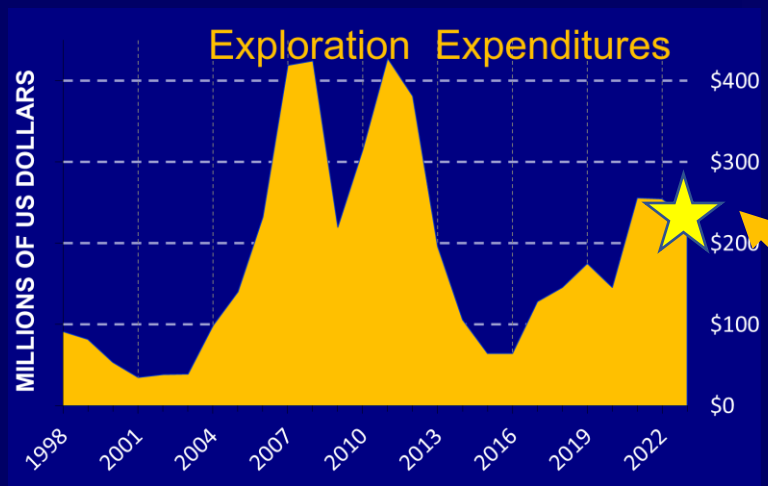
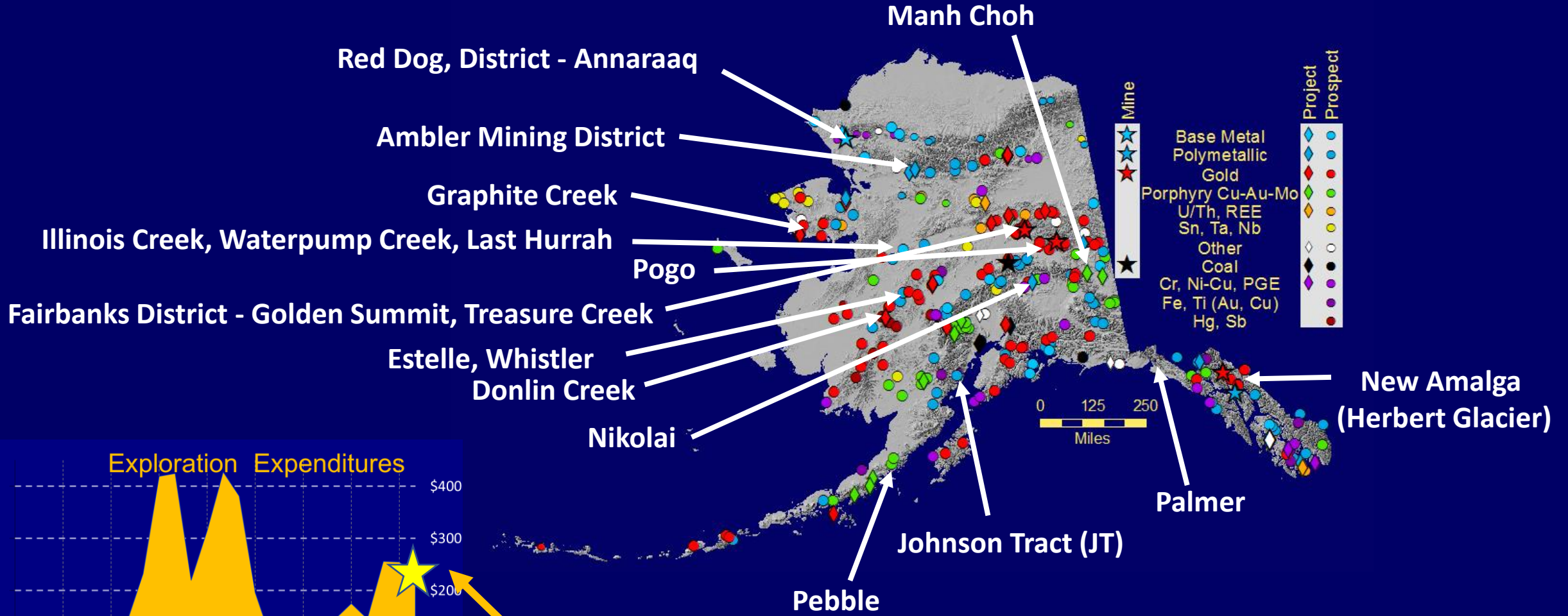




# 2024 ALASKA EXPLORATION



# 2024 EXPLORATION



~US\$230 million estimated exploration spending in 2023  
 ~US\$205 million estimated through 3 Q of 2024



# TECK - RED DOG AREA EXPLORATION



## Aktiguruq / Anarraaq / Lik(Su)

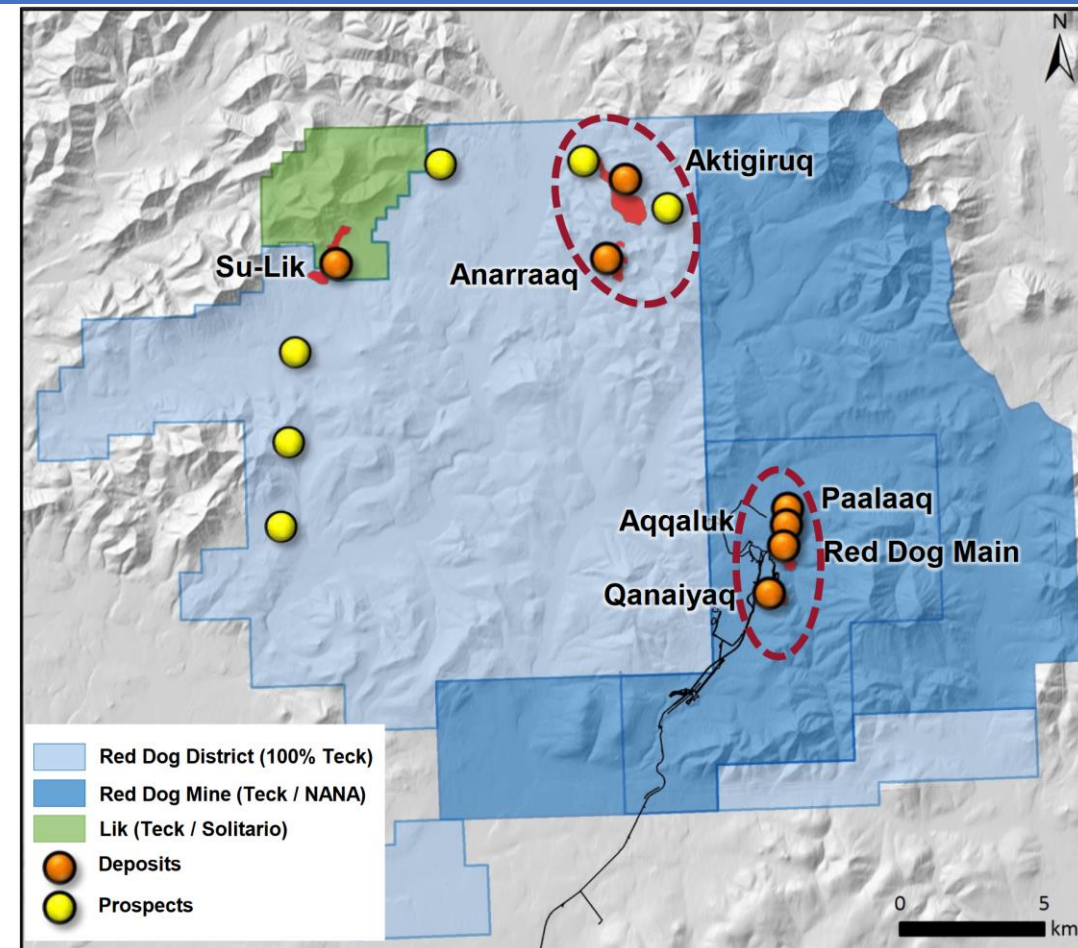
### Sediment-hosted massive sulfide (Zn-Pb-Ag-Ba) deposits

- Anarraaq inferred resource (Dec 2016): 19.44 M T @ 14.4% Zn, 4.2% Pb, 73 g/T Ag
- Aktiguruq exploration target (Sept. 2017): 80-150 M tonnes @ 16-18% Zn+Pb
- Lik(Su): Indicated Resources of 18.1 M T @ 8.1% Zn, 2.7% Pb; Inferred Resources of 5.34M T @ 8.7% Zn, 2.7% Pb

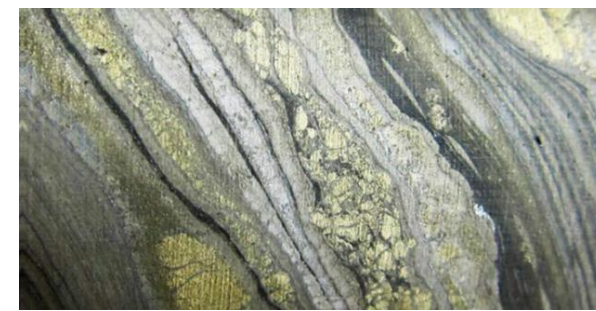
### Almost 200 MT Resource @ 16-18% Zn+Pb, with Ag and Ge

#### 2023-2024 Programs:

- Resource-definition drilling at Aktiguruq and Anarraaq
- Ore bodies are 400 to 1,000 m below surface
- Primary focus is Aktiguruq scoping-level studies for an underground mine leveraging existing mill and supporting facilities at Red Dog Mine.
- Entering PFS process.
- **Dec, 2024 federal Clean Water Act permit received for 19-km access road and related infrastructure**



350 km<sup>2</sup> of highly prospective NANA and State lands





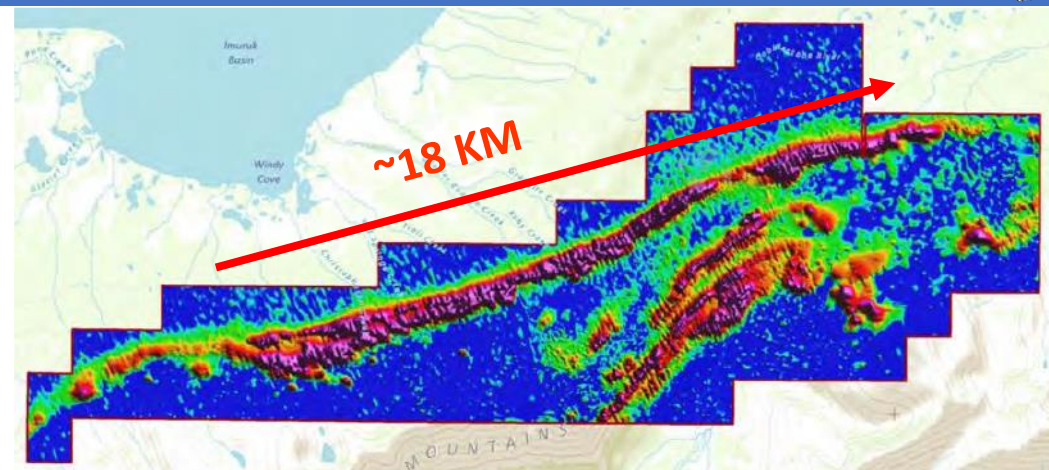
# GRAPHITE ONE – GRAPHITE CREEK



Graphite Creek, Seward Peninsula, Alaska

- USA's largest large-flake graphite deposit
- only 6.9 km of 18 km long geophysical anomaly explored to date

2023	Tonnes (Million)	Cg %	Graphite (M Tonnes)
Measured	5.63	5.75	0.32
Indicated	31.96	5.03	1.61
Inferred	243.70	5.07	12.34
<b>Total</b>	<b>281.29</b>	<b>5.08</b>	<b>14.27</b>



~18 km of potential revealed by Time-Domain EM Survey (red=conductive graphitic units)

## 2024 program:

- Accelerated Feasibility Study with \$37.5M U.S. DoD grant to release by Q1 2025
- 31-hole, 3,525 m drilling program  
(12.1 m @ 6.6% C, 6.7 m @ 18.6% C, 10.8 m @ 8.9% C)
- Planned permitting to begin in 2025-2026
- Offsite work focused on securing an advanced graphite material and battery anode material manufacturing plant located in Warren, Ohio.

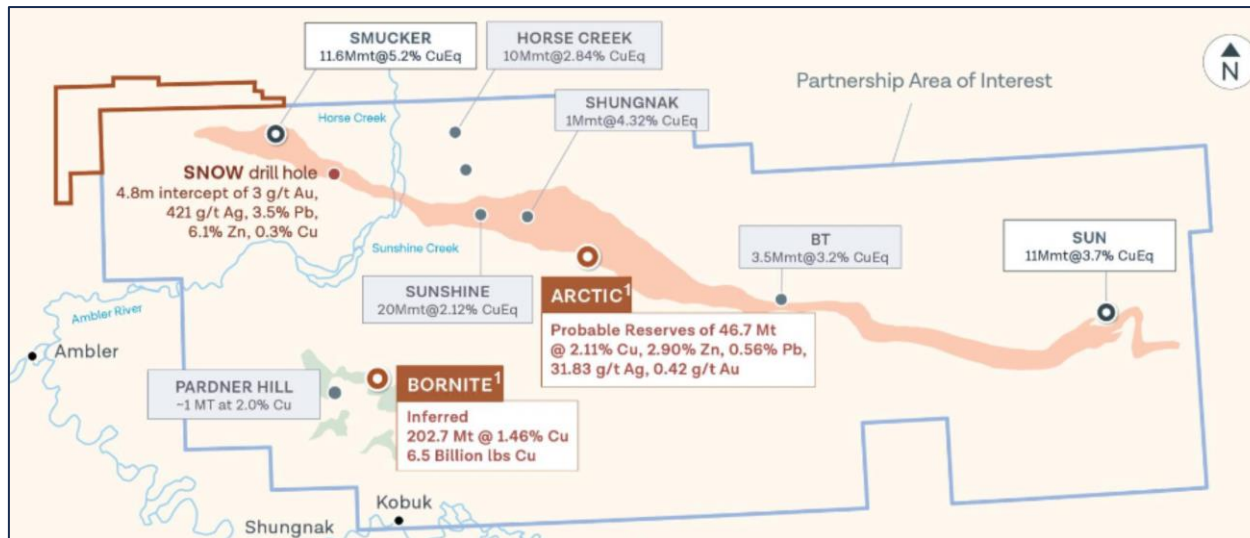
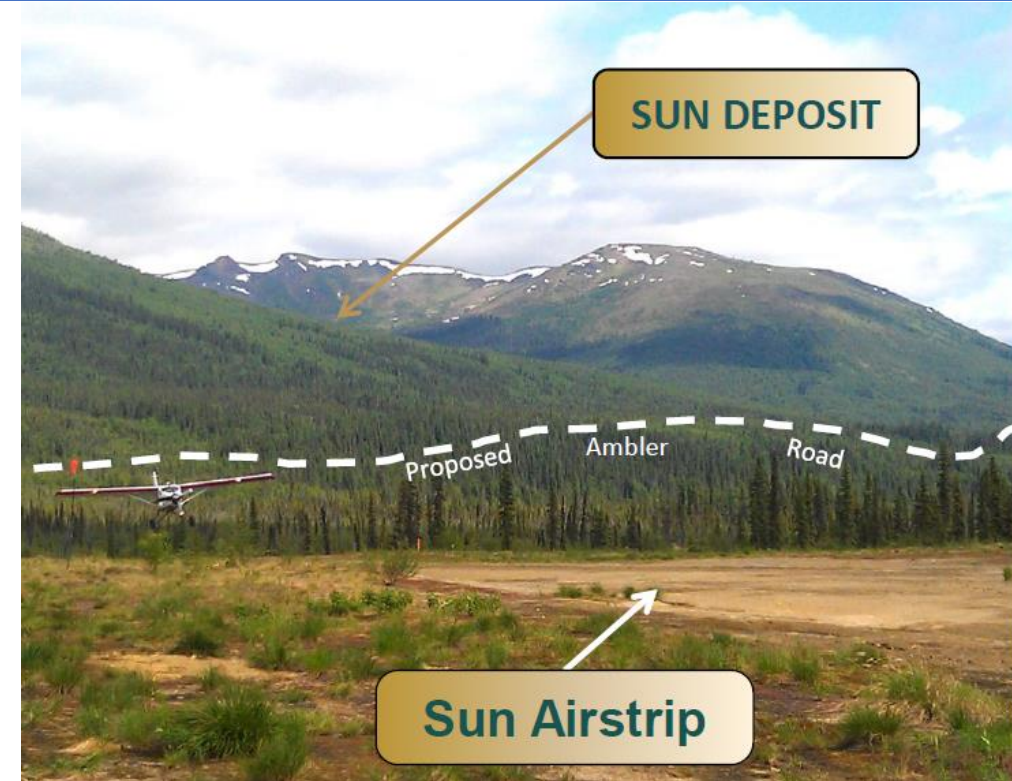




# AMBLER ACCESS PROJECT



- Ambler Metals/AIDEA (50/50) formed public-private partnership to build a proposed 211-mile controlled-use industrial access road to access the Ambler Mining District (Deposits include Arctic, Sun, Sunshine, Smucker, and Bornite)
- US BLM published EIS in 2020, ROD in 2021, then required a Supplemental EIS, with a draft SEIS published in 2023
- April 19, 2024, BLM published Final Supplemental EIS recommending “No Action” as the BLM’s preferred alternative
- June 2024, US BLM published Record of Decision recommending “No Action” alternative.
- Minimal work completed at Arctic, Bornite, and Sun in 2024

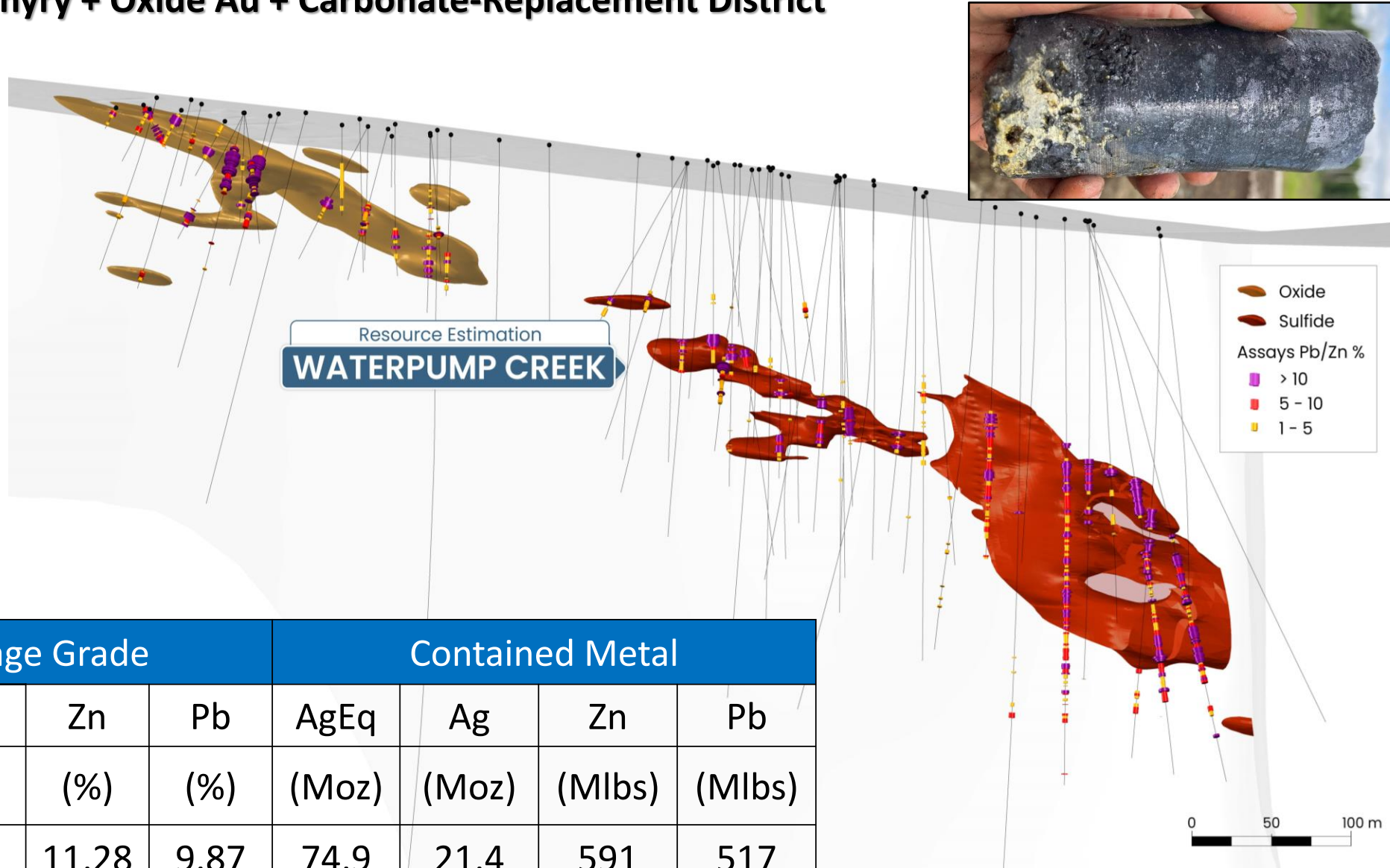


# WESTERN ALASKA MINERALS – ILLINOIS CREEK

## Porphyry + Oxide Au + Carbonate-Replacement District

### 2024 Program:

- Announced new resource for Waterpump Creek deposit
- 75Moz AgEq at 980g/t AgEq
- Drilled 4,280 m at Warm Springs prospect discovery between Illinois Creek and Waterpump Creek deposits
- Drilling + trenching at the LH zone identified a narrow vertical structure
- Airborne EM survey flown



Water-pump Creek 2024	Tonnes	Average Grade				Contained Metal			
	(M)	AgEq	Ag	Zn	Pb	AgEq	Ag	Zn	Pb
		(g/t)	(g/t)	(%)	(%)	(Moz)	(Moz)	(Mlbs)	(Mlbs)
Inferred	2.38	980	279	11.28	9.87	74.9	21.4	591	517

Data from Western Alaska Minerals, 2024



# FREEGOLD - GOLDEN SUMMIT



## Intrusion-related gold system - Fairbanks District

### Golden Summit Area

+500,000 oz past UG production; +6.75 M oz. placer Au production

Since 2020, over 100,000 m drilled

### 2024 Program:

-Sept 2024 announced updated mineral resource for Dolphin-Cleary, 13Moz Au indicated resource & 10.3 Moz Au inferred resource

-37 drill hole program, +21,551 m drilled, with emphasis on area west of Dolphin-Cleary resource

-4 metallurgical drill holes completed

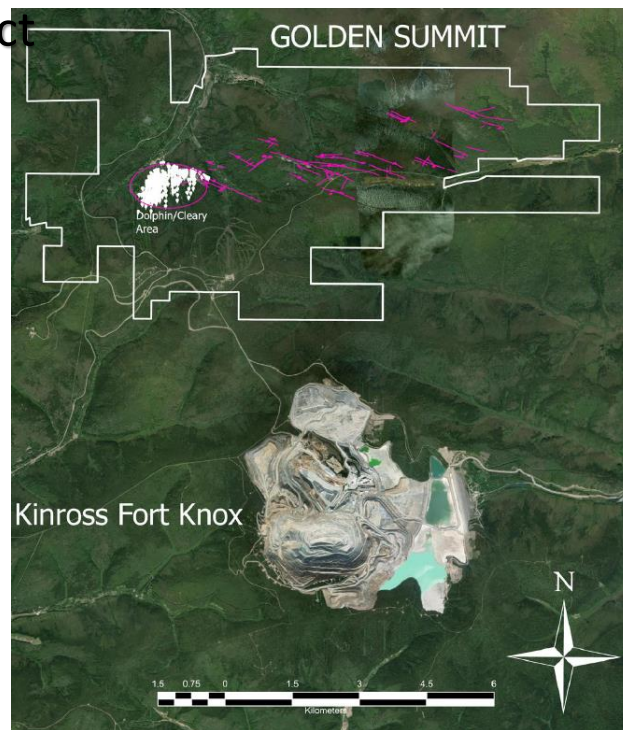
Drilling Highlights are:

GS2406 • 115.2m grading 1.36 g/t Au

GS2406 • 28.9m grading 2.29 g/t Au

GS2407 • 87.5m grading 1.59 g/t Au GS2408

• 42m grading 3.06 g/t Au



Data from Freegold Ventures, 2024

Dolphin Resource (Sept. 2024)	Million Tonnes	Au Eq (g/T)	Ounces (million)
Indicated (oxide)	59.414	0.49	0.937
Indicated (sulfide)	346.304	1.08	12.050
Inferred (oxide)	3.252	0.45	0.047
Inferred (sulfide)	308.311	1.04	10.306
<b>Total</b>	<b>717.281</b>		<b>23.34</b>

Updated resource incorporated 2017, 2020 - 2023 drilling)



hosted in schist



# FELIX GOLD – TREASURE CREEK & NE FAIRBANKS



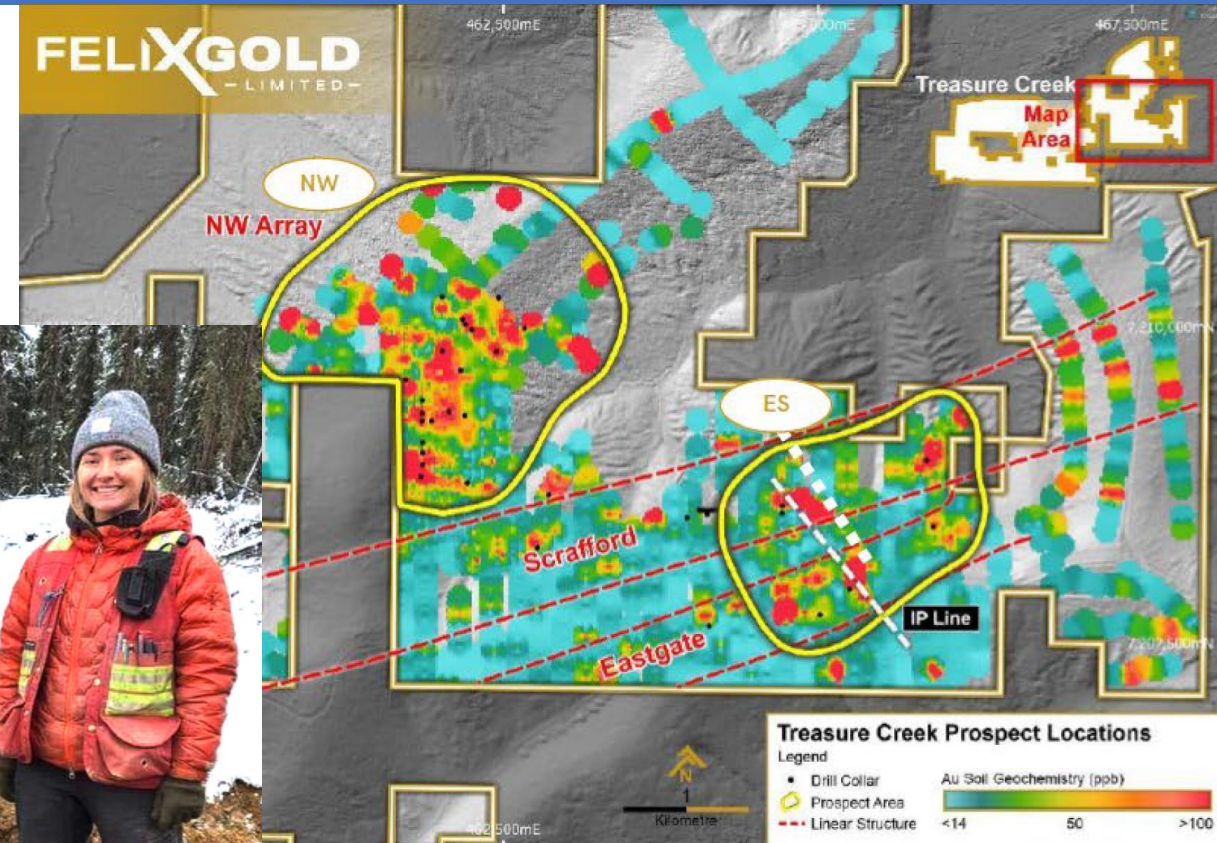
## Intrusion-related gold-antimony systems

### Treasure Creek

- 20 km West of Fort Knox Mine
- Multiple >1 km Au-in-soil anomalies
- Near-surface, bulk-tonnage potential

### 2024 Program:

- Key targets: NW Array zone at Treasure Cr.
- Maiden Inferred Mineral Resource of 25Mt @ 0.58 g/t Au for 467,000 ounces using a 0.25 g/t Au cut-off
- Drilling program in 3Q for resource expansion
- Pursuing potential antimony targets for production by end of 2025 (historical Scrafford Mine)
- Trenching and drilling program
- Metallurgical testing



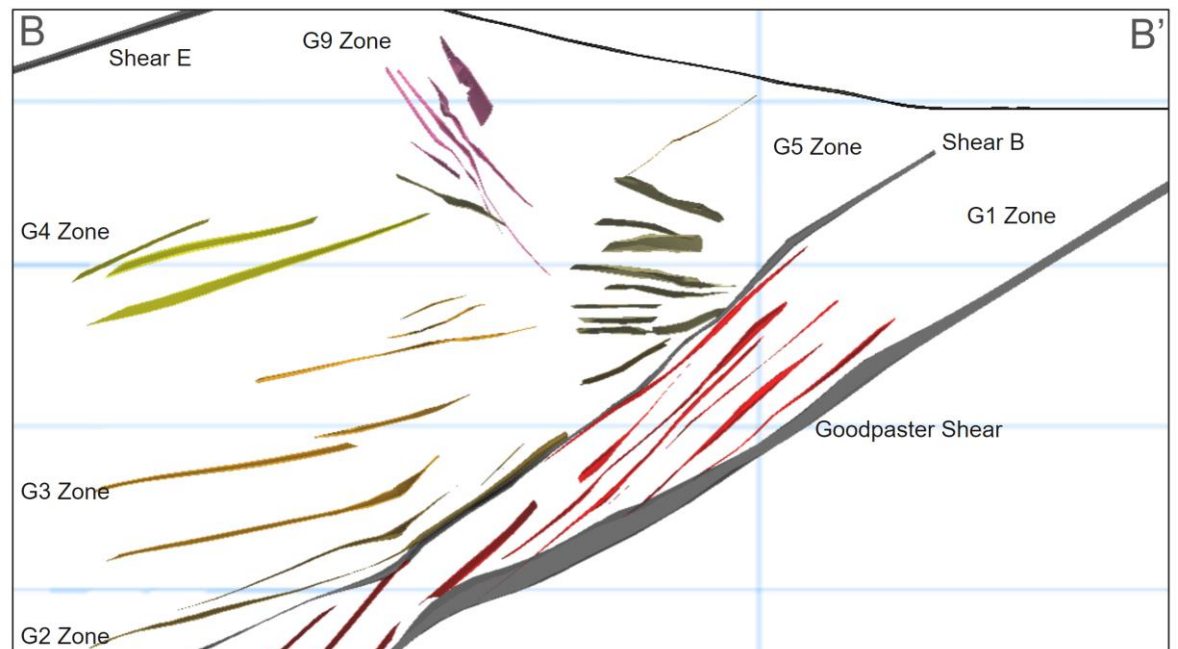
Gold-in-soil anomalies, Treasure Creek

Data from Felix Gold, 2024

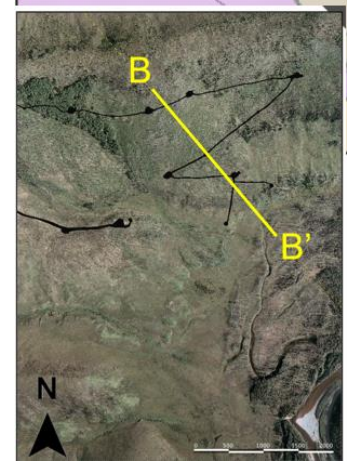
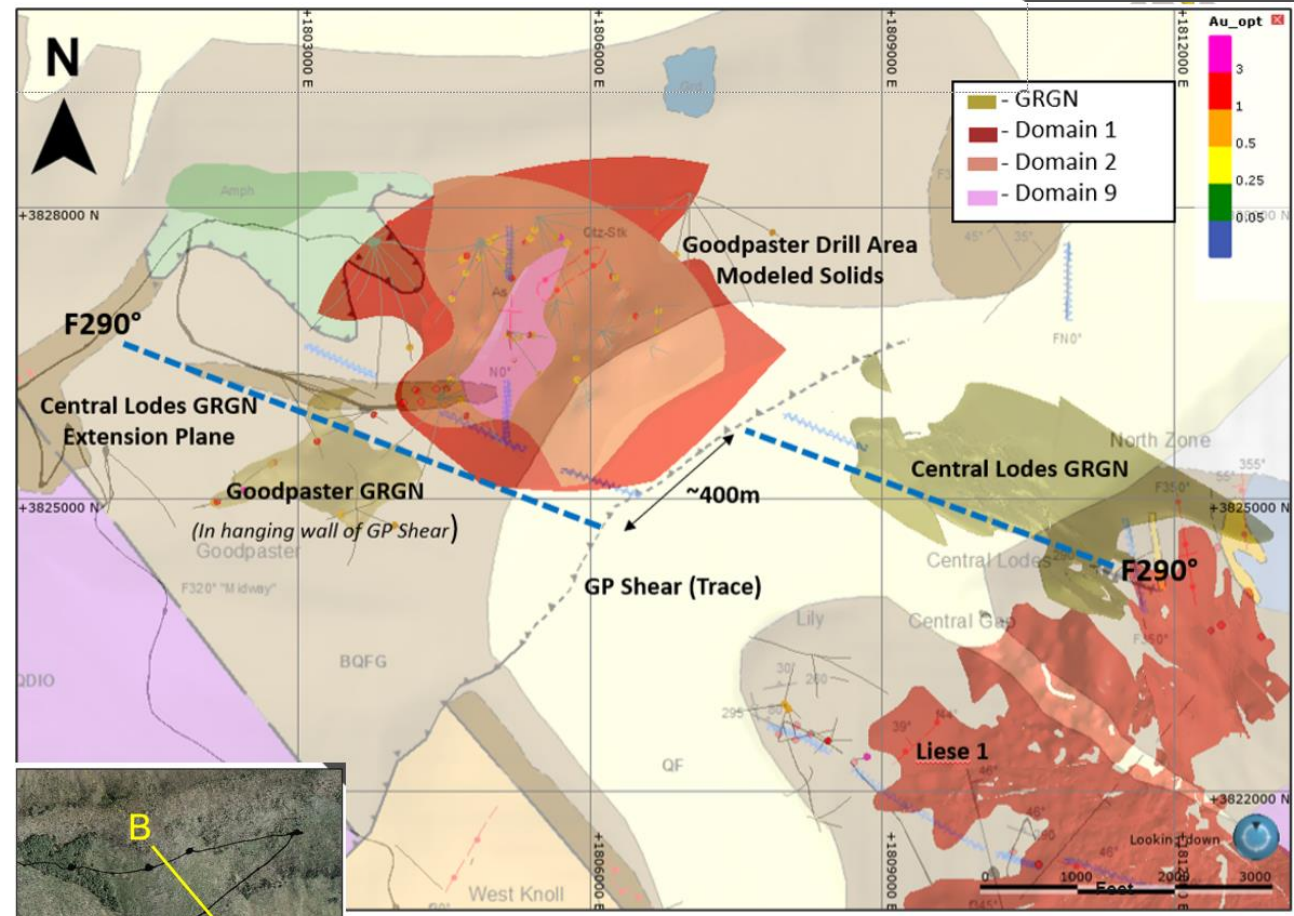


## Shear zone/quartz vein-hosted gold in gneiss

- Gold mineralisation is located in the hanging wall of the basal Goodpaster Shear
- Lodes sit directly on the Goodpaster and B Shears in selected areas. The best gold grades occur above rheology differences between host rock above and below the main Shear.
- Interpreted lodes can vary slightly in strike and dip between (and within) domains but overall remain in planar alignments.
- Lodes are still open for exploration to the NE along strike and directly down dip to the Northwest.



Data from Northern Star Resources, 2024

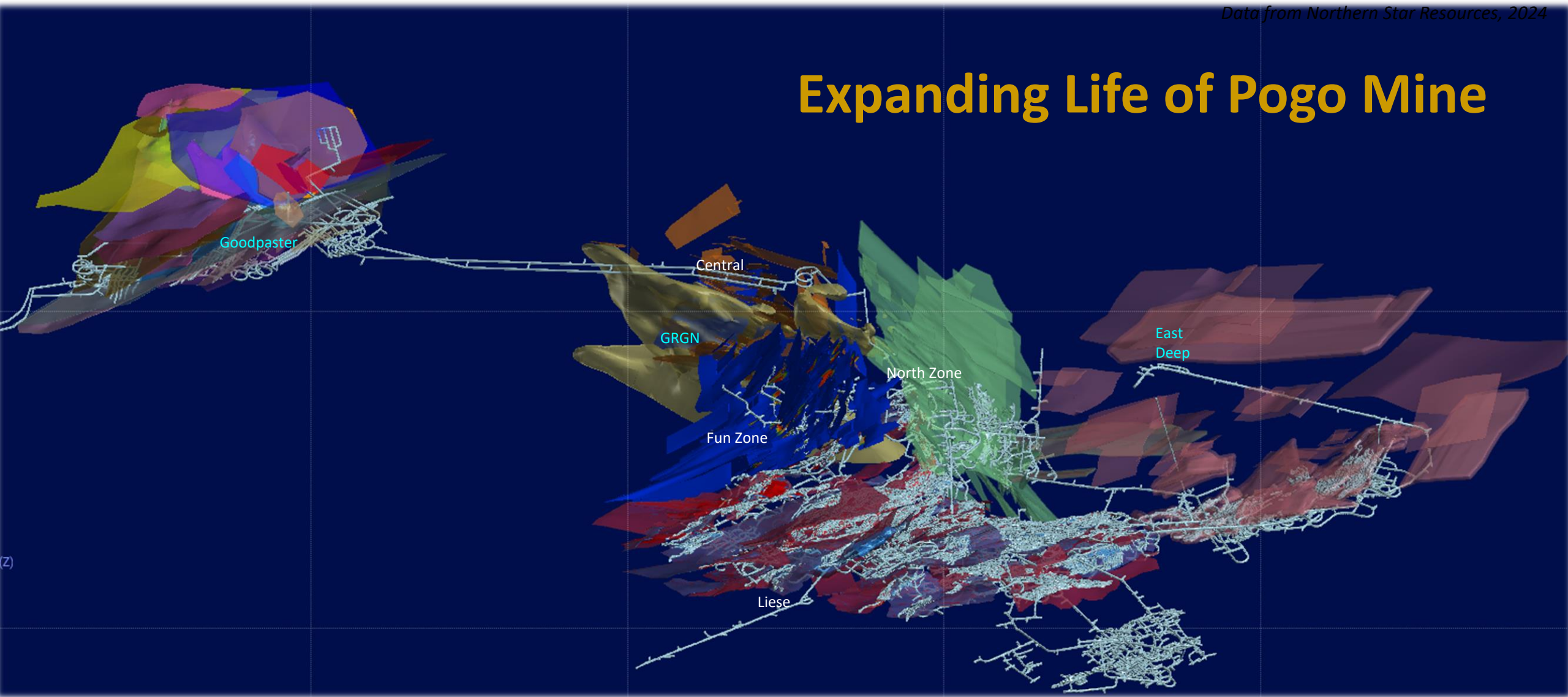


**Goodpaster Maiden INF Resource  
3.2Mt @ 10.3 gpt for 1.1Moz Au**



Data from Northern Star Resources, 2024

## Expanding Life of Pogo Mine



(Z)

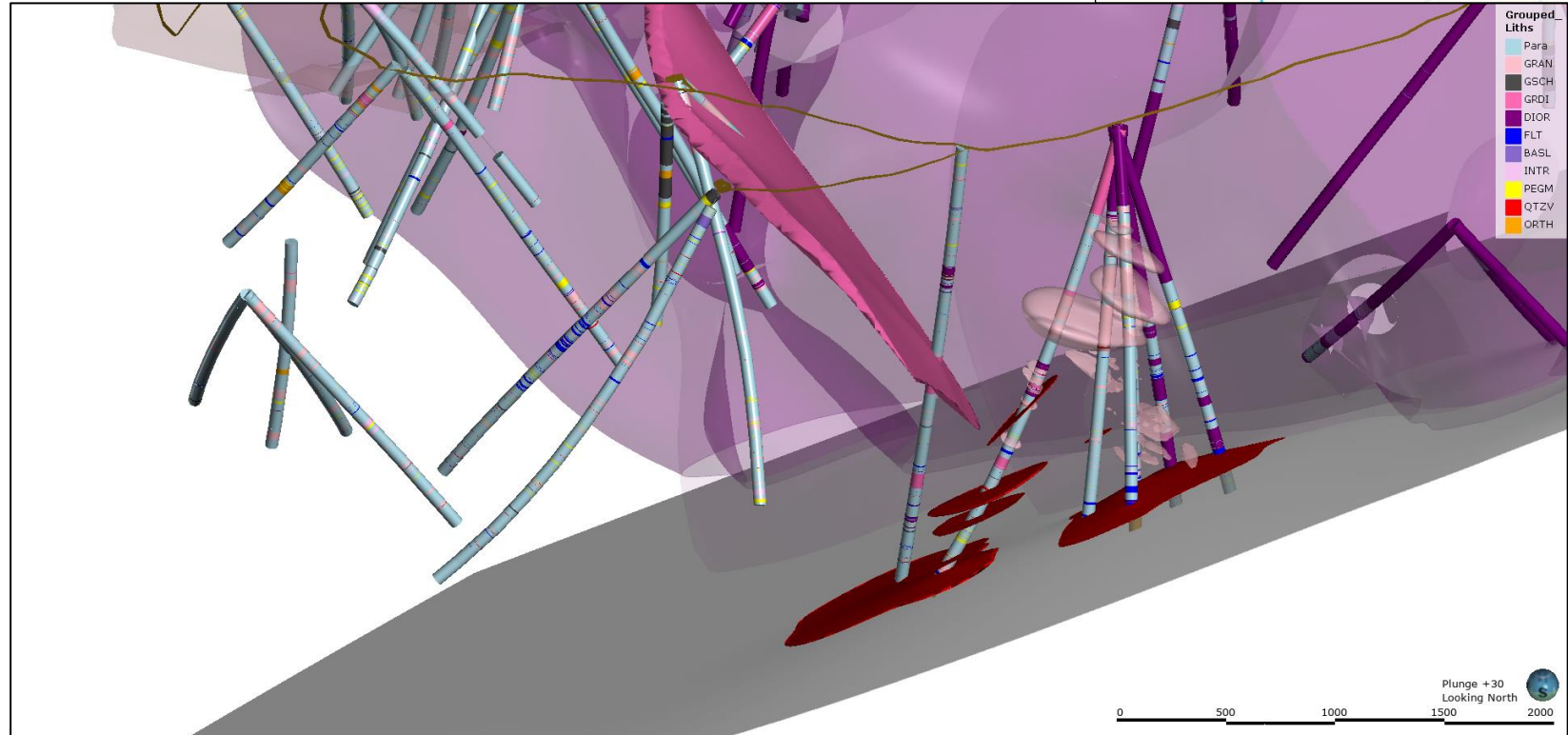
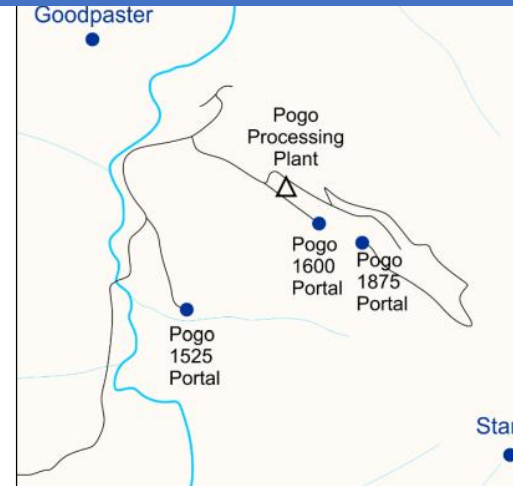


Star Shear – Gold in silicified, sheared paragneiss with arsenopyrite, pyrite, Bi and Te minerals, V.G. Sericite alteration haloes < 1-2m wide.

**Discovery hole**  
22-036, etw 9.7m  
at 52.9 gpt Au

### Star Cross-section looking North

Cross-section with the Intrusive Complex in purple color; granite bodies in pink; (basal) Star Shear in grey.



# ALASKA ENERGY METALS – NIKOLAI



## Mafic intrusion-hosted Ni-Cu-Co-PGE project, southcentral Alaska

### -2024 program :

- Calculated maiden, NI 43-101 compliant, mineral resource estimate, effective February 12, 2024, for Eureka Property
- Completed 3-hole, 1,047.9 m of helicopter supported diamond drilling program on Canwell claimblock at Emerick, Odie, and Upper Canwell prospects (~30 km NE of Eureka)

- -CAN-24-001 (Emerick) – **56.5 meters @ 0.40% nickel equivalent (NiEq)**

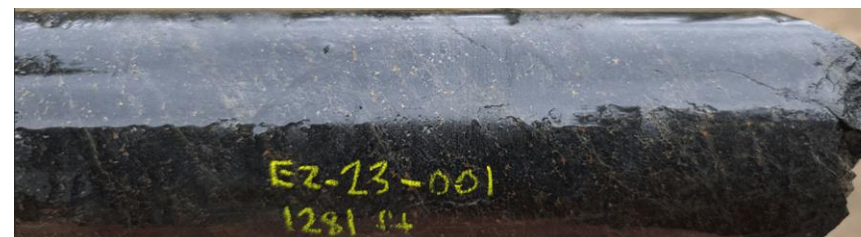
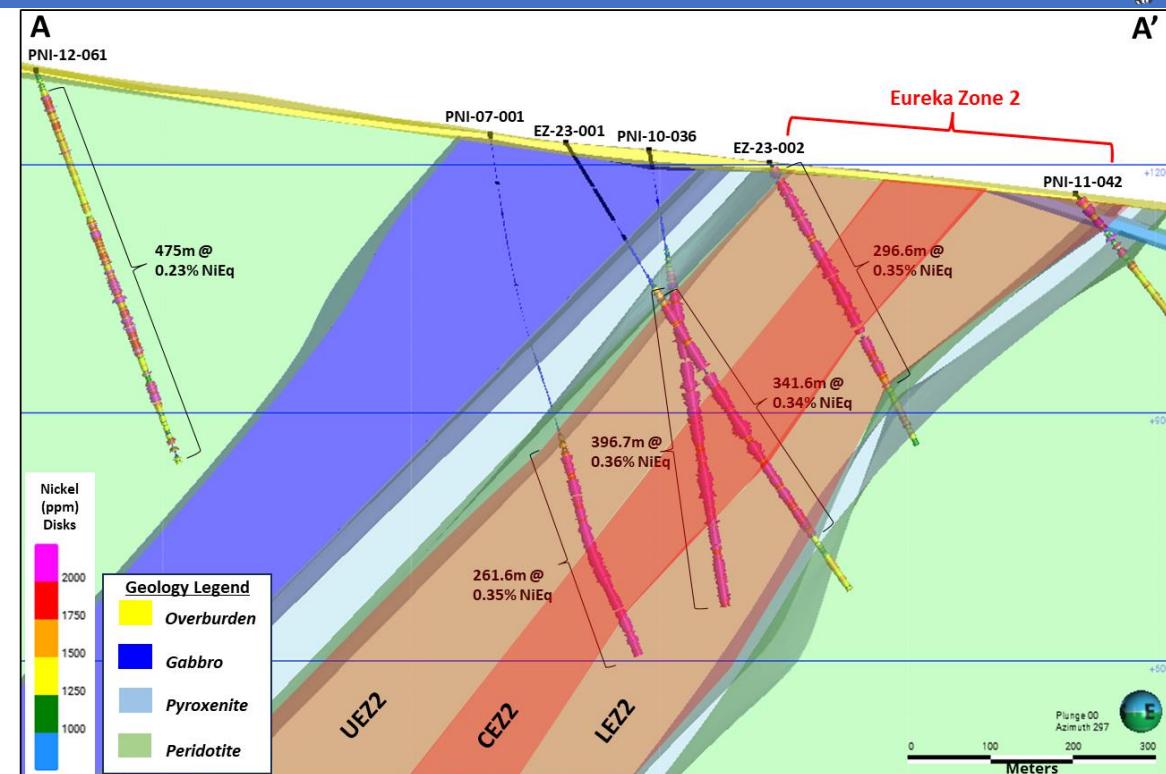
- CAN-24-002 (Odie) – **193.6 meters @ 0.42% NiEq**

- CAN-24-003 (Canwell) – **429.3 meters @ 0.39% NiEq**

- **Eureka Property (Eureka East and West Areas)**  
**Indicated Resource of 813 million tonnes grading 0.20% NiEq% & and Inferred Resource of 896 million tonnes grading 0.20% NiEq%, with total metal contained:**

- 8,102 million pounds of nickel
- 2,316 million pounds of copper
- 630 million pounds of cobalt
- 2,383,000 ounces of platinum
- 4,426,000 ounces of palladium
- 591,000 ounces of gold

Data from Alaska Energy Metals, 2024



Serpentinized Dunite  
 (~10% sulfides)  
 (Pentlandite,  
 Chalcopyrite, Pyrrhotite)  
**389.5m - 391.0m: 0.26% Ni, 0.21% Cu, 0.03% Co, 150 ppb Pd, 80 ppb Pt, 38 ppb Au (0.47% NiEq)**



# POLAR X – ALASKA RANGE PROJECT

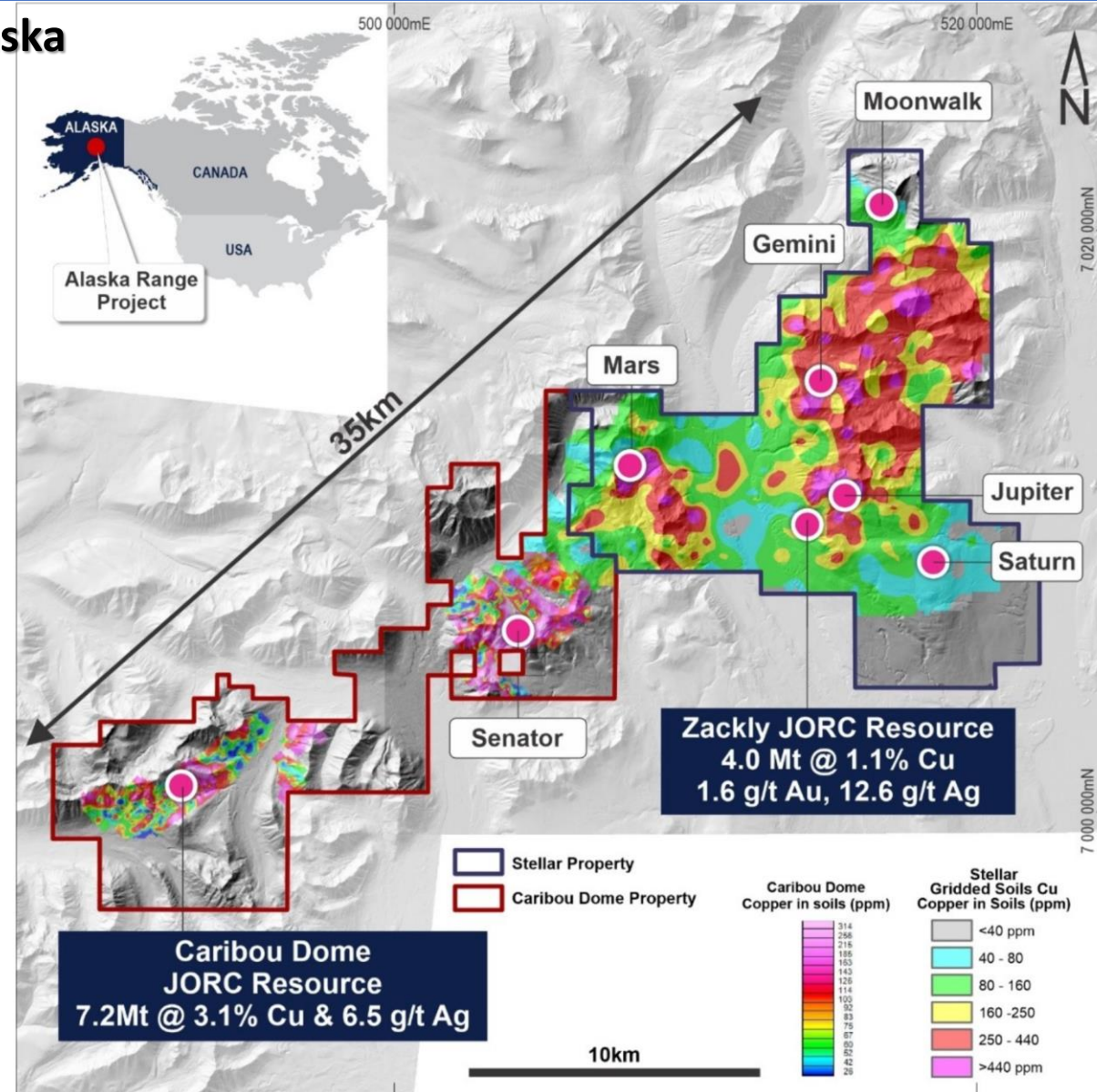


**Volcanic sediment-hosted Cu-Ag project, southcentral Alaska**

-2024 program :

-Completed 5-hole, 1,063 m of diamond drilling program on Caribou Dome prospect

- CD24-003– 15.5 meters @ 7.4% Cu and 21.4 g/t Ag
- CD24-002– 8.7 meters @ 4.3% Cu and 10.5 g/t Ag
- Caribou Dome JORC Resource (June 2023)  
– 7.2 Mt @ 3.1% Cu and 6.5 g/t Ag
- Zackly JORC Resource  
– 4.0 Mt @ 1.1% Cu, 1.6 g/t Au, 12.6 g/t Ag
- Updated Scoping Study (Jan 2024)



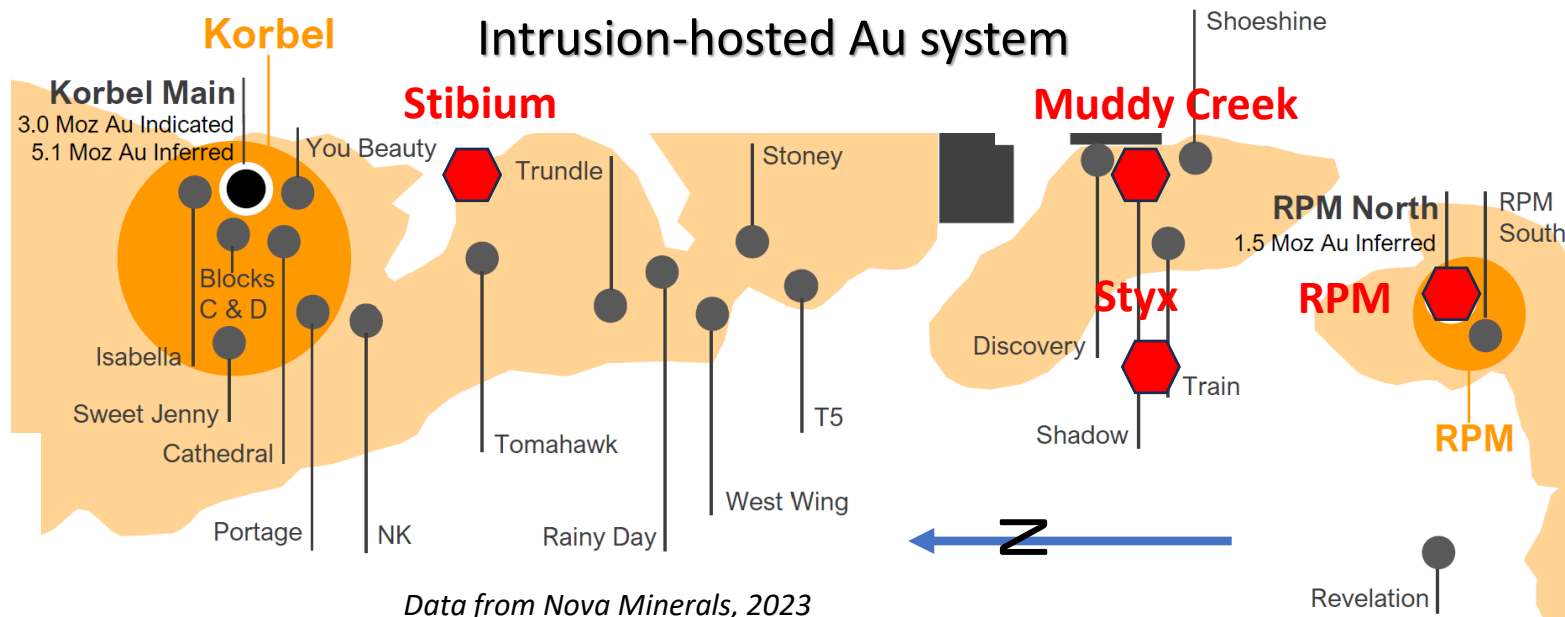


# NOVA MINERALS – ESTELLE PROJECT



## 2024 Program:

- 2,400 ft, 21-hole drill program at RPM North to upgrade and expand resources
- 29m @ 7.1 gpt Au from surface (RPMRC-24017)
- 66m @ 2.1 gpt Au from surface (RPMRC-24019)
- Evaluate potential pilot-scale high-grade antimony operation with possible DoD support
- Continue recon exploration over 198-square mile property, including Muddy Creek as next potential drill target (rock – 128.5 g/t Au)
- Updated mineral resource estimates (04/2024)



April 2024	Tonnes (millions)	Au (g/T)	Ounces (million)
Korbel (Main+Cathedral)	425	0.3	4.05
RPM (North+South)	51	0.7	1.13
<b>Global MII Resource</b>	<b>1,102</b>	<b>0.3</b>	<b>5.17</b>

(Economic Pit Constrained, SK300 & JORC compliant)





# US GOLD MINING— WHISTLER PROJECT



## Porphyry Cu-Au-Ag Deposit

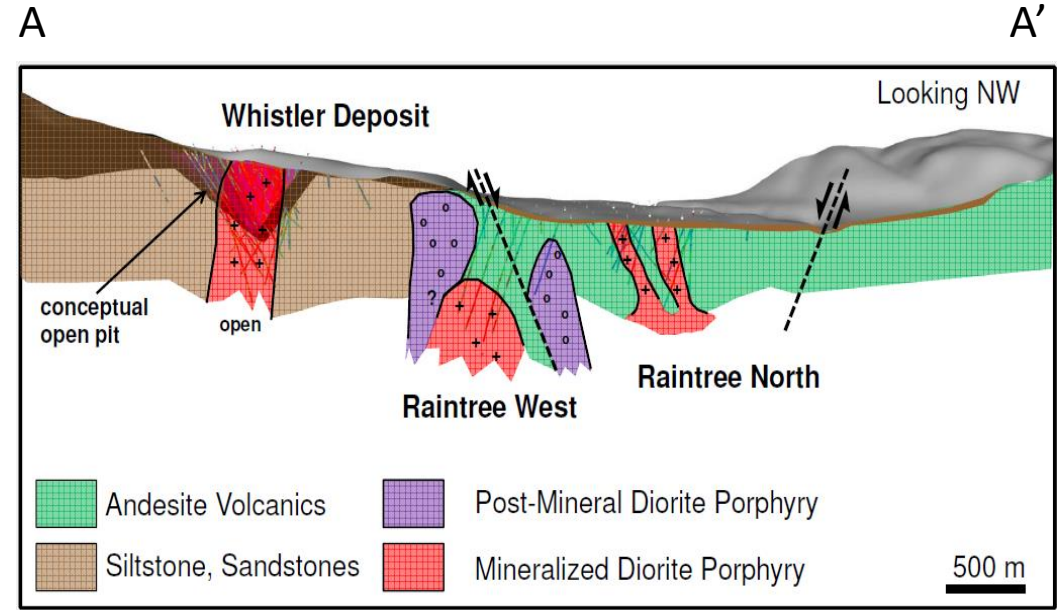
Whistler Corridor interpreted to comprise a classic Porphyry ‘Cluster’ in diorite stocks

- Multiple intrusive apophyses emanating from a deep causative batholith

2003-2024 program :

- 6,200 m drill program at Whistler and Raintree deposits
- Advance Geological Model – identified higher grade core
- Sept 2024 Resource modelled from ~72,000 meters of diamond core drilling

- Three Deposits: Whistler, Raintree and Island Mountain
- Gold Resources of 3.93 Moz Indicated and 3.31 Moz Inferred
- Copper Resources of 1,024 Mlbs Indicated and 317 Mlbs Inferred



Sept. 2024	Million Tonnes (Mt)	Au g/t	Grade*			Contained Metal*			
			Ag g/t	Cu %	AuEq g/t	Au Moz	Ag Moz	Cu Mlbs	AuEq Moz
<b>Indicated</b>	294.5	0.42	2.01	0.16	0.68	3.93	18.99	1,024.	6.48
<b>Inferred</b>	198.2	0.52	1.81	0.07	0.65	3.31	11.52	317.0	4.16

# DONLIN GOLD - DONLIN



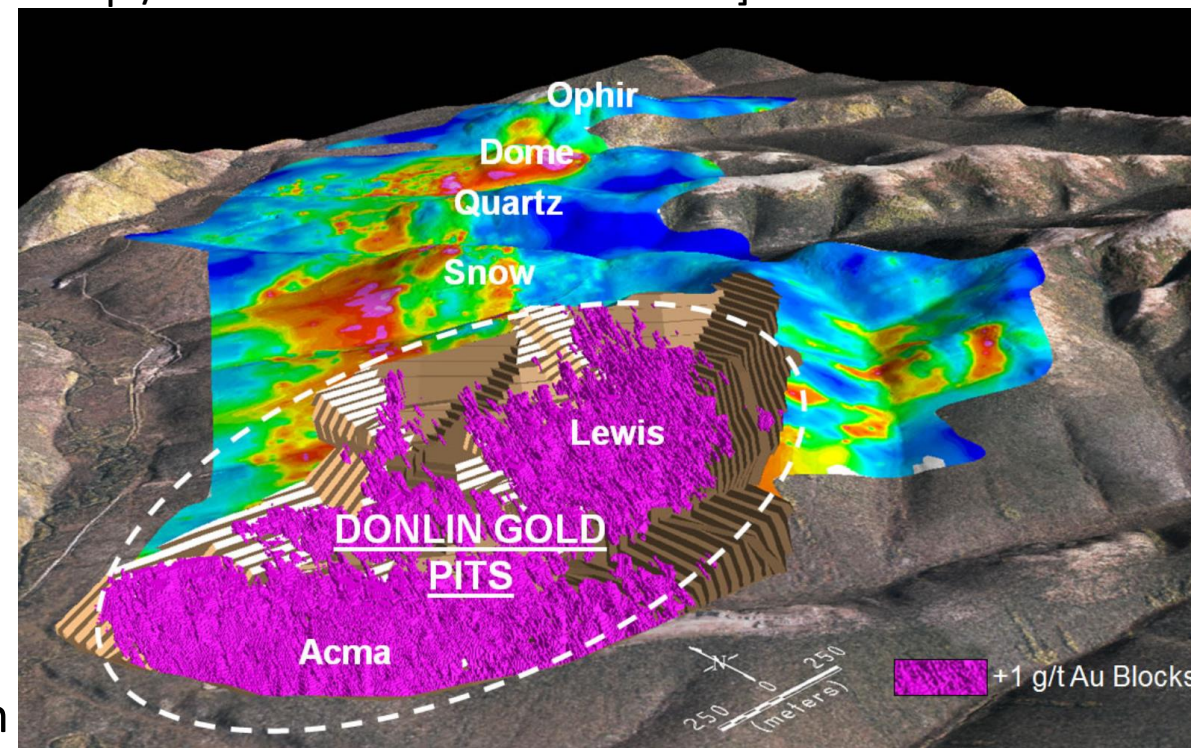
Proposed open-pit gold mine; structurally controlled, intrusion related

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

Data from Donlin Gold, 2024

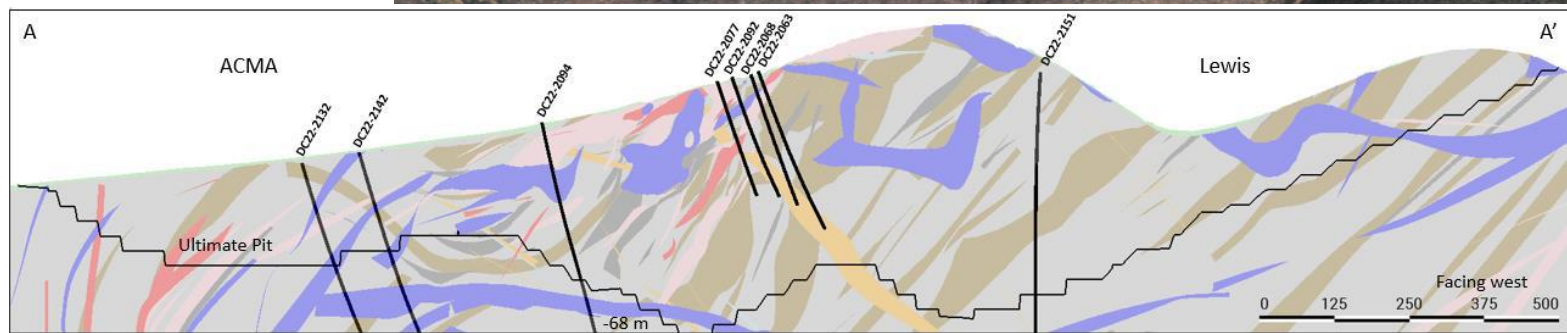
## 2024 Program

- Continued litigation in state and federal courts
- Geotechnical + hydrological fieldwork to advance Alaska Dam Safety certificate applications
- Mine optimization (geologic & resource models)
- Earthjustice lawsuit in the Alaska Superior Court appealing upholding the 401 Water Quality Certification (Decision in 2025)
- Earthjustice appeal to Alaska Supreme Court regarding pipeline Right Of Way lease and water right permits. Active
- Federal lawsuit challenging the Donlin Gold Joint Record of Decision. Court upheld 2 of 3 issues, with remedies being worked



Potential 27-year Mine life, with 1.1 Moz/yr production

June 2021	Million Tonnes	Au (g/T)	Ounces (million)
Proven & Probable Reserves	504.8	2.09	33.9
<b>Resources; inclusive of reserves*</b>			
Measured & Indicated*	541.3	2.24	39.0
Inferred	92.2	2.02	5.99
<b>Total</b>	<b>633.6</b>	<b>2.21</b>	<b>45.0</b>



Cross-section through ultimate pit, looking west; ACMA-Divide-Lewis deposit areas



# PEBBLE LIMITED PARTNERSHIP - PEBBLE



## Porphyry Cu-Mo-Au-Ag (Re, Pd) Deposit

- First- or second-largest porphyry copper deposit in world
- Projected 20-year life-of-mine production: 6.4 billion pounds copper, 7.3 million ounces gold, 300 million pounds molybdenum, 37 million ounces silver, 254 short tons rhenium, and byproduct palladium

### 2024 events:

- On January 8, 2024, the U.S. Supreme Court announced that they would not take up the case filed by State of Alaska filed suit against U.S. EPA claiming violations of Alaska's sovereign authority
- March 2024 Pebble Partnership filed lawsuit in U.S. federal district court against U.S. EPA, with amended suit to include USAFCF

No. \_\_\_\_\_, Original

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IN THE  
**Supreme Court of the United States**

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STATE OF ALASKA,  
*Plaintiff,*

v.

UNITED STATES OF AMERICA; MICHAEL S. REGAN,  
ADMINISTRATOR OF THE U.S. ENVIRONMENTAL  
PROTECTION AGENCY,  
*Defendants.*

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**MOTION FOR LEAVE TO FILE  
BILL OF COMPLAINT**



Dec. 2017	Million Tonnes	Cu Billion pounds	Cu (%)	Au (g/T)	Mo (ppm)	Ag (g/T)
Measured	527	4	0.33	0.35	178	1.7
Indicated	5,929	53	0.41	0.34	246	1.7
Inferred	4,454	25	0.25	0.25	226	1.2
<b>TOTAL</b>	<b>10,910</b>	<b>82</b>	<b>0.34</b>	<b>0.30</b>	<b>235</b>	<b>1.5</b>

Also Oct. 2020: 2.6M kg Re (M&I) and 1.6M kg Re (Inferred)

### PEA (Sept. 2021):

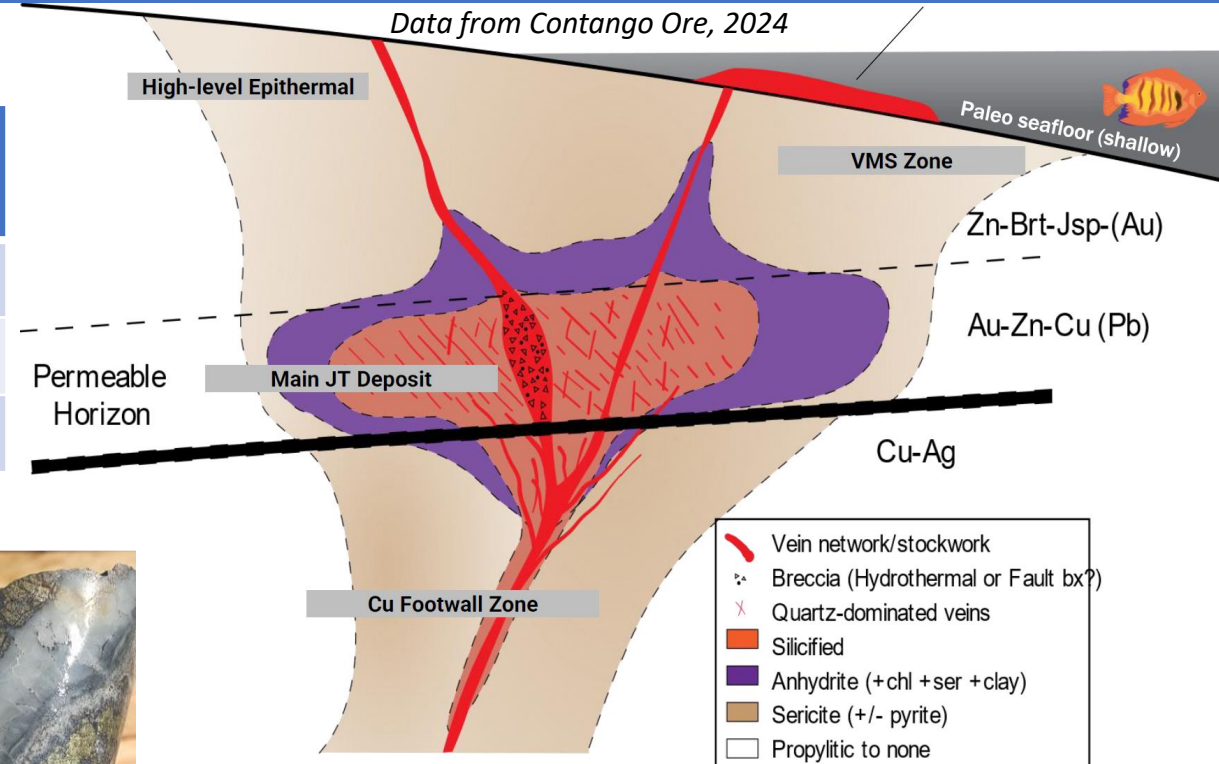
- Open-pit mine; ~20-year mine life; 180,000 T/day
- Long-term metal prices: IRR=15.8% & NPV(7%)=US\$2.3B; (for values with royalty applied, see 2022 PEA update)
- LOM metal production: 6.4 B lbs. Cu, 7.3 M oz. Au, 300 M lbs. Mo, 37 M oz. Ag, 230,000 kg Re
- Ave. annual production: 320 M lbs. Cu, 363,000 oz. Au, 1.8 M oz. Ag, 15 M lbs. Mo, 12,000 kg Re
- Evaluates expansion scenarios and onsite gold plant

# CONTANGO ORE – JOHNSON TRACT



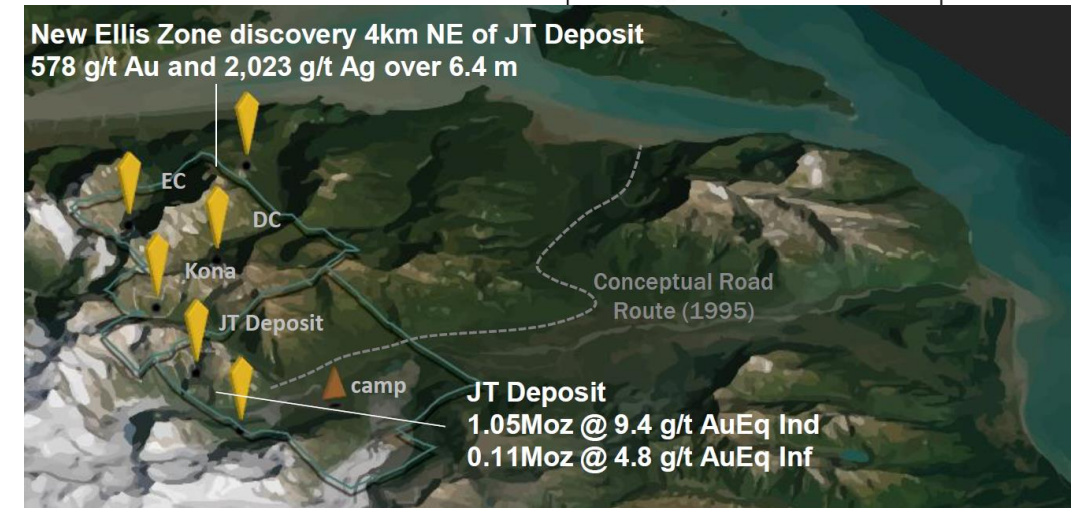
High-grade Au-Cu-Zn-Ag-Pb polymetallic VMS deposit

JT resource July 12, 2022	Million Tonnes	Au g/T	Ag g/T	Cu (%)	Pb (%)	Zn (%)
Indicated	3.489	5.33	6.0	0.56	0.67	5.21
Inferred	0.706	1.36	9.1	0.59	0.30	4.18
<b>Total</b>	<b>4.195</b>	<b>4.66</b>	<b>6.5</b>	<b>0.57</b>	<b>0.61</b>	<b>5.04</b>



## 2024 Program:

- Contango Ore acquired property in 2024
- 20 drillholes, 3,000 m drill program,  
GT24-007 17m @ 21.3 gpt Au, 7.75 gpt Ag,  
1.16% Cu. and 3.66% Zn  
GT24-008 55.5m @ 27.61 gpt Au, 8.3 gpt Ag,  
0.73% Cu, and 3.54% Zn
- Received 404 Wetlands Permit from USACE
- Received permit to build road from camp to  
portal site August 2024
- Target for PEA by 2025





# AMERICAN PACIFIC MINING/DOWA - PALMER



Cu-Zn-Ag-Au Volcanogenic Massive Sulfide, Southeast Alaska

2024 program (\$12.8M)

- American Pacific entered into agreement with Dowa Metals & Mining to acquire 100% of the project by year's end, Dowa will pay APMC \$10M for guarantee of 50% future zinc concentrates
- 19-hole, 6,036 m drilling program in South Wall Zone 1 and Zone 3 targets, as well as North Wall target.

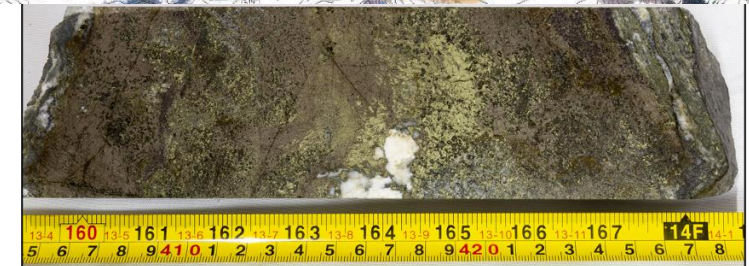
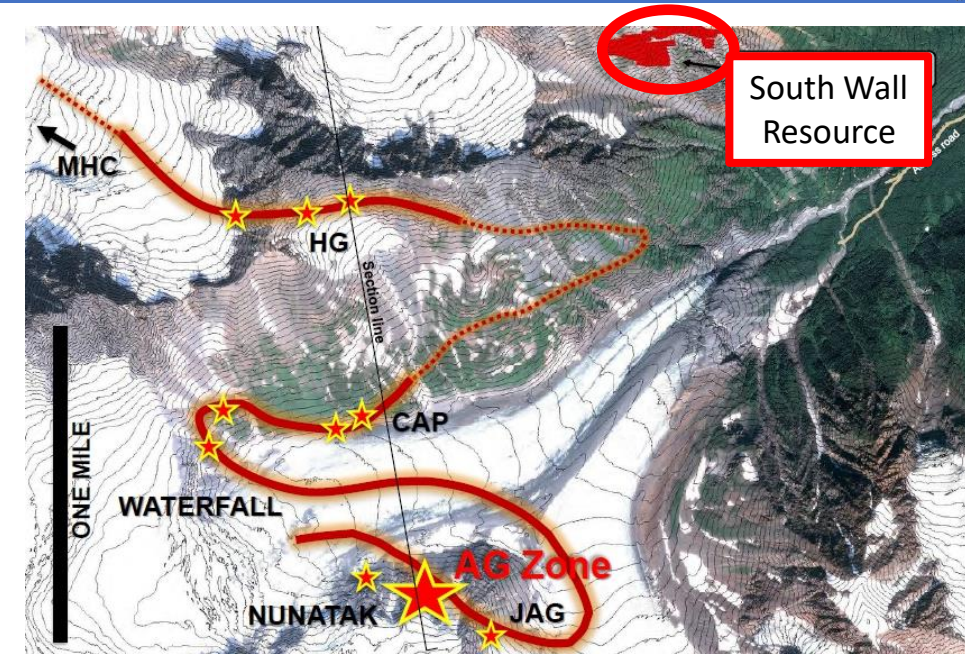
Significant Drill Results 2024 program:

**CMR24-181: 18.0 m of 1.5% Cu, 5.4% Zn, 0.40 g/t Au and 59.1 g/t Ag (4.4% CuEq)**

**CMR24-182: 7.2 m of 0.3% Cu, 3.0% Zn, 0.20 g/t Au and 32.7 g/t Ag (1.8% CuEq)**

**CMR24-186: 4.8 metres of 1.4% Cu, 9.9% Zn, 0.15 g/t Au and 34.9 g/t Ag (5.7% CuEq)**

**•CMR24-194: 16.4 m of 0.8% Cu, 8.4% Zn, 0.6% Pb, 0.72 g/t Au and 77.5 g/t Ag (5.1 CuEq);**



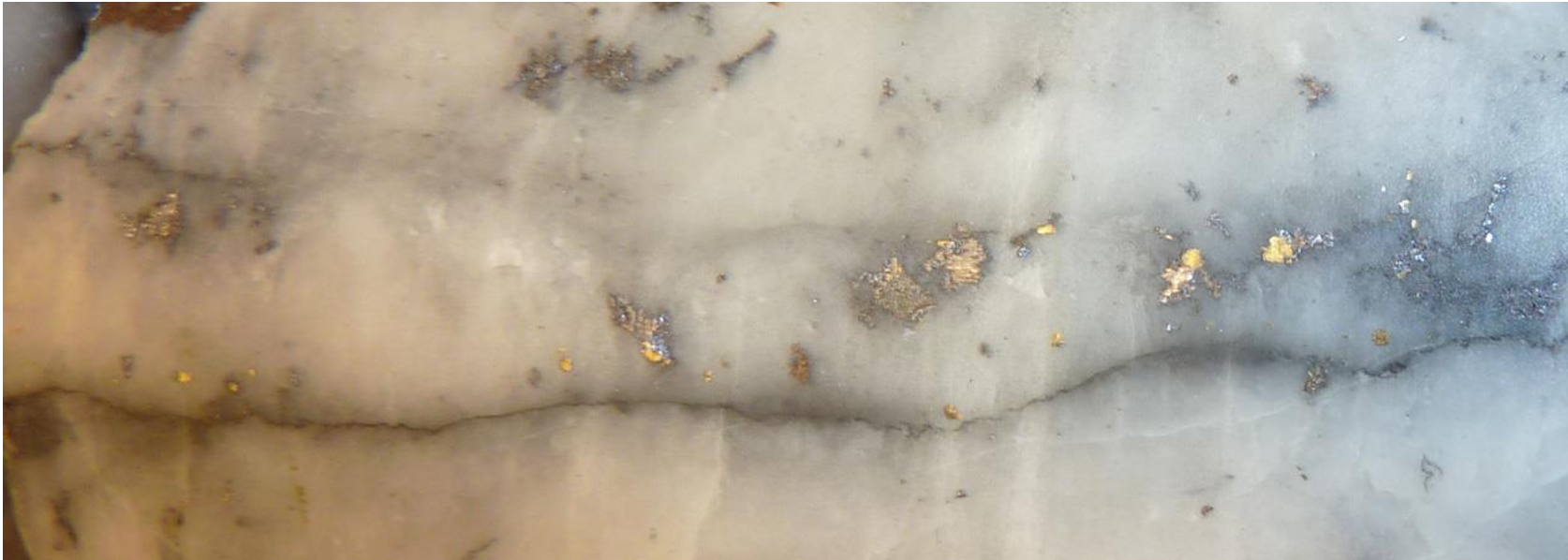
Dec. 2018	Million Tonnes	Cu %	Zn %	Ag g/T	Au g/T	Barite %
Indicated	4.677	1.49	5.23	30.8	0.30	23.9
Inferred	9.594	0.59	4.95	69.3	0.39	27.7
<b>Total</b>	<b>14.3</b>	<b>0.89</b>	<b>5.04</b>	<b>56.6</b>	<b>0.36</b>	<b>26.5</b>



# GRANDE PORTAGE RESOURCES – NEW AMALGA



Orogenic gold-quartz vein system, Southeast Alaska



Quartz vein with **asp**, py, gl, spl, and VG

Renamed Project New Amalga (formerly Herbert Gold)

2024 Program :

- New mineral resource
- Developing conceptual mine plan for direct shipping ore

June 2024	Tonnes (T)	Au (g/T)	Au ounces	Ag (g/T)	Ag ounces
Measured	-	-	-		
Indicated	<b>4,726,000</b>	9.47	1,438,500	5.86	891,600
Inferred	<b>1,813,000</b>	8.85	515,700	7.33	390,600
<b>Total</b>	<b>6,539,000</b>	<b>9.30</b>	<b>1,954,200</b>	<b>6.27</b>	<b>1,282,200</b>



# HECLA - GREENS CREEK MINE

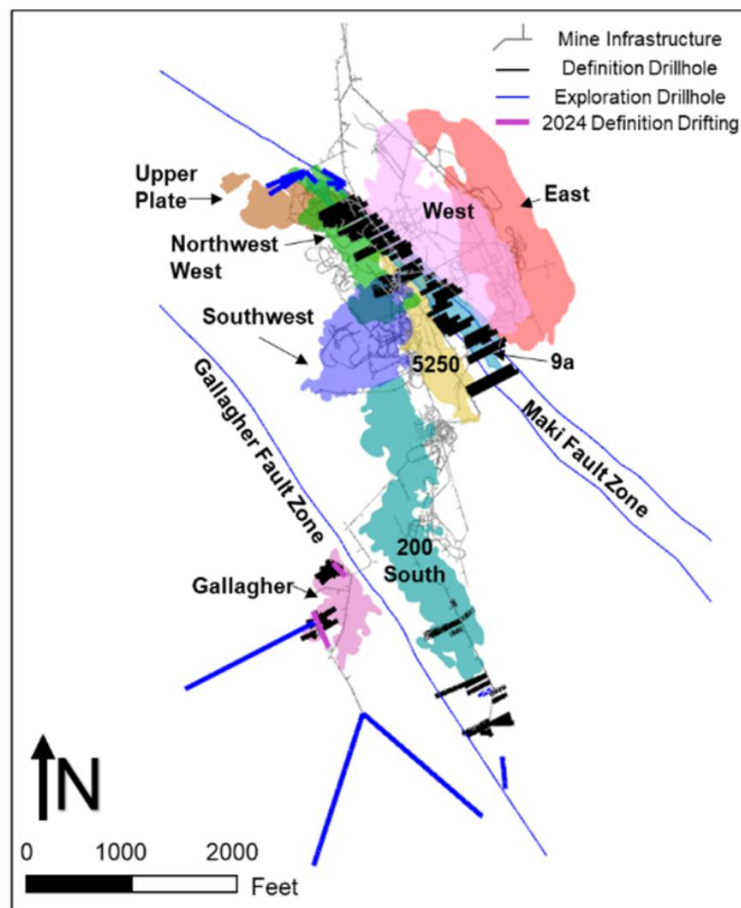


Silver-rich, Zn-Pb volcanogenic massive sulfide deposit

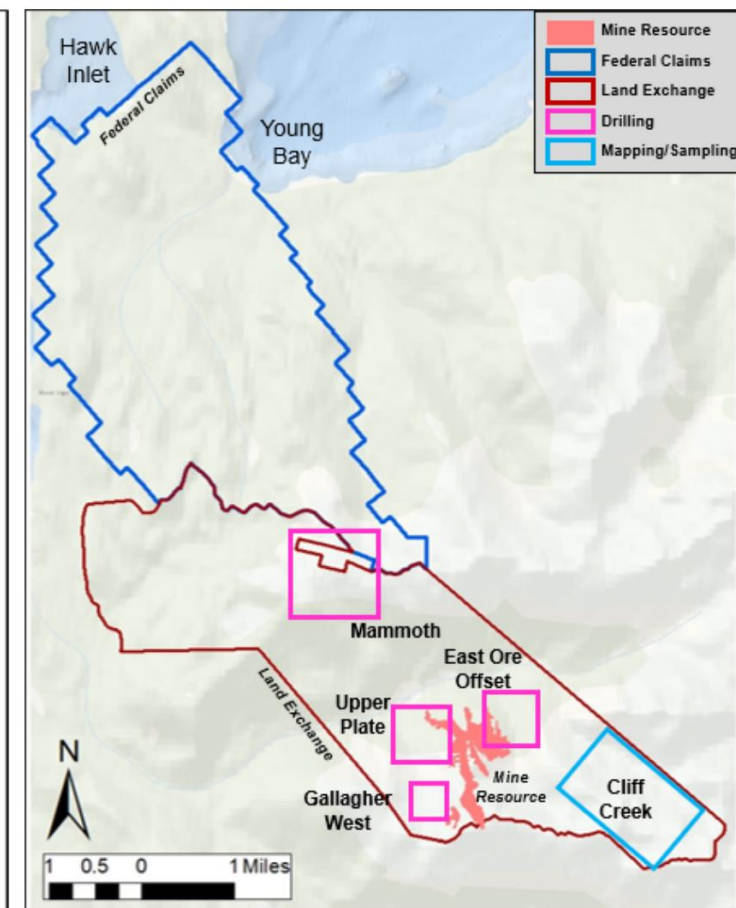
## 2024 Exploration Drilling - \$9M Budget

- Underground drilling focused on resource conversion and exploration to extend mineralization of known resources in 6 zones.
- Two helicopter-supported surface exploration drills are focused on expanding the Upper Plate Zone to the west of current resources and drill testing the Mammoth, Gallagher West, and East Ore Offset targets.
- Assay highlights include (reported widths are estimates of true width):
  - NWW Zone:** 32.0 oz/ton silver, 0.18 oz/ton gold, 14.2% zinc, and 5.0% lead over 19.3 feet
  - 200 South Zone:** 15.7 oz/ton silver, 0.02 oz/ton gold, 2.0% zinc, and 1.0% lead over 26.9 feet
  - West Zone:** 72.7 oz/ton silver, 0.23 oz/ton gold, 9.6% zinc, and 5.2% lead over 26.9 feet

## 2024 Underground



## 2024 Surface



- 2 helicopter-supported surface drills and 4 underground drills

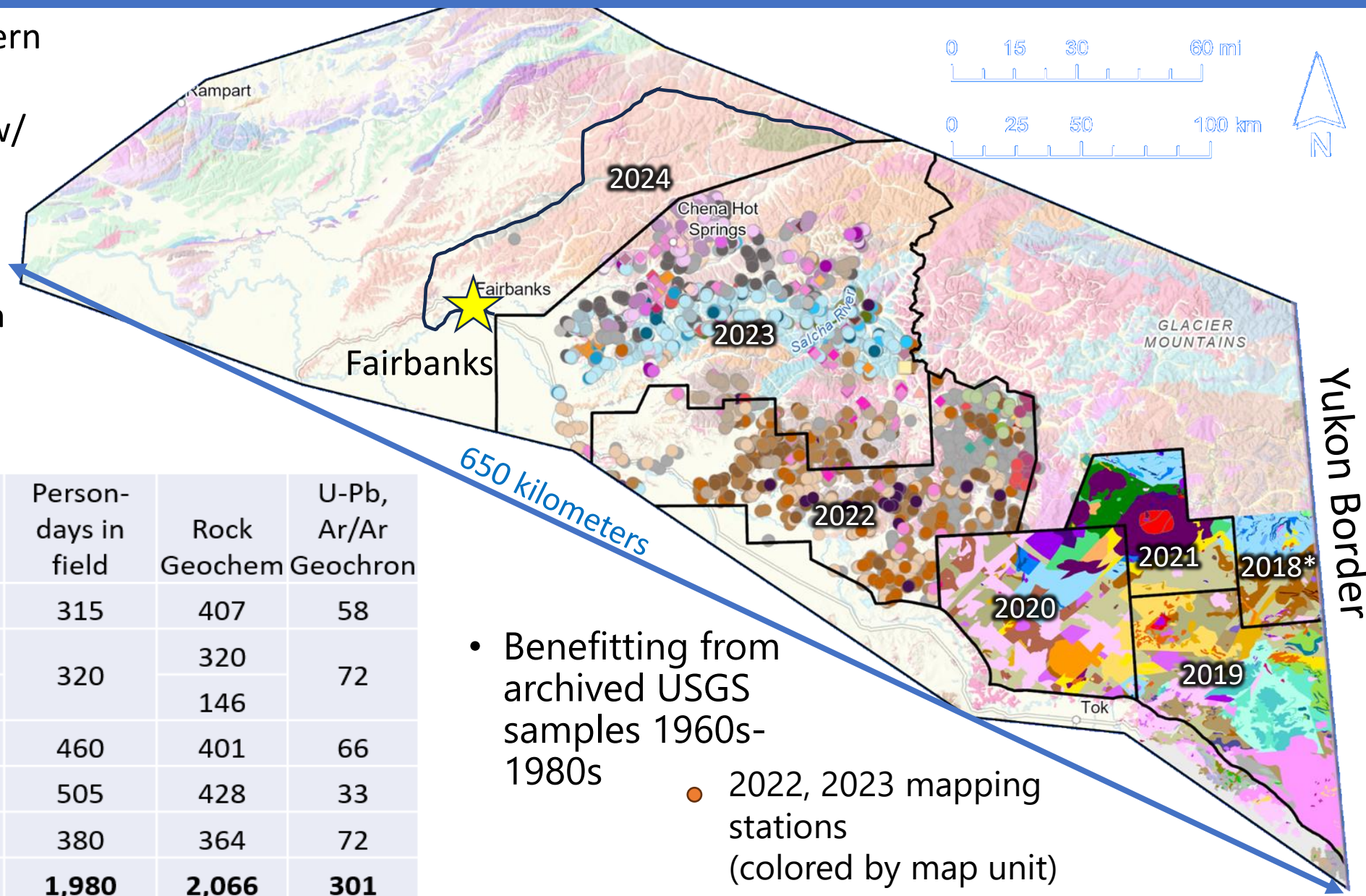
Data from Hecla Mining, 2024



# ALASKA GEOLOGICAL SURVEY MINERAL GEOLOGIC MAPPING



- Large map area across Eastern Interior Alaska
- Earth MRI Funding (USGS) w/ SOA
- Mix compilation and new mapping
- Data to refine & map modern units: magmatic suites, metamorphic terranes (including areas mapped in detailed 1990s-2000s)



	Square miles	Square km	Person-days in field	Rock Geochem	U-Pb, Ar/Ar Geochron
FFY2019	1,865	4,829	315	407	58
FFY2020	1,717	4,446	320	320	72
FFY2021	899	2,328	320	146	
FFY2022	3,102	8,033	460	401	66
FFY2023	5,604	14,515	505	428	33
FFY2024	3,475	9,000	380	364	72
<b>Total</b>	<b>16,662</b>	<b>43,151</b>	<b>1,980</b>	<b>2,066</b>	<b>301</b>

- Benefitting from archived USGS samples 1960s-1980s
- 2022, 2023 mapping stations (colored by map unit)

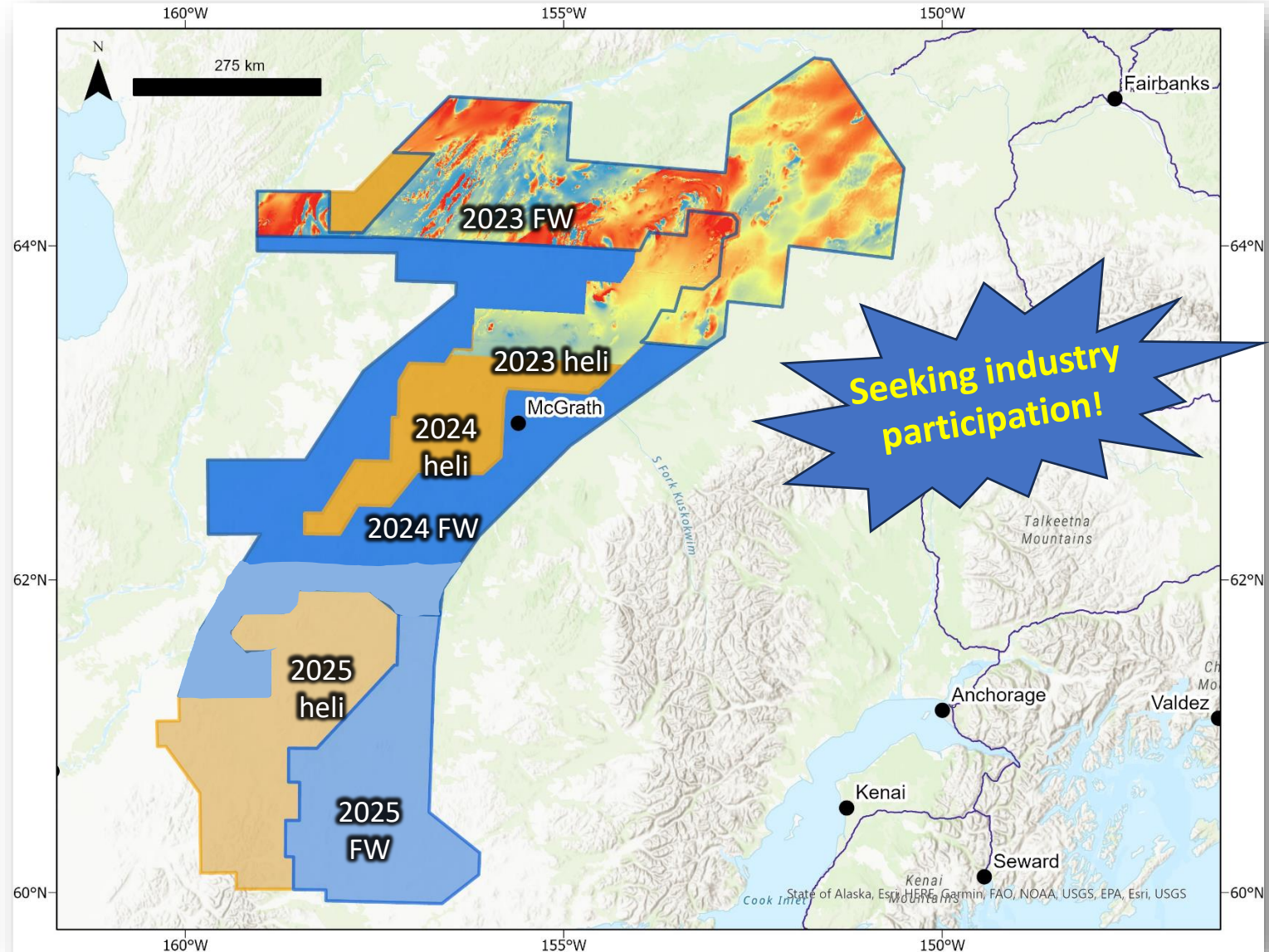


# NEW AIRBORNE GEOPHYSICAL SURVEYS



## 2024 Earth MRI Project

- New data releases in 2024 & 2025 (in 2024, flew 73,840 line-km fixed-wing and 25,571 line-km helicopter, magnetics & radiometrics)
- **Industry partners sought** for upcoming magnetic-radiometric surveys in the Kuskokwim Mineral belt







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