



2024 Alaska Mining Industry Update

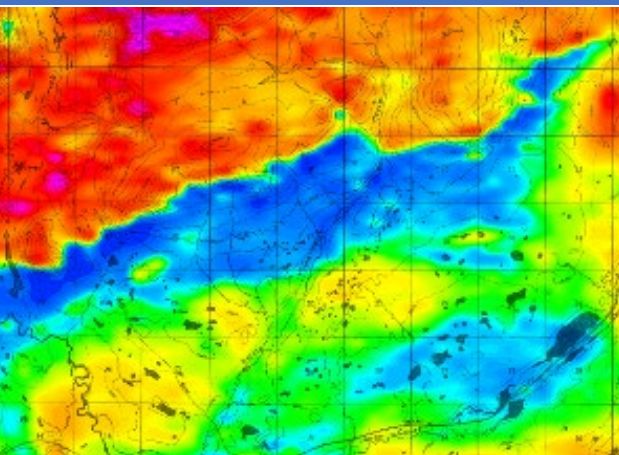


David Szumigala
Geologist, Mineral Resources Section
Alaska Department of Natural Resources,
Division of Geological & Geophysical Surveys



Association for Mineral Exploration Roundup 2024

January 22, 2024



FOREWORD LOOKING STATEMENT

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

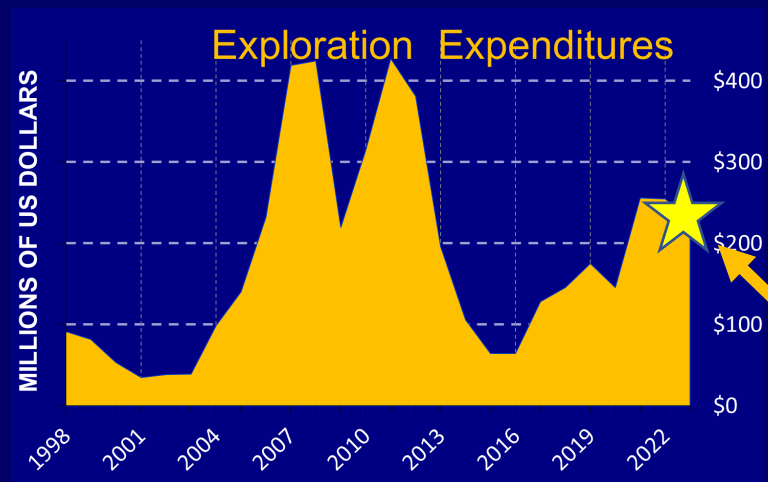
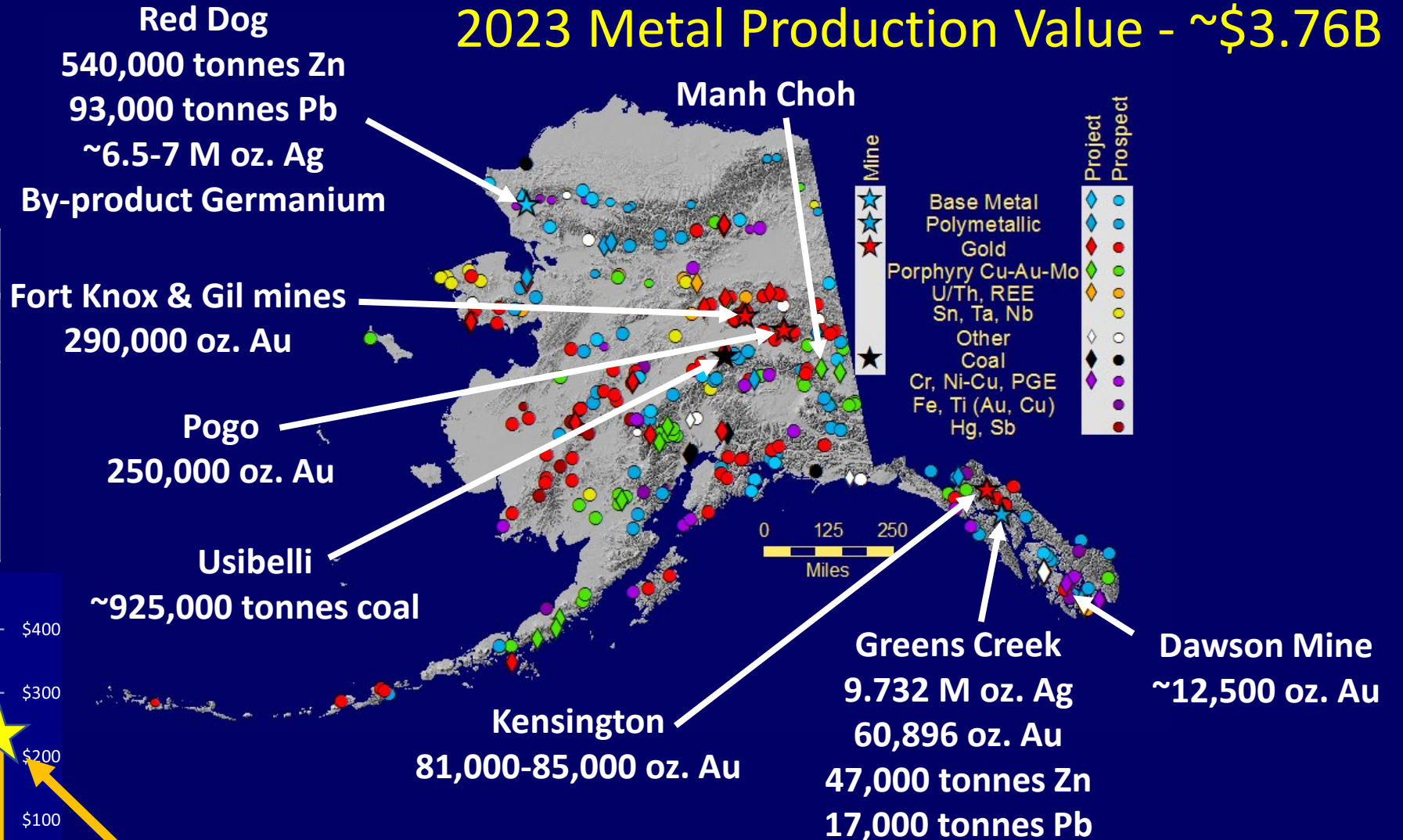


2023 PRODUCTION & EXPLORATION SUMMARY

7 lode mines
 1 coal mine
 ~ 145 placer Au mines
 ~ 50 exploration projects

2023 Metal Production Value - ~\$3.76B

	2023 Metal Production Est.
Zn	590,000 - 600,000 tonnes
Pb	110,000 – 115,000 tonnes
Au	715,000 – 730,000 T oz.
Ag	~16.3 million T oz.



KINROSS ALASKA - FORT KNOX MINE



Open-pit gold mine; intrusion hosted

2023 production:

- Kinross poured their 9-millionth ounce of gold on 9/27 2023
- 206,436 ounces produced thru 3rd Q
- 285,000-295,000 ounces expected 2023 production

Gilmore (West-Pit) Expansion

- Extends mine life through 2027
- Exploring west of Gilmore

Development:

Mill modified for expected 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, 2022)	Million Tonnes	Au g/T	Ounces Au (million)
P&P reserves	177.964	0.3	1.935
Measured & Indicated	105.365	0.3	1.092
Inferred	30.285	0.3	0.273
Total	313.6	0.31	3.300

Data from Kinross, 2023

KINROSS ALASKA - GIL MINE

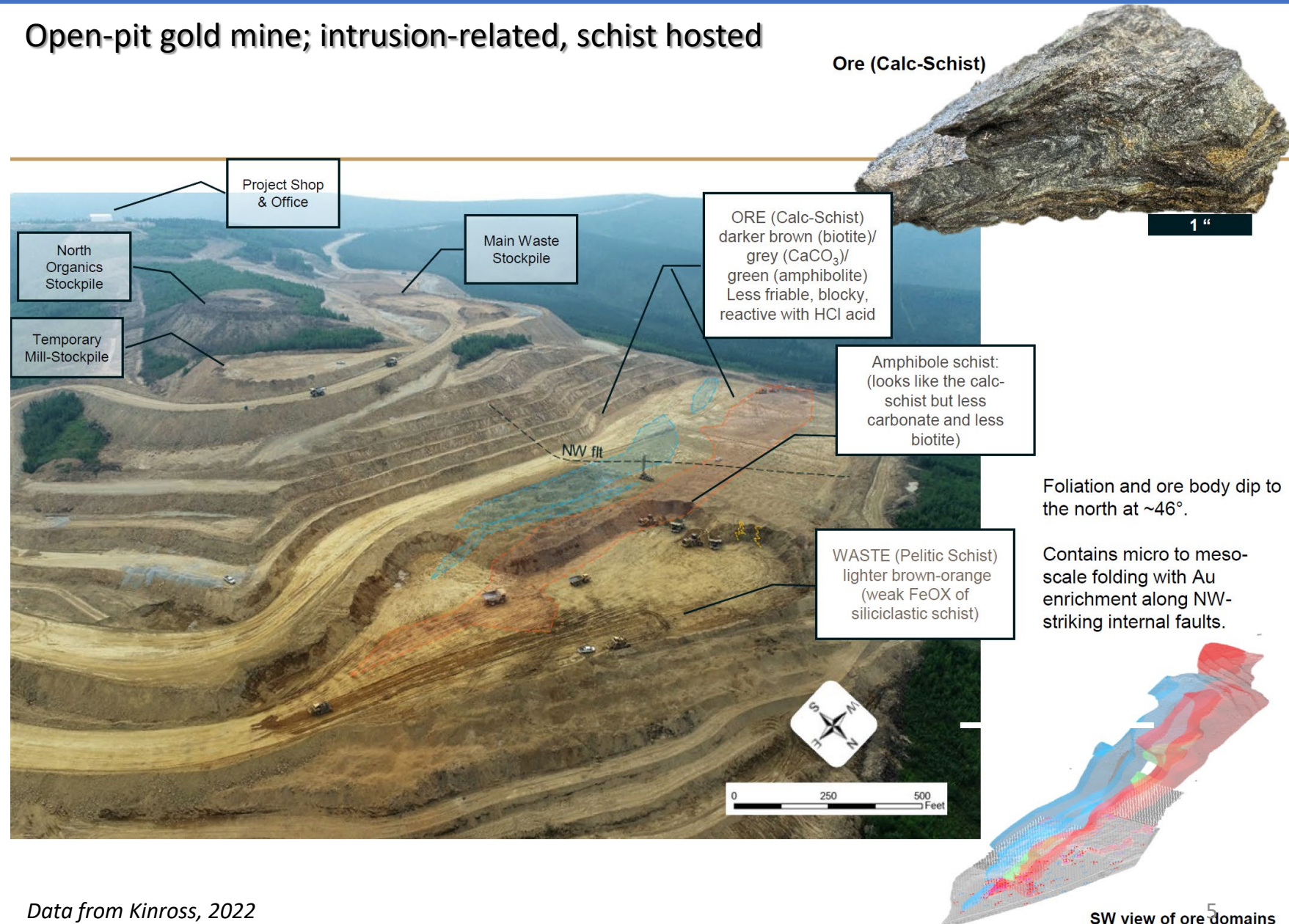


Gil Mine

- ~13 km east of Fort Knox Mine
- Haul ore to Fort Knox mill using existing road network
- Mining began in October 2021, with expected 2-year mine life, but plan to expand minesite in 2024
- Expected to produce ~160,000 oz. Au over a 2-year mine life
- Adds 80-100 jobs
- Blending Gil and Fort Knox ores (schist and granite hosted ore)



Open-pit gold mine; intrusion-related, schist hosted



Data from Kinross, 2022

KINROSS/CONTANGO ORE – MANH CHOI (PEAK)

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

Groundbreaking ceremony on August 29

Lawsuit filed by NGO on October 23 against SOA DOT regarding ore haulage on Alaska highway system (~370 km)

Kinross 70% interest; Contango ORE retains 30% interest

- Kinross to receive management & toll milling fees for Contango's milling share
- Truck ore 370 km north to Fort Knox mill (NE of Fairbanks), ~2,700 tonnes/day
- Will add ~220,000 oz. Au/year to Fort Knox production
- Planned production mid-2024 – 2028, 500-600 jobs

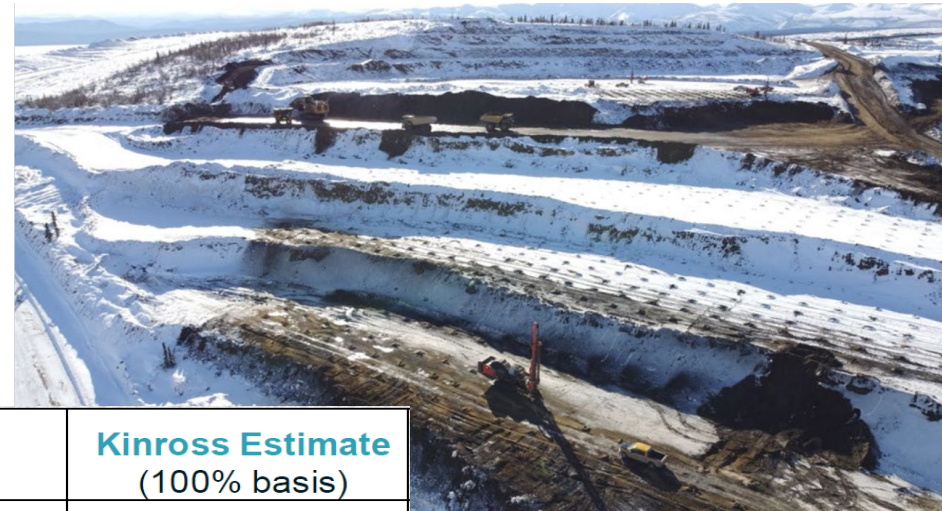
2023 Manh Choh program (US\$39.6M):

- Kinross completed Feasibility Study
- Fully Permitted for production
- Ore trucked to Fort Knox stockpile (5-8 trucks/day)
- Fort Knox: processing, infrastructure upgrades
- Detailed design, procurement, & construction
- Manh Choh: camp & road access in progress
- Construction 90% complete

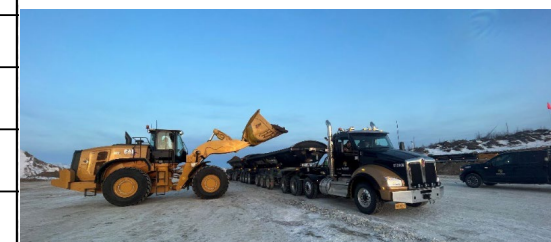
-August 29 groundbreaking ceremony

2023 Exploration:

- 704 m (2,308 ft) core drilling, soil and rock sampling



Metric	Kinross Estimate (100% basis)
First production	2024
Life of mine	4.5 years
Total production (Au eq. oz.)	~1 million
Average AISC (Au eq. oz.)	~\$750/oz
Mined gold grade	~6 gpt
Initial capital expenditures	~\$110 million



Dec. 31, 2021	Million Tonnes	Au g/T	Ounces (million)	Ag g/T	Ounces (million)
Measured	0.331	6.4	0.068	16.7	0.178
Indicated	6.110	4.0	0.778	14.1	2.762
Inferred	0.941	2.7	0.081	16.1	0.486
Total	7.382	3.9	0.927	14.5	3.426



NORTHERN STAR RESOURCES - POGO MINE

Data from Northern Star Resources, 2023

Underground, shear zone/quartz vein-hosted gold, 4.8Moz mined

FY2023 production forecast:

- 187,837 ounces of gold produced through 3rd Q
- 250,000 oz Au forecast for CY2023
- 916,744 T ore mined through 3rd Q

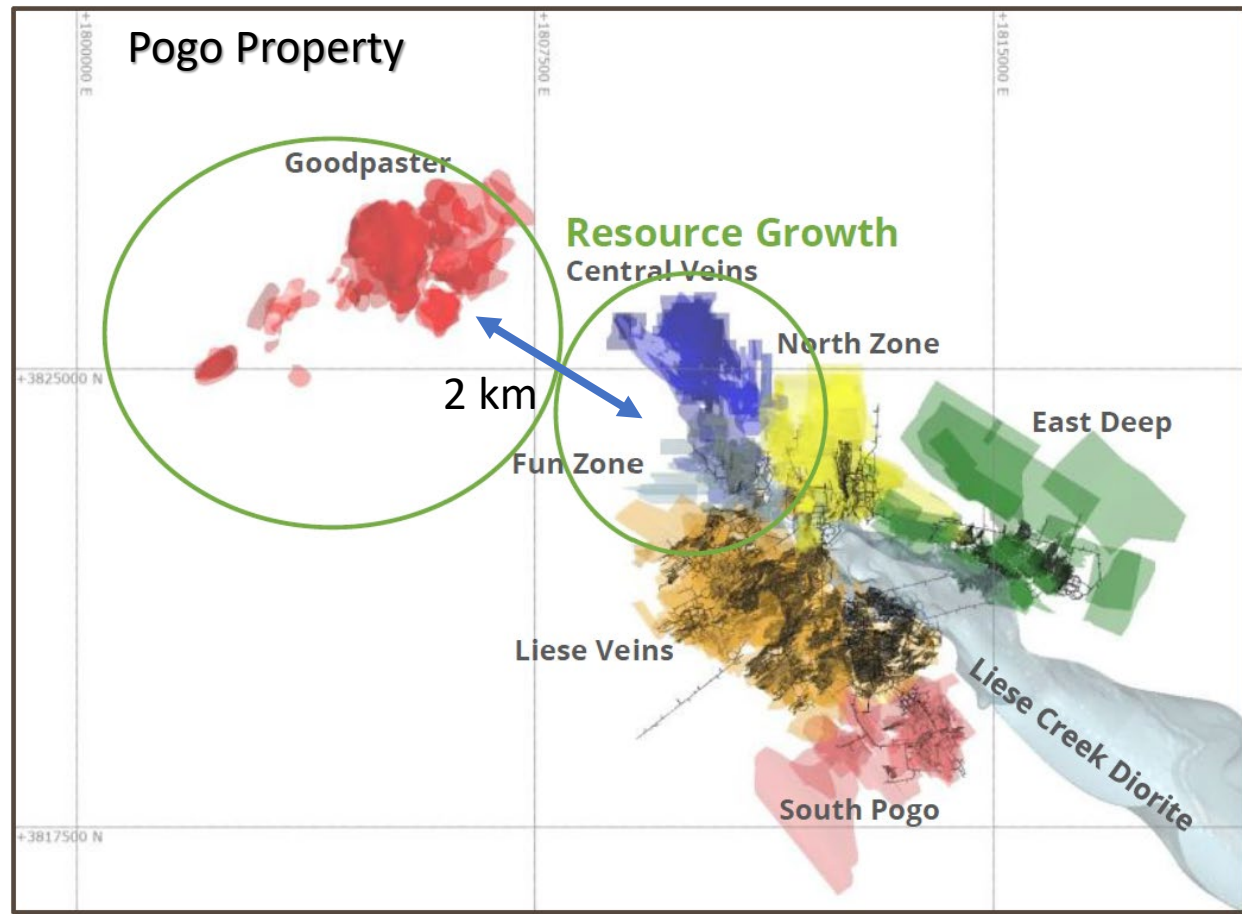
2023 Goodpaster Area Drilling (2 km west of Pogo mill):

- 2022 Maiden UG inferred mineral resource estimate of 3.2M Tonnes @ 10.3 g Au/T for 1.1M oz Au
- Drilling in 2023 but no results announced

2023 Activities:

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

March 31, 2023	Million Tonnes	Au g/T	Ounces (million)
Reserves	5.867	8.5	1.618
Resources (incl. reserves)	27.041	10.3	8.964

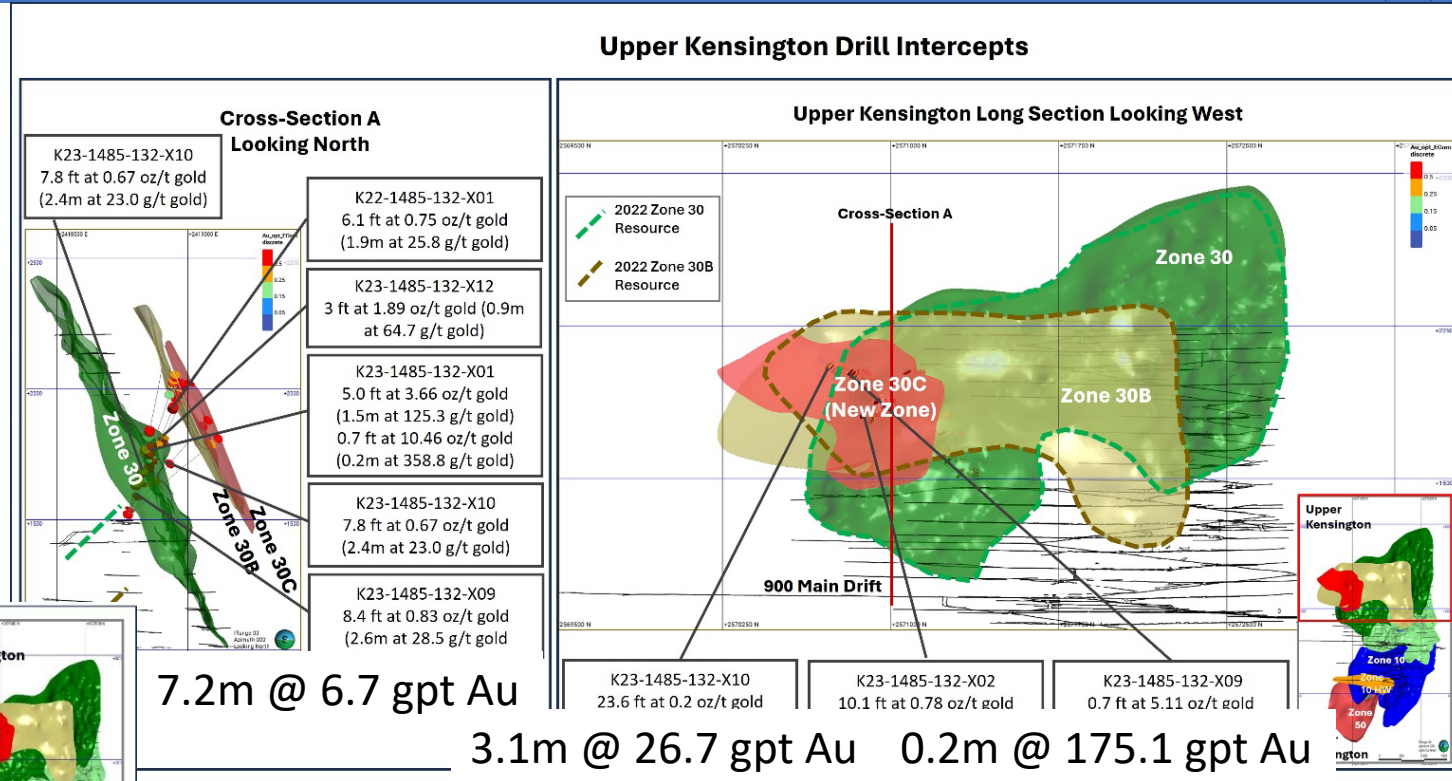


COEUR ALASKA - KENSINGTON MINE



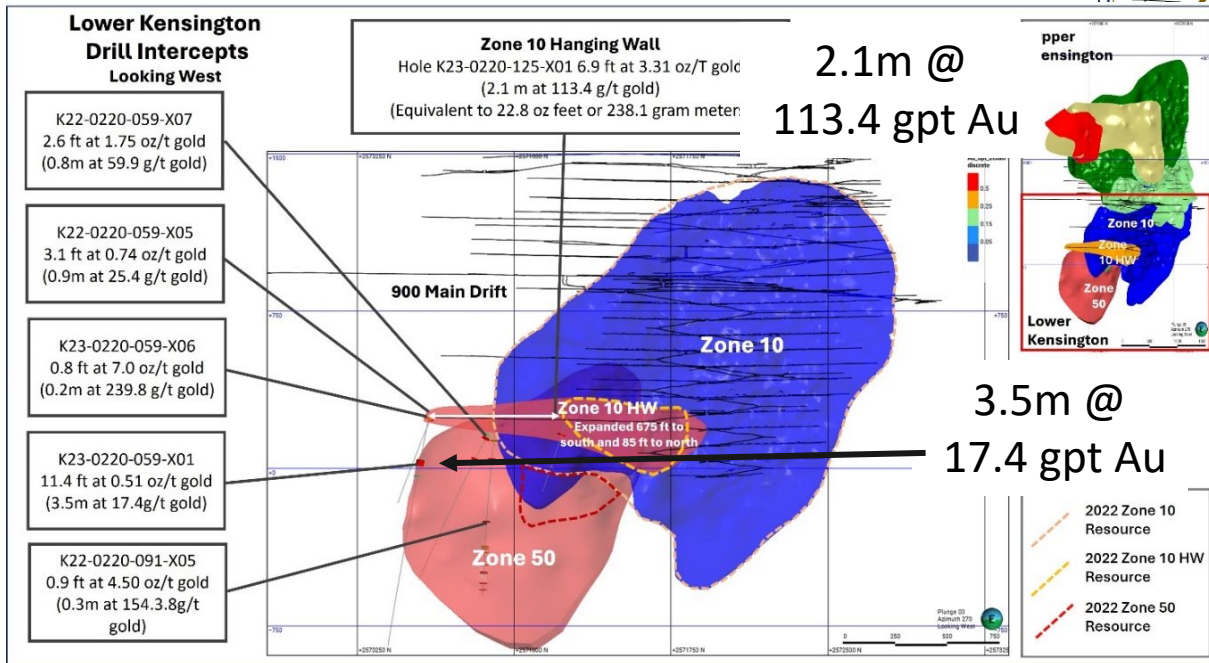
Underground mesothermal gold quartz-vein system

- Guidance (2023): 81,000 – 85,000 oz. Au
- Produced 58,103 oz. Au thru 3rd Q
- Current mine life through 2026
- Mining Kensington, Jualin, Raven, Elmira veins
- 2023 drilling program (\$6.2M after 3 Q)**
- Multi-year exploration program to extend mine life
- New zone (30C) drilled in Upper Kensington Vein
- Expansion & infill: Elmira, Kensington, Johnson veins



7.2m @ 6.7 gpt Au

3.1m @ 26.7 gpt Au 0.2m @ 175.1 gpt Au



Dec. 31, 2022	Million Tonnes	Au (g/T)	Au Ounces (million)
P&P Reserves	2.007	5.75	0.408
Measured & Indicated	3.377	8.81	1.049
Inferred	1.130	8.81	0.351
Total	6.514	7.87	1.808

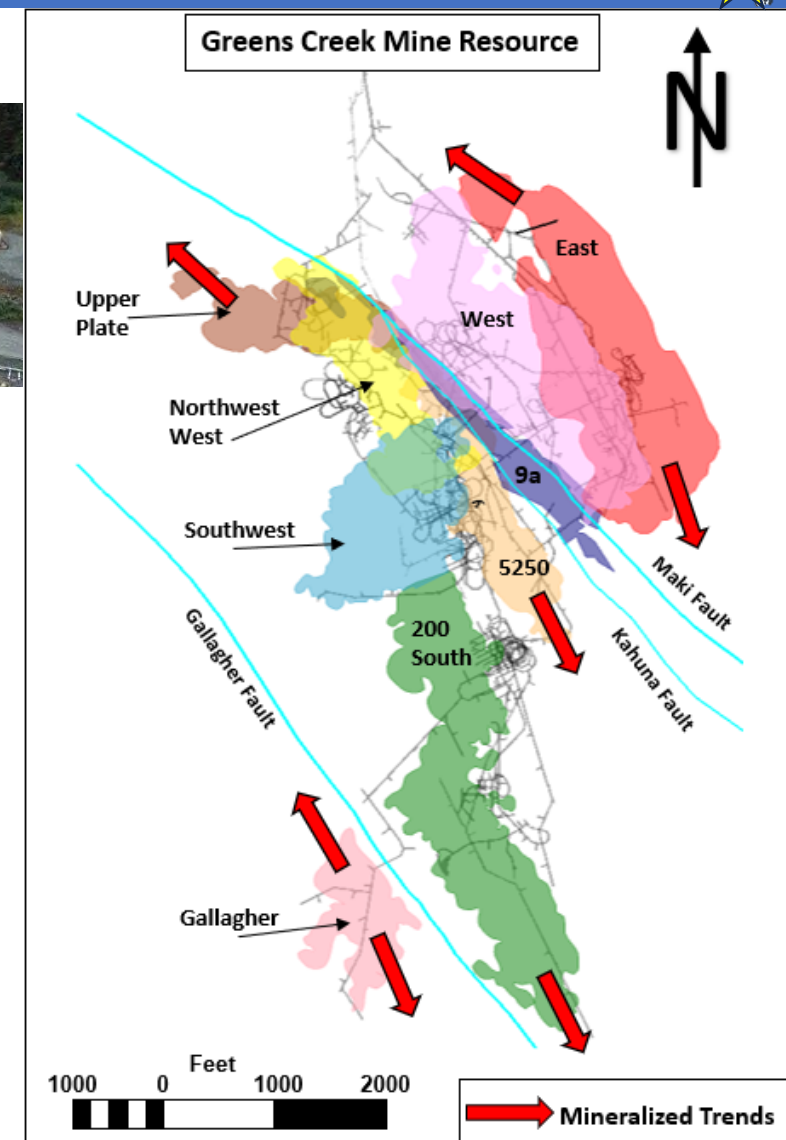
Data from Coeur, 2023

HECLA - GREENS CREEK MINE



Volcanogenic massive sulfide deposit, Southeast Alaska

Dec. 31, 2022	Million Tonnes	Zn %	Pb %	Au g/T	Ag g/T
P&P reserves	10.048	6.5	2.5	2.5	341
Measured & Indicated	7.639	8.0	2.9	3.1	403
Inferred	2.162	6.9	2.8	2.2	378
Total	19.849	7.1	2.7	2.9	369



2023 Production (announced 01/10/24):

9.731 M oz. Ag; 60,896 oz. Au; forecast 47,000 T Zn; forecast 17,000 T Pb

-Through 3 Quarters, produced 7.47 Moz Ag, 46,245 oz Au, 13,307 T Pb, 35,345 T Zn

-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

-Q1 2023 - record mill throughput of 2,351 T/day

Drilling Program (\$47-50M Capital and Exploration forecast):

- 2 helicopter-supported surface drills and 4 underground drills

-UG definition and exploration drilling (13,100 m), 109 holes for resource conversion and exploration, most drilling in Upper Plate Zone, but 4 holes in 5250 Zone

-Surface drill testing (3,627 m), 21 holes extended Upper Plate and East ore zones

TECK ALASKA - RED DOG MINE



Sediment-hosted Zn-Pb-Ag deposit

Open pit; Began operating in 1989

Mine life through 2031

2023 Production (announced 01/15/24):

539,800 tonnes Zn;

93,400 tonnes Pb

~6.5 million ounces Ag

By-product germanium

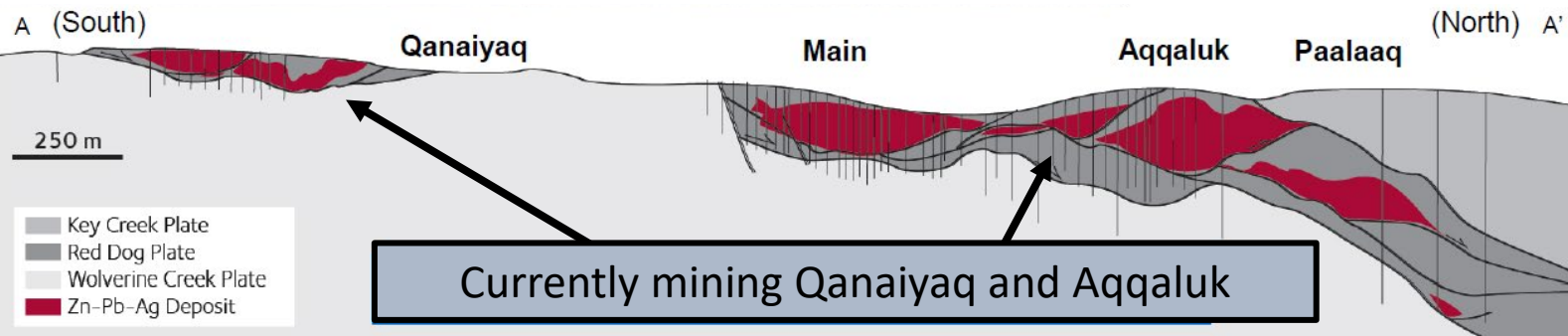


-2024 Red Dog zinc production forecast at 520,000-570,000 tonnes

-Mill throughput hampered by mill shutdowns in 3rd Q

-Ore grade for first 3 Quarters of 2023 averaged 15.4% Zn and 4.5% Pb

-Extensive exploration at nearby deposits



Dec. 31, 2022	Million Tonnes	Zn %	Pb %	Ag g/T
Reserves	38.5	12.4	3.6	66.2
Indicated	5.4	8.1	7.2	131.7
Inferred	8.7	12.8	4.6	90.0
Total	52.6	12.0	4.1	76.9

TECK - RED DOG AREA EXPLORATION



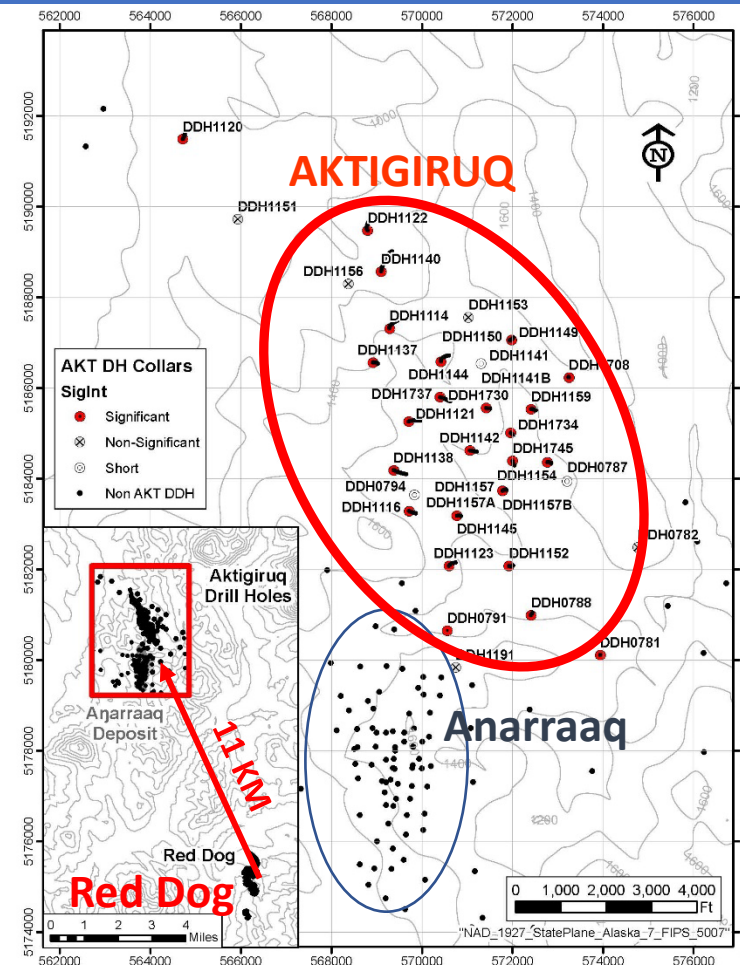
Aktiguruq / Anarraaq / Lik(Su) Zn-Pb-Ag-Ba deposits

Sediment-hosted massive sulfide 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

2023-2024 Programs:

- Resource-definition drilling at Aktiguruq and Anarraaq
- Ore bodies are 400 to 1,000 m below surface
- Anarraaq + Aktiguruq: Optimizing 2014 scoping study
- Lik(Su) JV w/SolitarioZinc Corp.: field work, drilling & resource work to confirm historical data
- Primary focus is Aktiguruq scoping-level studies for an underground mine leveraging existing mill and supporting facilities at Red Dog mine.



SUNDANCE MINING GROUP – DAWSON MINE

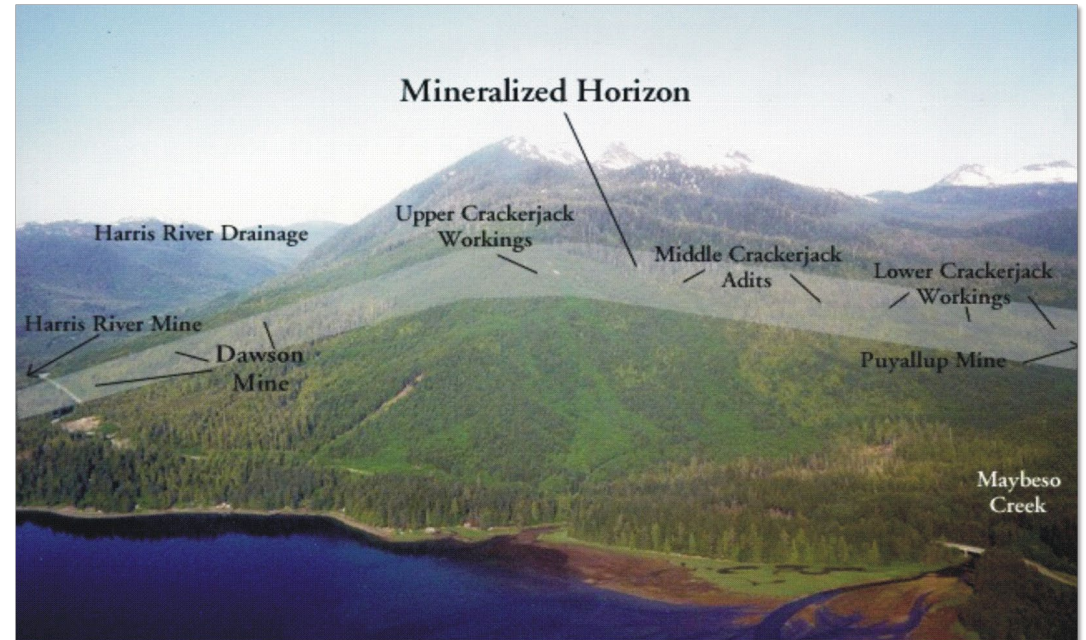


Underground orogenic gold quartz-vein system

- 2.4-km-long, N-S-oriented, orogenic gold vein-fault system
- Vein thickness: generally 0.6 m to 1.2 m (up to 1.8 m)
- Initiated production in April 2019; 50 employees
- Room-and-pillar, up-dip-jackleg-slusher underground mine
- Mill ~150 short tons/day (est.); gravity separation
- Average mill feed grade 2021 is 0.720 oz. Au/ton
- 2021 average mill recovery = 86%
- Production: 12,821 oz. Au (2021), similar output in 2023



Data from Sundance Mining Group, 2022

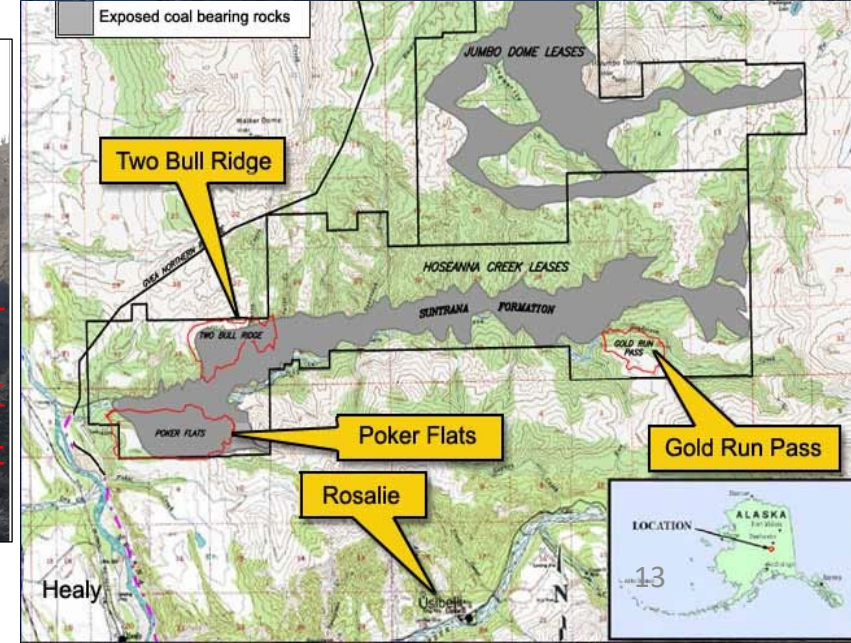


USIBELLI COAL MINE



Data from Usibelli Coal Mine, 2023

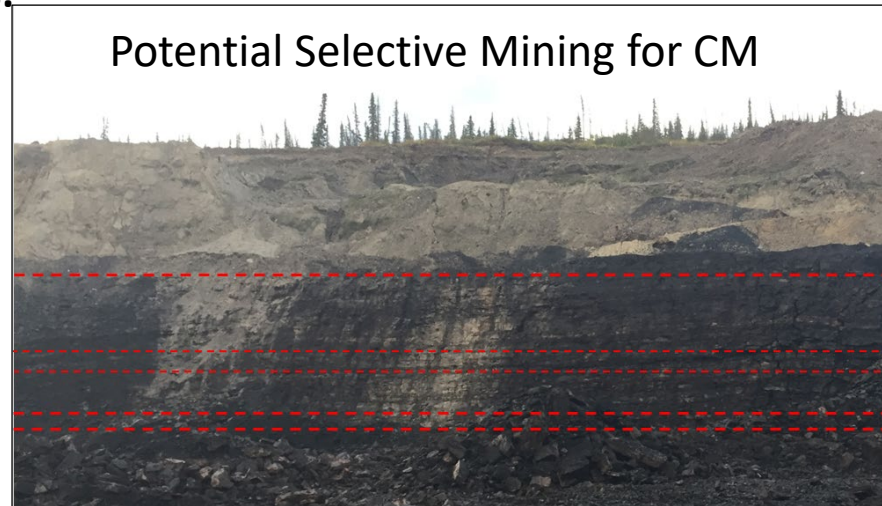
- **Mining since 1943**
- 2021 production ~945,286 tonnes
- 2022 & 2023 production steady at ~945,000 – 947,000 tonnes
- Regional Interior Alaska electrical generation
- 2023 Early September set 1,000 days without a lost-time accident (1,125+ days and counting! – new all-time)



Looking for Value-Added Opportunities:

- Drilled 13 holes, ~610 m; HHXRF and ICPMS studies to inform future drilling
- Researching potential to extract critical minerals (CM) and Rare-Earth Elements (REEs) from waste streams:
 - Overburden and inter-burden
 - Low BTU waste coal
 - Power plant ash

Potential Selective Mining for CM



2023 ALASKA EXPLORATION

Volcanogenic Massive Sulfide
(polymetallic)
36%

Gold
14%

Intrusion-related Gold
32%

Porphyry Copper
3%

SEDEX (polymetallic)
1%

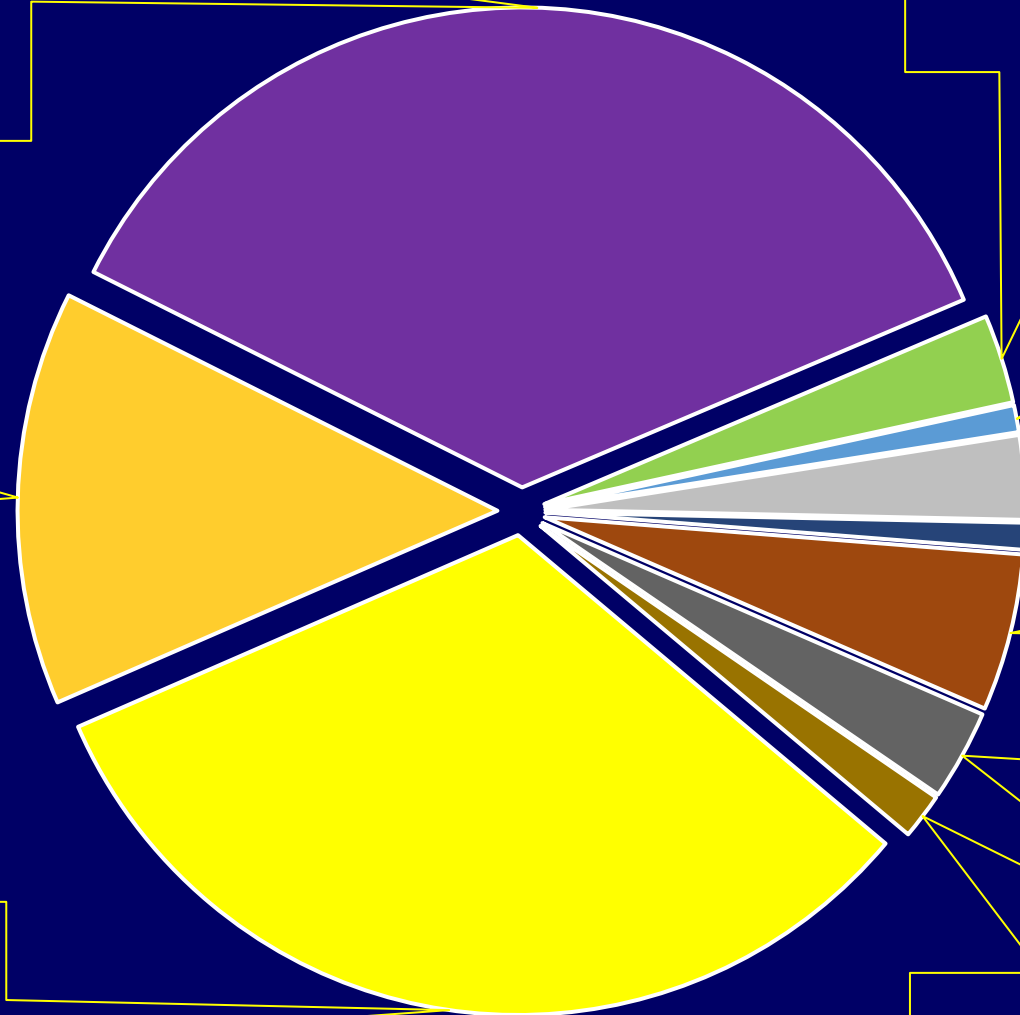
CRD (polymetallic)
3%

Copper (various types)
1%

Graphite
5%

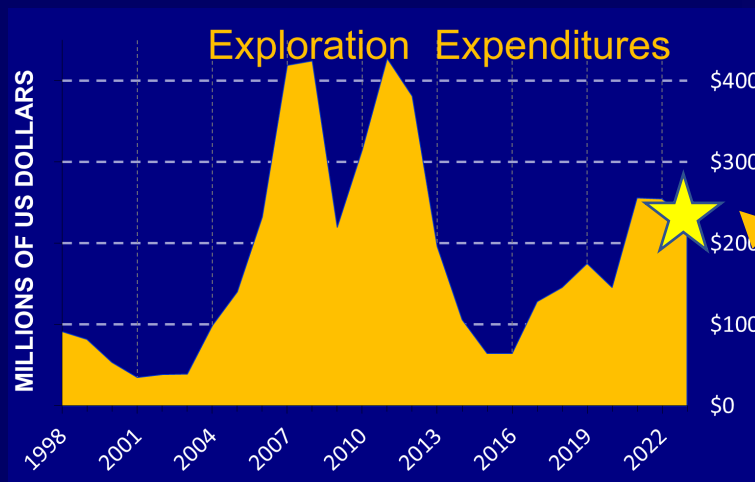
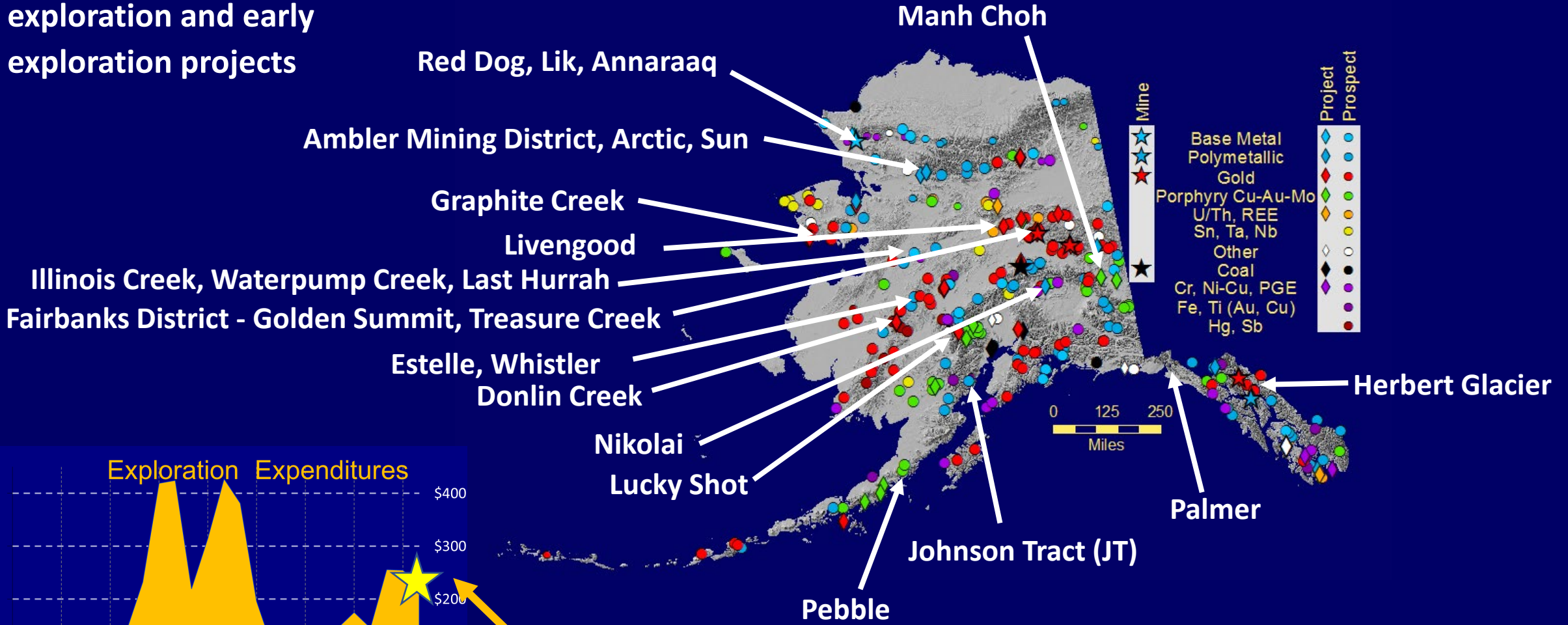
Mafic-UM Intrusion (Ni-Cu-Co-PGE)
3%

Other (Placer, REEs, Li-Ta-Sn)
2%



2023 EXPLORATION

Mix of advanced exploration and early exploration projects



~US\$230 million estimated exploration spending in 2023

AMBLER METALS – ARCTIC & BORNITE



Volcanogenic massive sulfide, Northwest Alaska
[50% Trilogy Metals Inc./50% South 32 Limited]

Aug. 2020	Million Tonnes	Cu %	Zn %	Pb %	Au g/T	Ag g/T
Probable Reserves	43.4	2.2	3.1	0.54	0.47	35

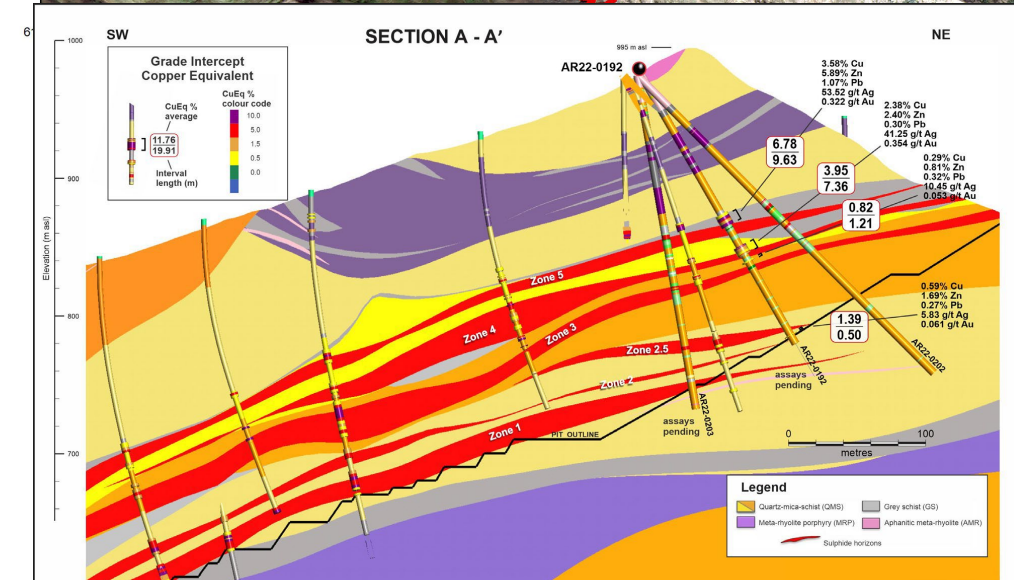
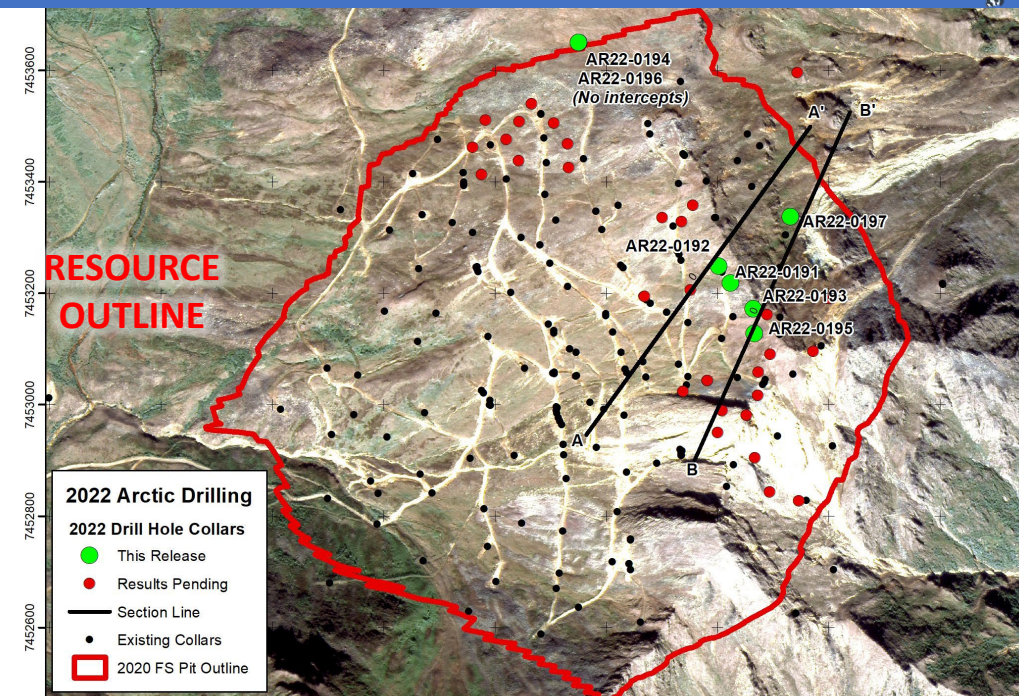
2023 program (US\$9.2 M):

- Geologists working through data generated during US\$28.5 M 2022 program
- Advancing engineering efforts and resource estimation at Arctic, with modeled 12-year minelife
- Preparations for submission of Arctic mine permits
- Sampling core from the Bornite Cu-Co deposit for USGS study on germanium mineralogy

Ambler Mining District Industrial Access Road project

- U.S. BLM published a draft SEIS during Q3 2023, plan a Final SEIS in Q1 2024, & plan to issue ROD in Q2 2024
- Planned 2023 \$24.6 M (50:50 AIEDA:Ambler Metals) for pre-development work

Data from Trilogy Metals, 2023



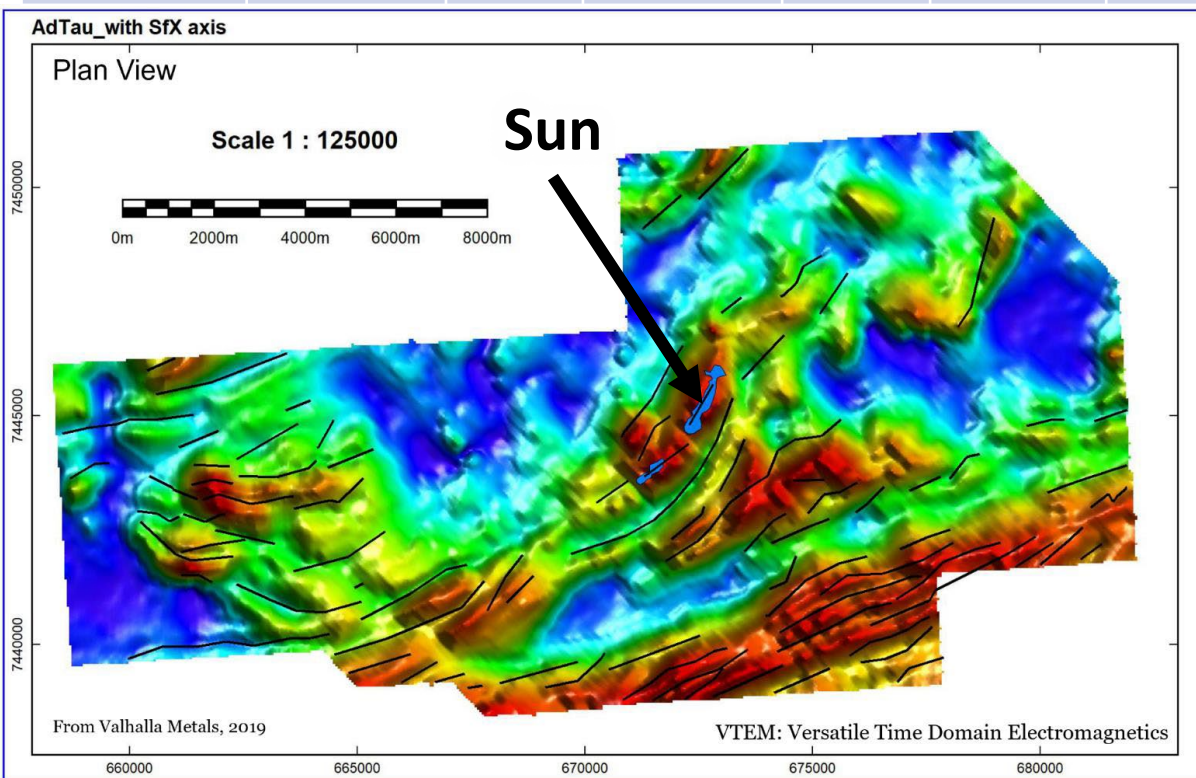
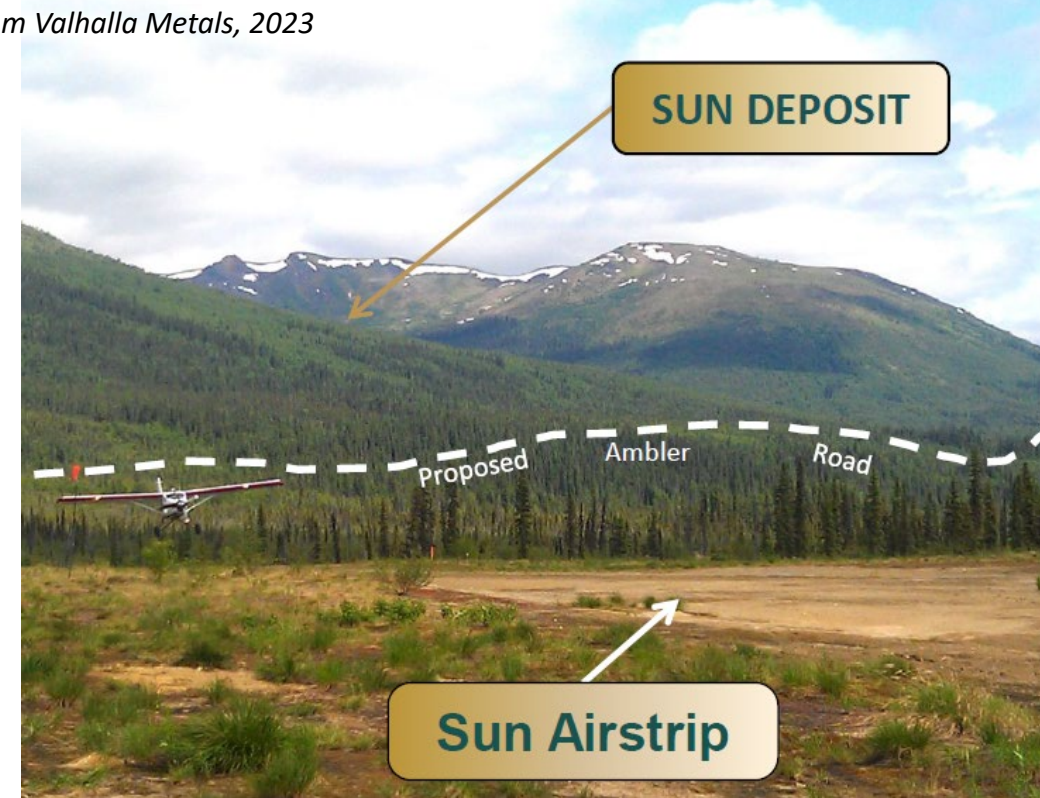
VALHALLA METALS - SUN



Volcanogenic massive sulfide, Northwest Alaska

2021 Oct.	Million Tonnes	Zinc (%)	Copper (%)	Lead (%)	Silver (g/T)	Gold (g/T)
Indicated	1.713	4.32	1.48	1.11	60.0	0.21
Inferred	9.018	4.18	1.21	1.46	81.7	0.25
Total	10.731	4.20	1.25	1.40	78.2	0.24

Data from Valhalla Metals, 2023



Historical Drilling & Exploration:

-97 DDH, 19,123 m

2023 program:

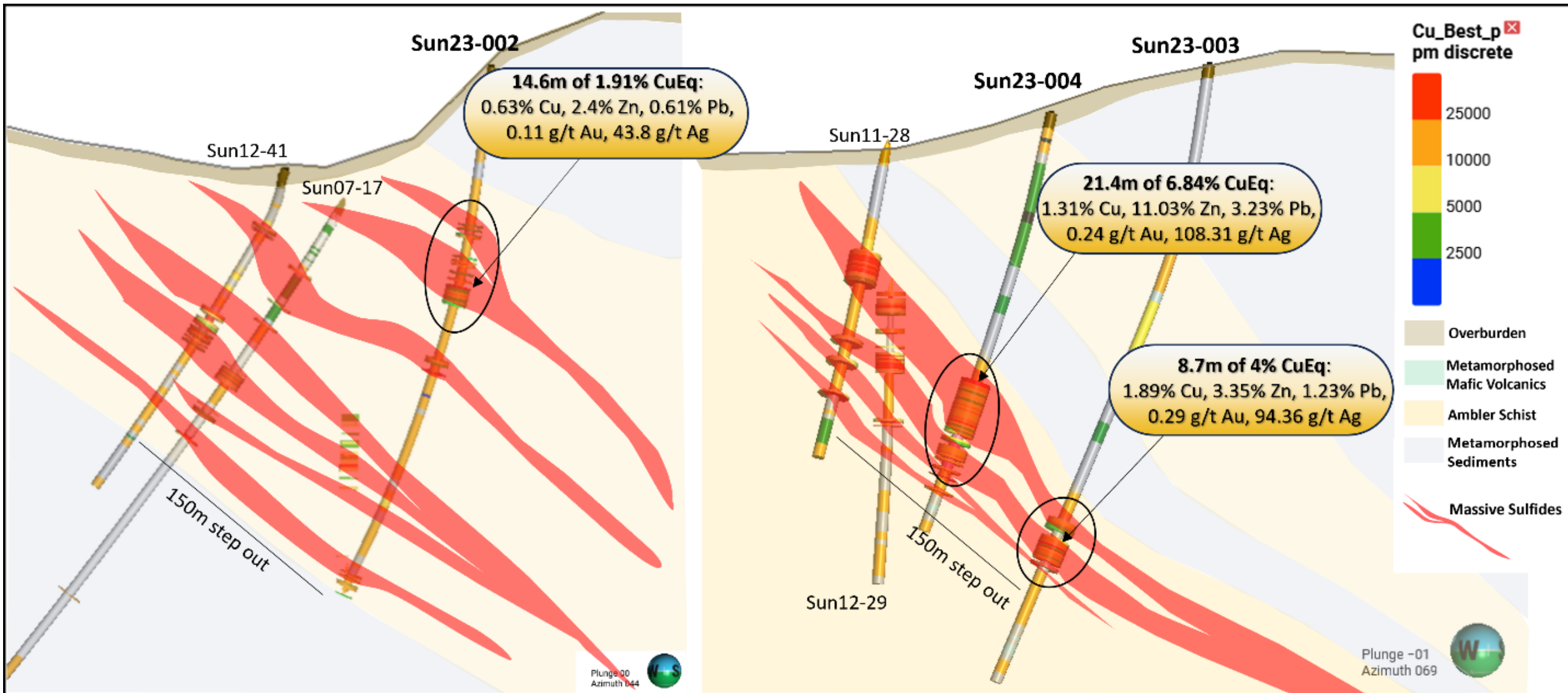
-Using 2019 Airborne VTEM Survey, 2021 –2022 conductive-plate modelling

-Drilled 4 holes; 1,104 m

VALHALLA METALS - SUN



Cross Section -2023 Geology and Assay Results



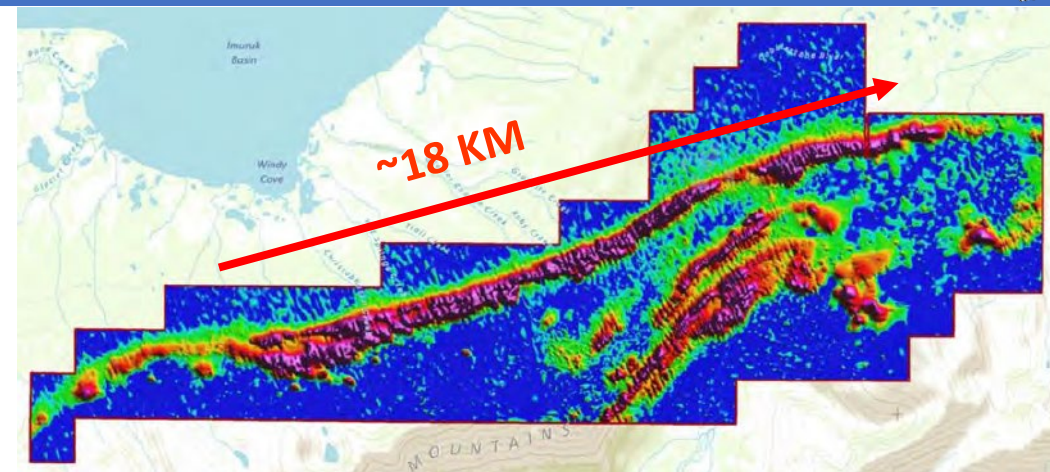
GRAPHITE ONE – GRAPHITE CREEK



Graphite Creek, Seward Peninsula, Alaska

- USA's largest large-flake graphite deposit
- only 1 sq km of 16-sq-km geophysical anomaly explored to date

3/13/2023 News Release	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
Total	281.29	5.08	14.27



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

2023 program:

- \$4.7M U.S. Dept of Defense to develop fire-suppressant foam
- \$37.5M U.S. DoD grant to accelerate pace of publishing FS
- \$2.0M investment by Bering Straits Native Corporation
- 8,736 m drill program, 57 holes
- All 52 core holes in the resource area encountered visual graphite
- Drill results -6.7 – 18.2 m thick intercepts grading 6.4 – 14.9% C-Graphite, with up to 3.5 m grading 27.74% C-graphite



WESTERN ALASKA MINERALS – ILLINOIS CREEK



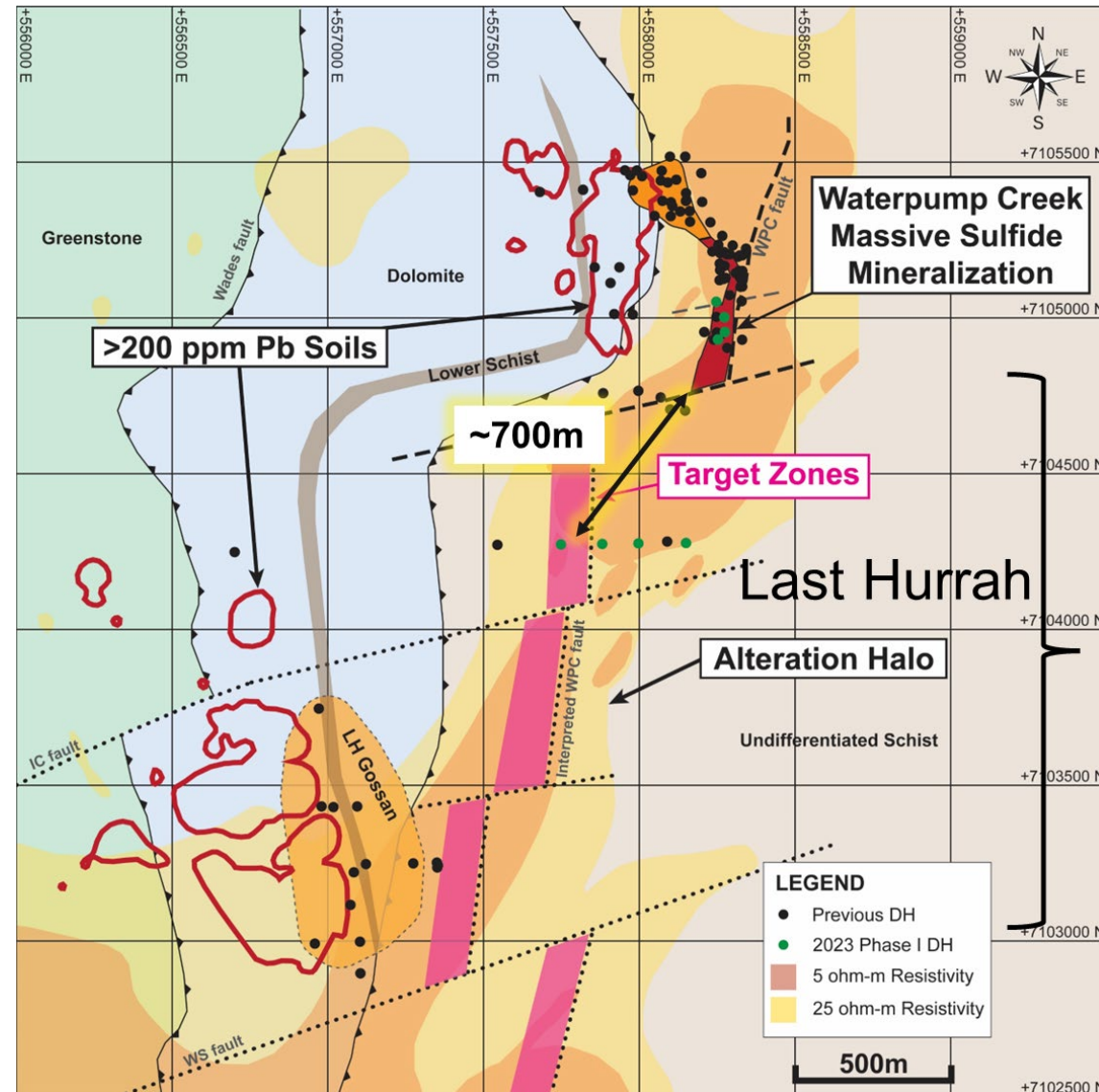
Porphyry + Oxide Au + Carbonate-Replacement District, Western Alaska

2023 Program:

- published updated NI 43-101 report
- anticipate updated inferred mineral resource estimation in 1Q 2024
- Step-out drilling on WPC
- 3-D distributed array IP/resistivity survey at the WPC project
- 5 holes drilled at WPC (1,706 m), with 3 of 5 holes intersecting CRD mineralization
- 19.4 m of 158 gpt Ag (5.1 opt), 5.3% Pb and 11.5% Zn** from 145.1 to 164.5 m in hole WPC23-0029,
- 9 holes (5,119 m) drilled at Last Hurrah, no mineralization intersected but extensive alteration

Illinois Creek mine (Au, Ag):

- 2021 resource of 10.14 M tonnes @ 0.21% Cu, 0.91 g/T Au, 34.66 g/T Ag
- Resource includes In-situ and historical heap leach pad resources



Data from Western Alaska Minerals, 2023

FREEGOLD - GOLDEN SUMMIT



Intrusion-related gold system - Fairbanks District

Golden Summit Area

+500,000 oz past UG production; >1 oz. Au/T in quartz veins
 +6.75 M oz. placer Au recovered from streams draining project area

2023 Program:

-Announced updated mineral resource for Dolphin-Cleary, **12Moz Au indicated resource and 7.7 Moz Au inferred resource**

-Resource expansion drilling, 44 holes completed in Dolphin-Cleary and Saddle zones,

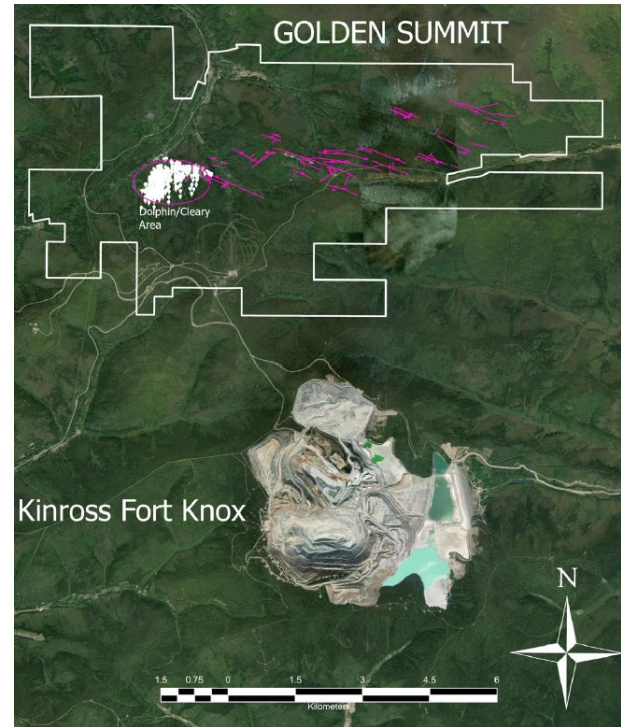
-67.1 m of 4.25 g/t Au from a depth of 438 m in GS2333

-73.2 m of 2.3 g/t Au from 431.9 m in GS2309.

-24.5 m of 2.6 g/T Au from 82.5 m in GS2329

-56.7 m of 1.02 g/t Au from a depth of 161 m in GS2301

-1.6 m of 17.65 g/t Au from 130.7 m in GS2305



Dolphin Resource (Feb. 2023)	Million Tonnes	Au Eq (g/T)	Ounces (million)
Indicated	407.54	0.92	12.00
Inferred	282.3	0.85	7.7
Total	689.84	0.89	19.7

Updated resource incorporated 2017, 2020, 2021, and 2022 drilling)



DDH GS2001: Intense silicification and veining hosted in schist

FELIX GOLD – TREASURE CREEK & NE FAIRBANKS



Intrusion-related gold-antimony systems

Treasure Creek

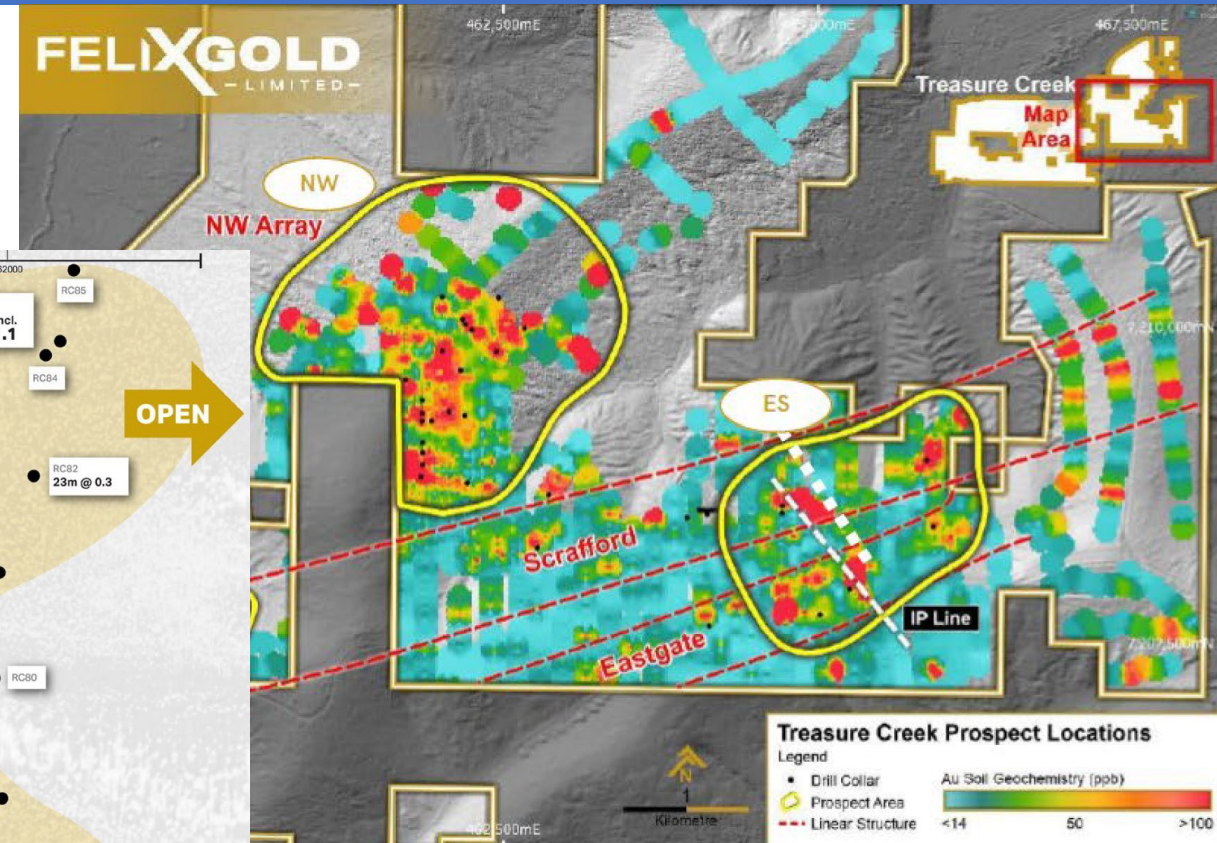
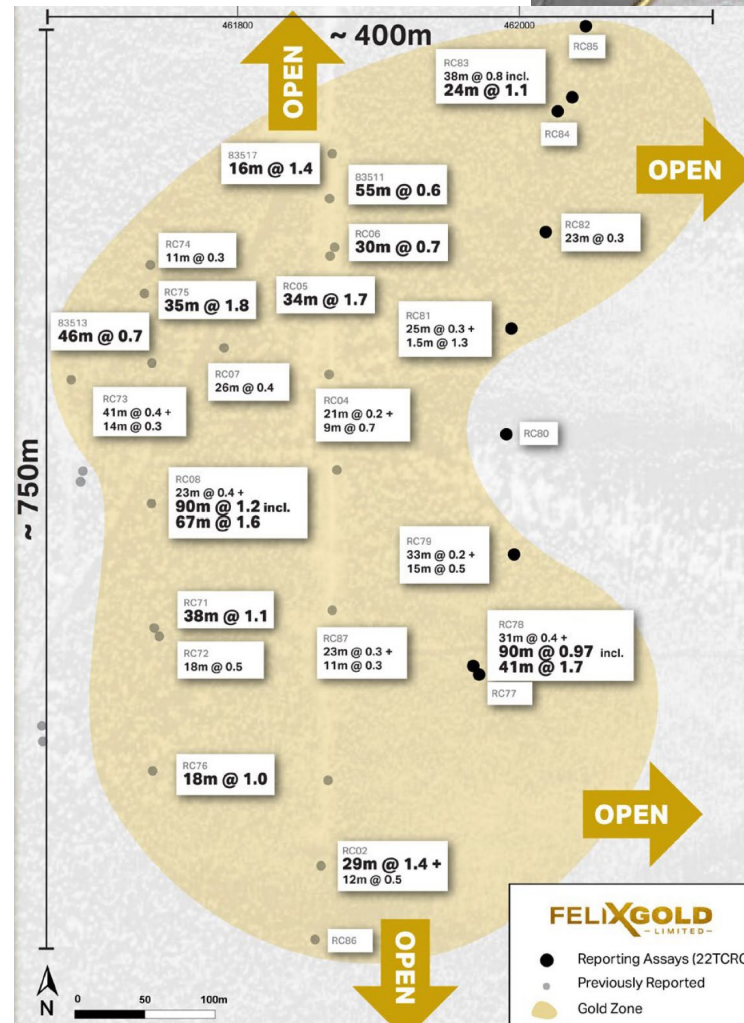
- 20 km West of Fort Knox gold mine
- Placer gold production in creeks draining claims
- Multiple >1 km Au-in-soil anomalies
- Near-surface, bulk-tonnage potential

2023 Program:

- Key targets: NW Array zone at Treasure Cr.
- 4,695 m drill program
- 50 RC holes; average depth 100 m
- focused on NW Array Southern Zone
- delineating maiden resource

Select results:

- 100.5 m averaging 1.14 g/t Au from 21.3 m in hole 23TCRC135.
- 70.1 m averaging 1.6 g/t Au from 6.1 m in hole 23TCRC138.
- 53.3 m averaging 1.88 g/t Au from 30.5 m in hole 23TCRC153.
- 54.9 m averaging 1.8 g/t Au from 1.5 m in hole 23TCRC155.



Gold-in-soil anomalies, Treasure Creek

Data from Felix Gold, 2023

NW Array (S. Zone) significant intercepts, Treasure Creek

ALASKA ENERGY METALS – NIKOLAI



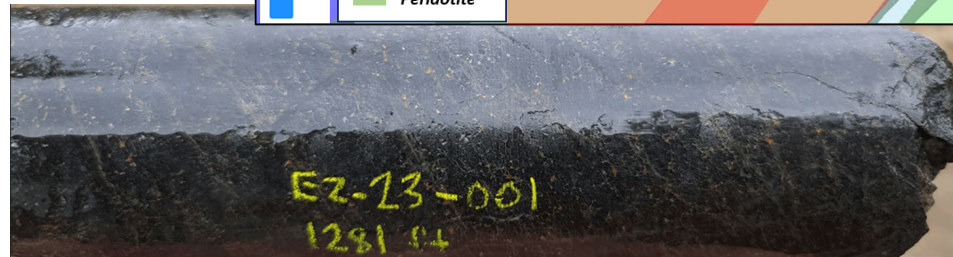
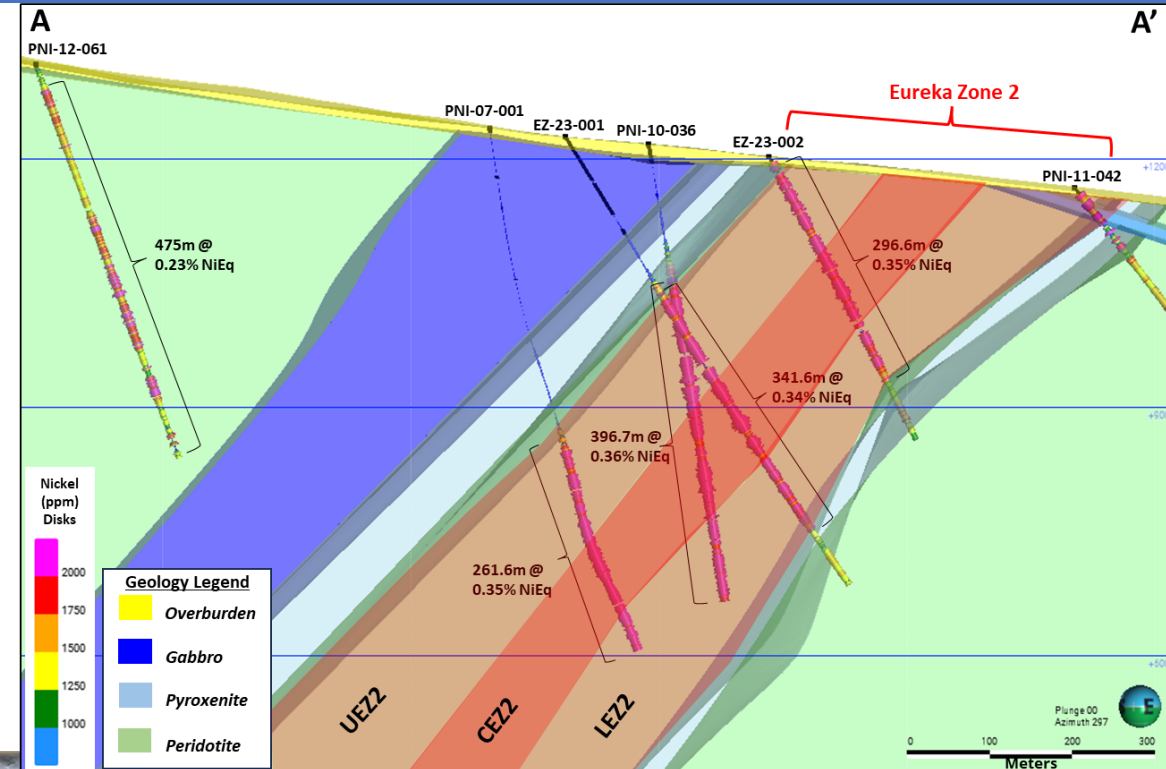
Mafic intrusion-hosted Ni-Cu-Co-PGE project, southcentral Alaska

- 2023 program (\$5.5M):
- Completed 8-hole, 4,138 m of helicopter supported diamond drilling program
- Purchased historic Nikolai data set - \$1.0 million (includes geophysics and results from 116 drill holes, 35 within Eureka area)
- Collected 27-line km of CSAMT and 16-line km of EM
- Calculate maiden, NI 43-101 compliant, Inferred Resource Nov 20 2023 (Purchased Data) and update March 2024 (2023 Drilling)

Eureka Property (Eureka East and West Areas)
Inferred Resource of 319.6 million tonnes
grading 0.30% NiEq% and containing:

- 1,552 million pounds of nickel
- 373 million pounds of copper
- 115 million pounds of cobalt
- 419,138 ounces of platinum
- 802,003 ounces of palladium
- 119,915 ounces of gold

Data from Alaska Energy Metals, 2023



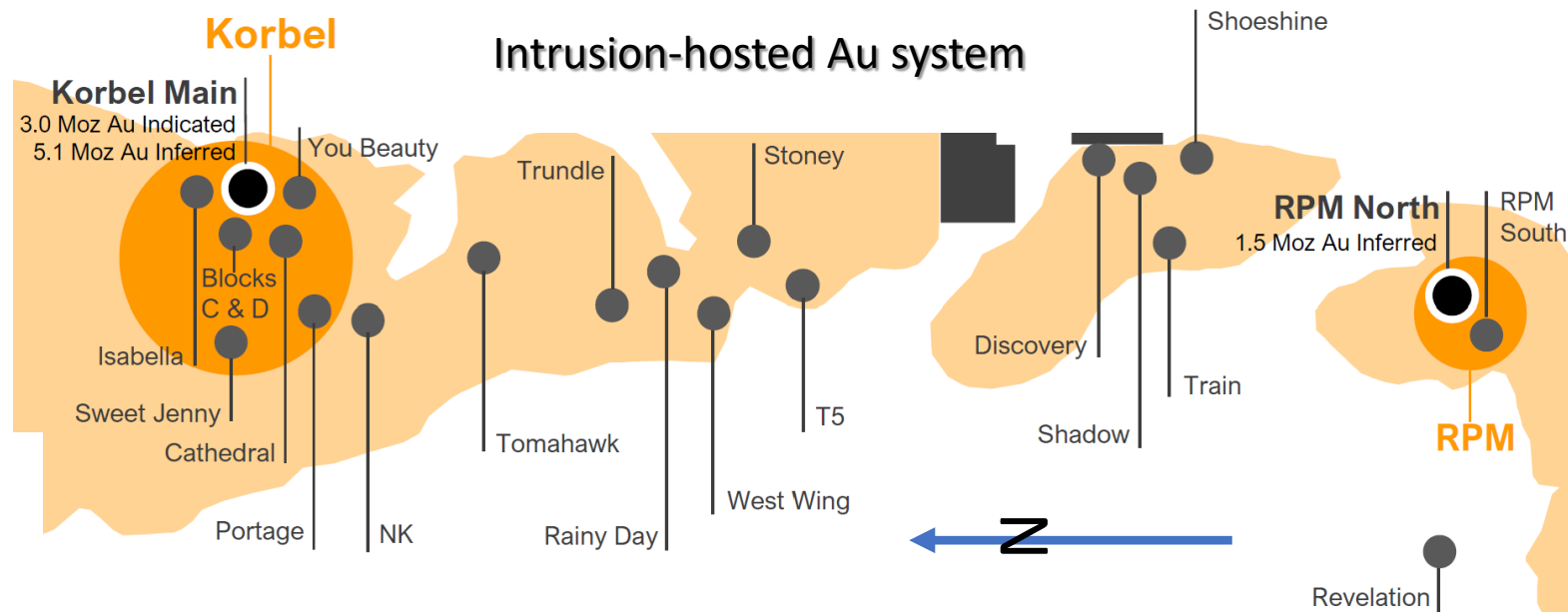
Serpentinized Dunite
 (~10% sulfides)
 (Pentlandite,
 Chalcopyrite, Pyrrhotite)
**389.5m - 391.0m: 0.26%
 Ni, 0.21% Cu, 0.03% Co,
 150 ppb Pd, 80 ppb Pt,
 38 ppb Au (0.47% NiEq)**

NOVA MINERALS – ESTELLE PROJECT



2023 Program:

- 7,500 m drill program at RPM and Train areas
- 6 of 7 holes at RPM South with long intervals of near surface Au at >0.73 gpt Au including
- 30 m @ 1.2 gpt Au from 30 m in hole RPM-039
- 23 m @ 1.1 gpt Au from 14 m in hole RPM-042
- Updated mineral resource estimates (March 2023)



Data from Nova Minerals, 2023

March 2023	Tonnes (millions)	Au (g/T)	Ounces (million)
Korbel Main	1,040	0.3	8.65
RPM North	62	0.6	1.24
Global Ind.+Inf Resource	1,102	0.3	9.89



DONLIN GOLD - DONLIN



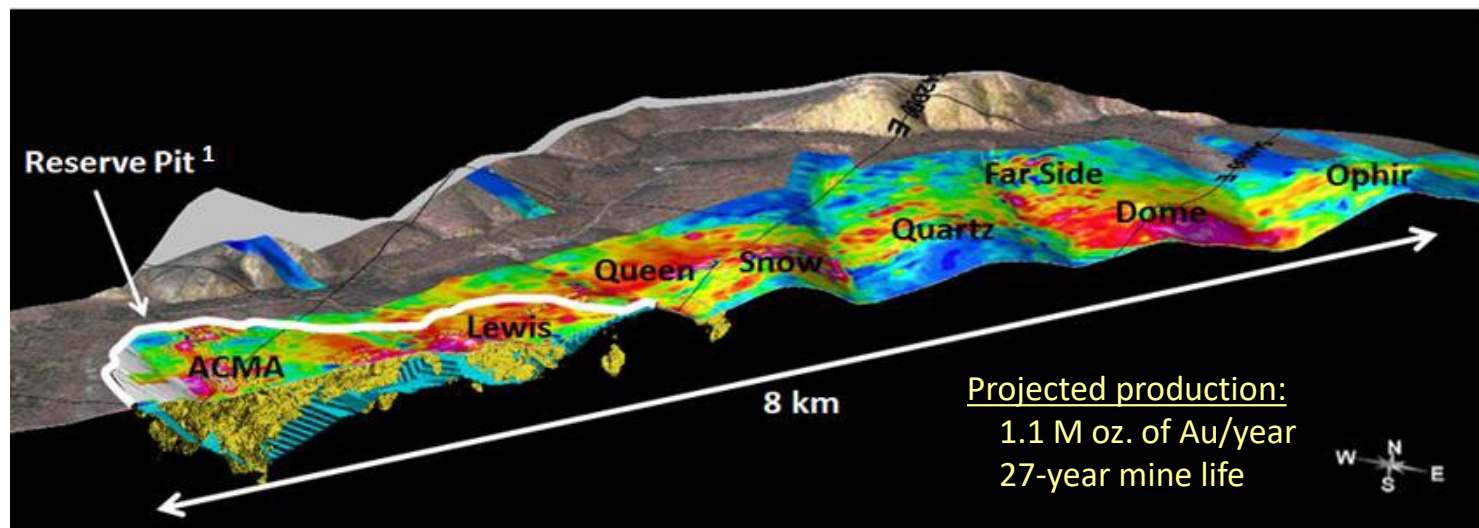
2020-2022 Programs – US\$142 M: Proposed open-pit gold mine; structurally controlled, intrusion related

-305 DDH, 89,931-m in ACMA, Lewis, & Divide [50% Barrick Gold Corp./50% NovaGold Resources Inc.]

Data from Donlin Gold, 2023

2023 Program – US\$34M:

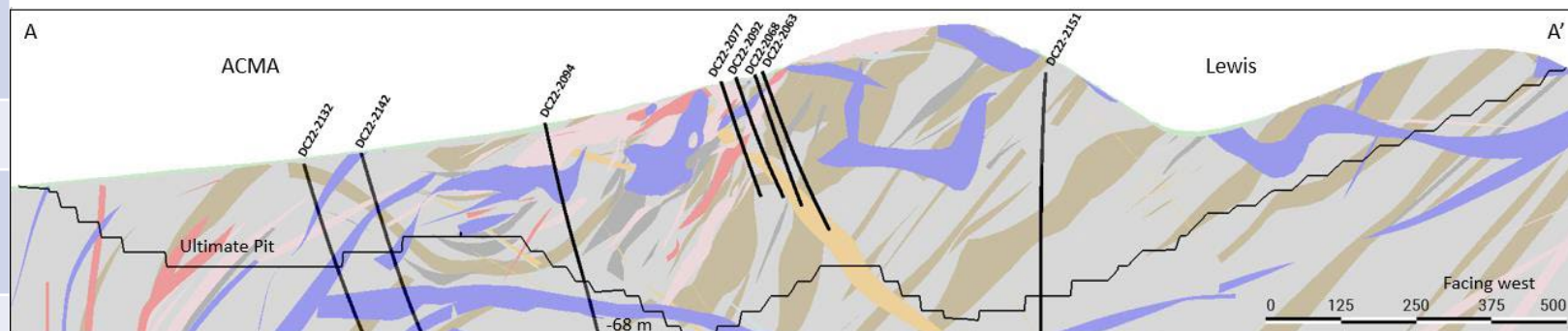
- Geotechnical + hydrological fieldwork to advance Alaska Dam Safety certificate applications
- Permitting activities, including hydrological drilling in areas of planned pit and infrastructure
- Mine optimization (geologic & resource models)
- Lawsuit filed** in April 2023 by 3 Alaska Native groups challenging issuing of permits and adequacy of 2018 environmental review by U.S. COE



Projected production:
1.1 M oz. of Au/year
27-year mine life

3D-view of Donlin property, open pit outline, & Au-in-soils showing additional potential Only 5% of 489 sq km land package explored

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



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

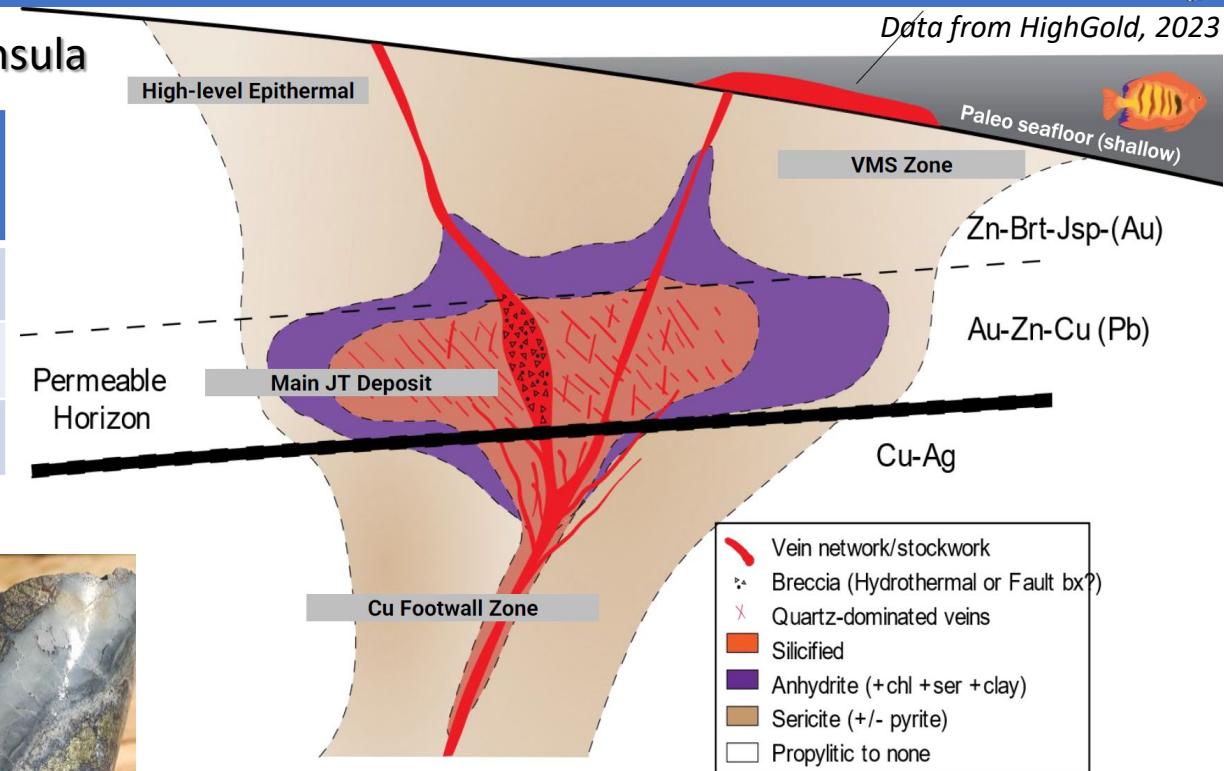
HIGHGOLD MINING – JOHNSON TRACT



Data from HighGold, 2023

High-grade Au-Cu-Zn-Ag-Pb polymetallic VMS deposit, Alaska Peninsula

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
Total	4.195	4.66	6.5	0.57	0.61	5.04



2023 Program (US\$9M):

-33 drillholes, 7,648 m drill program

-27 exploration holes and 6 geotechnical holes

-Drilling Highlights:

-**56.6 m at 4.87 g/t Au, 0.61% Cu, 3.5% Zn** in hole GT23-004 (main JT deposit)

-**2.2 m at 49.9 g/t Au, 25 g/t Ag, 1.5% Cu, 8.4% Zn** in hole DC23-070 (Ellis Zone)

-**1.4 m at 11.6 g/t AuEq (4.51 g/t Au, 16 g/t Ag, 1.9% Cu, 1.1% Pb, 7.0% Zn)** in hole DC23-071 (Ellis Zone)

-Metallurgical test program confirmed excellent metal recoveries to high-quality concentrate products

-Property-wide 666-line-km geophysical survey



New Ellis Zone discovery 4km NE of JT Deposit
578 g/t Au and 2,023 g/t Ag over 6.4 m



PEBBLE LIMITED PARTNERSHIP - PEBBLE



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

2022 events:

--Dec. 1, 2022 - U.S. EPA announced "CWA Section 404(c) Recommended Determination" to prohibit/restrict use of Bristol Bay watershed for developing Pebble deposit; step 3 in the 4-step review process

2023 events:

-State of Alaska filed suit against U.S. EPA with U.S. Supreme Court claiming violations of Alaska's sovereign authority

2024 events:

-On January 8 2024, the U.S. Supreme Court announced that they would not take up the case
 -State of Alaska announced that it will proceed with lawsuits against the EPA in lower federal district courts

No. _____, Original

IN THE
Supreme Court of the United States

STATE OF ALASKA,
Plaintiff,

v.

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

**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
TOTAL	10,910	82	0.34	0.30	235	1.5

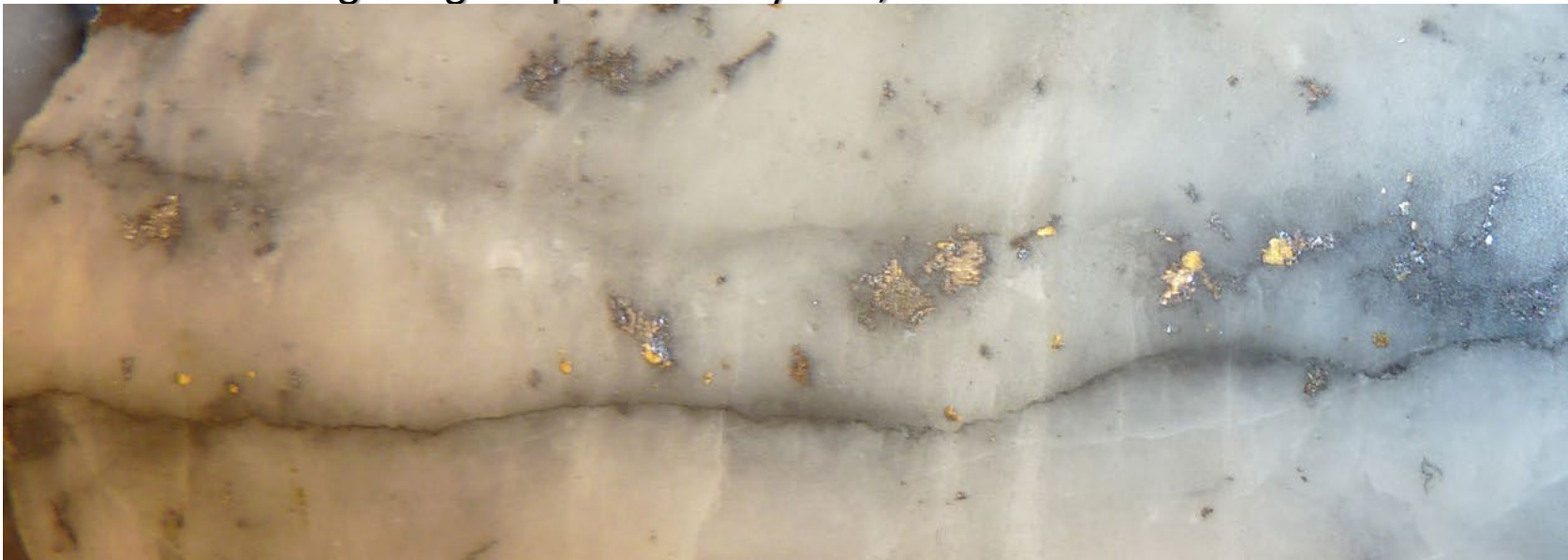
Oct. 2020: 2.6M kg Re (M&I) and 1.6M kg Re (Inferred)

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

GRANDE PORTAGE RESOURCES – HERBERT GOLD

Orogenic gold-quartz vein system, Southeast Alaska



2023 Program : Quartz vein with **asp**, py, gl, spl, and VG

- 3,500 m planned drill program
- 9 exploration holes completed by October 31
- 2023 drilling for Goat Vein and Sleeping Giant Vein

Significant Drill Results 2023 program:

- 1.10 m of 7.66 gpt Au from 281.00 m (Goat Vein, 23P-1)
- 2.83 m of 7.75 gpt Au from 297.00 m (Goat Vein, 23P-2)
- 3.39 m of 9.87 gpt Au from 277.21 m (Goat Vein, 23P-4)
- 2.95 m of 17.4 gpt Au from ? m (Goat Vein, 23M-1)
- 1.2 m of 7.83 gpt Au from ? m (Sleeping Giant Vein, 23AB-5)

Initial 2023 Resources	Tonnes (T)	Au (g/T)	Au ounces	Ag (g/T)	Ag ounces
Measured	-	-	-		
Indicated	3,637,000	10.23	1,196,800	5.87	686,700
Inferred	1,138,000	8.91	325,900	4.63	169,300
Total	4,775,000	9.91	1,522,700	5.57	856,000

Data from Grande Portage Resources., 2023

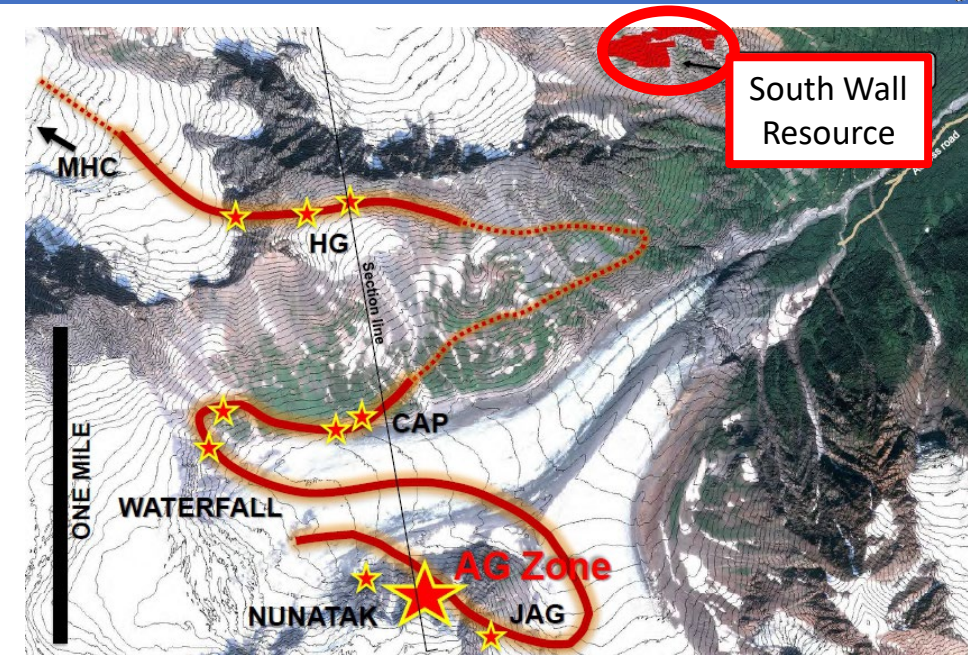
AMERICAN PACIFIC MINING/DOWA - PALMER



Volcanogenic Massive Sulfide, Southeast Alaska

American Pacific Mining & Dowa Metals & Mining Alaska Ltd.

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
Total	14.3	0.89	5.04	56.6	0.36	26.5

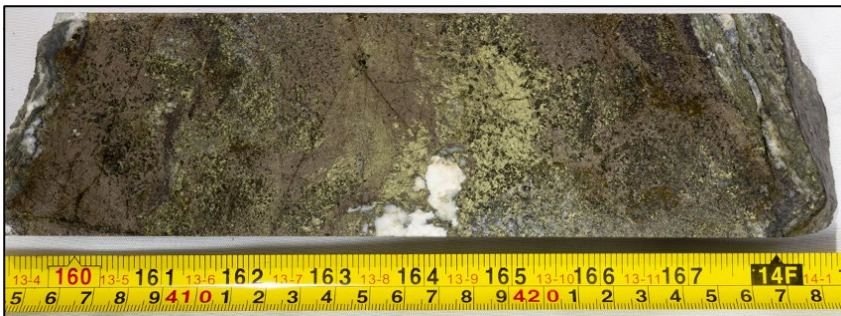


2023 program (US\$25.5M):

- 7,791m, 27-hole resource infill drilling at South Wall Zone (Zone 1 & Zone 2-3)
- 2,3650-m, 10-hole geotechnical-hydrology drill program in Palmer area
- 2 hole, 447m drill program at Christmas Creek
- Camp construction for seasonal exploration
- Environmental baseline studies, compliance work, & permitting
- Metallurgical studies on South Wall and RW Zone mineralization

Significant Drill Results 2023 program:

- 30.7 m of 2.59% Cu and 11.21% Zn, including 6.53% Cu over 2.9 m (CMR23-162B)
- 39.1 m of 1.44 % Cu, 5.87 % Zn and 25% barite (CMR23-165)
- 18.4 m of 1.61% Cu and 14.7 m of 2.66% Cu and 2.93% Zn (CMR23-161)
- 10.8 m of 1.28% Cu, 13.13% Zn and 110.25 g/t silver in the RW Oxide Zone
- 23.4 m of 1.78% Cu and 13.73% Zn, including 30.16% Zn over 6.2 m in hole CMR23-153

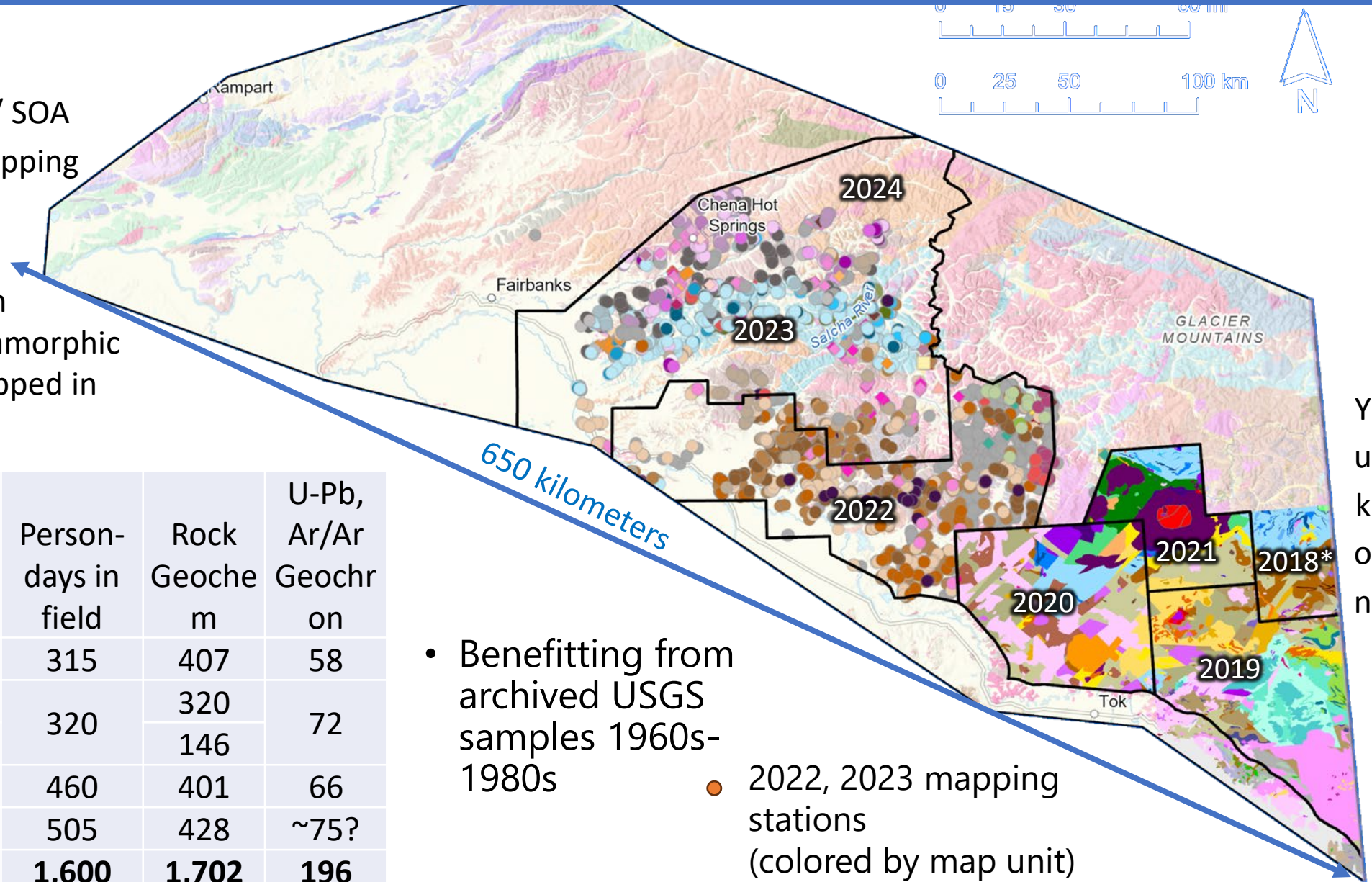


CM23-153 core pictured from part of 1.5 m interval that returned 0.667% Cu and 32.45 % Zn

ALASKA GEOLOGICAL SURVEY MINERAL GEOLOGIC MAPPING



- 2023: Very large map area
- Earth MRI Funding (USGS) w/ SOA
- Mix compilation and new mapping
- Resolve conflicts between existing maps
- Data to refine & map modern units: magmatic suites, metamorphic terranes (including areas mapped in detailed 1990s-2000s)



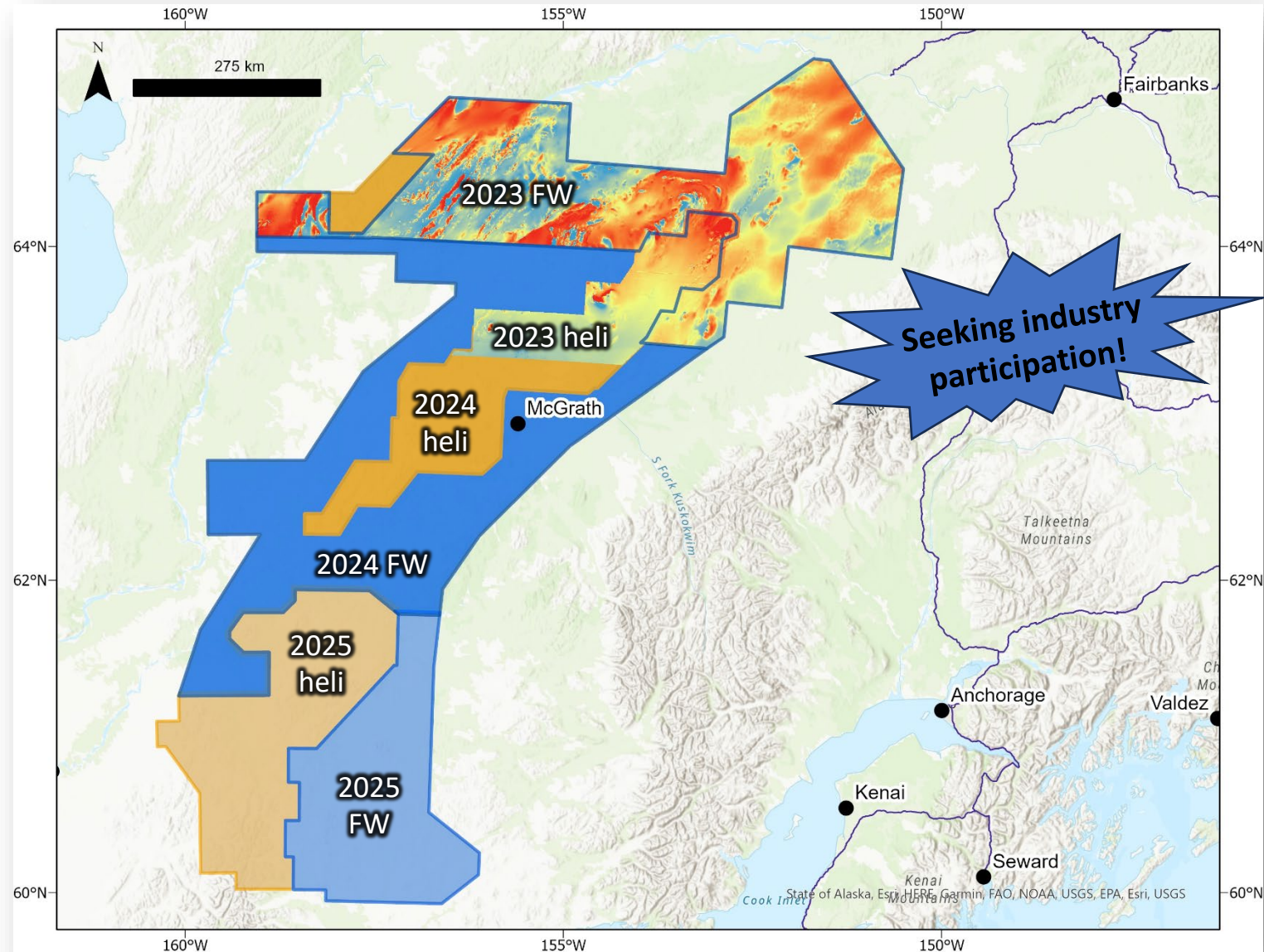
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	Square miles	Square km	Person-days in field	Rock Geochron	U-Pb, Ar/Ar Geochron
FFY2019	1,865	4,829	315	407	58
FFY2020	1,717	4,446	320	320	72
FFY2021	899	2,328		146	
FFY2022	3,102	8,033	460	401	66
FFY2023	5,604	14,515	505	428	~75?
Total	13,187	34,151	1,600	1,702	196

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

NEW AIRBORNE GEOPHYSICAL SURVEYS

- New data releases soon (in 2023 flew 87,000 line-km fixed-wing and 25,000 line-km helicopter)
- **Industry partners sought** for upcoming magnetic-radiometric surveys in the Kuskokwim Mineral belt



A vibrant aurora borealis (northern lights) display is visible in the night sky, featuring streaks of green, red, and yellow light. The aurora is set against a dark, starry sky and a snowy, hilly landscape in the foreground. The text "THANK YOU!" and "Visit Booth 607" is overlaid on the left side of the image.

THANK YOU!
Visit Booth 607