2020 Alaska Mining Industry Update

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Alaska Division of Geological & Geophysical Surveys

AME Mineral Exploration Roundup
January 18, 2021
ALASKA

- World’s 4th most attractive development area
- Top U.S. state for mineral potential
- Top U.S. state for mining-friendly regulatory & fiscal policies
- U.S. state best able to meet its own permitting timelines
6 lode mines
1 coal mine
~200 placer Au mines
~35 exploration projects

<table>
<thead>
<tr>
<th>2020 Production Est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zn  550,000 tonnes</td>
</tr>
<tr>
<td>Pb  120,000 tonnes</td>
</tr>
<tr>
<td>Au  620,000 oz.</td>
</tr>
<tr>
<td>Ag  15,500,000 oz.</td>
</tr>
</tbody>
</table>

Red Dog
472,000-482,000 tonnes Zn
90,000-95,000 tonnes Pb
6-7 million oz Ag

Fort Knox
~240,000 oz. Au

Pogo
~200,000 oz. Au

Usibelli
~907,000 tonnes coal

Greens Creek
~9,000,000 oz. Ag
~47,000 oz. Au
~67,000 tonnes Zn
~27,000 tonnes Pb

Kensington
125,000 - 135,000 oz. Au

Dawson
2020 Production Est.
Zn  550,000 tonnes
Pb  120,000 tonnes
Au  620,000 oz.
Ag  15,500,000 oz.
**Kinross - Fort Knox Mine**

**Open-pit gold mine; intrusion hosted**

**Reserves & Resources (Dec. 31, 2019)**

<table>
<thead>
<tr>
<th></th>
<th>Million Tonnes</th>
<th>Au g/T</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserves</td>
<td>255.8</td>
<td>0.34</td>
<td>2.801</td>
</tr>
<tr>
<td>Measured &amp; Indicated</td>
<td>176.7</td>
<td>0.4</td>
<td>2.026</td>
</tr>
<tr>
<td>Inferred</td>
<td>86.1</td>
<td>0.3</td>
<td>0.774</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>518.6</strong></td>
<td><strong>0.34</strong></td>
<td><strong>5.601</strong></td>
</tr>
</tbody>
</table>

- 8 millionth ounce of gold poured 2019
- 2020 forecast: ~240,000 oz. Au

**Replaced Resource base**
- Extends mine life through 2027
- 2021-2027 annual production: ~250,000 oz.

**Barnes Creek Heap Leach:**
- New 172.4-MT-capacity leach pad
- Loading began in 2020
- Leaching through 2030

**Purchased interest in Peak Deposit (October 2020)**

*Data from Kinross, 2020*
Open-pit, Au-Ag-Cu skarn, Tetlin tribe native land

**Kinross purchased 70% interest for US$93.7 million**

Contango ORE retains 30% interest

- Kinross to receive management & toll milling fees for Contango’s share of milling
- One-year construction
- Truck ore ~370 km to Fort Knox mill
- Adds ~220,000 oz. Au/year to Fort Knox production
- Production 2024 – 2029

2020 Program (US$3.6 million):
- Initiated permitting
- Water- and rock-geochemical sampling

2021 Program (US$18 million):
- Initiate feasibility study; FS & initial permitting by EOY 2022
- Infill drilling, engineering, & environmental studies
- Exploration

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

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Data from Kinross, 2020

<table>
<thead>
<tr>
<th>Dec. 31, 2019</th>
<th>Million Tonnes</th>
<th>Au g/T (million)</th>
<th>Ounces (million)</th>
<th>Ag g/T (million)</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured</td>
<td>0.473</td>
<td>6.4</td>
<td>0.097</td>
<td>17</td>
<td>0.254</td>
</tr>
<tr>
<td>Indicated</td>
<td>8.73</td>
<td>4.0</td>
<td>1.111</td>
<td>14</td>
<td>3.945</td>
</tr>
<tr>
<td>Inferred</td>
<td>1.34</td>
<td>2.7</td>
<td>0.116</td>
<td>16</td>
<td>0.694</td>
</tr>
<tr>
<td>Total</td>
<td>10.55</td>
<td>3.9</td>
<td>1.324</td>
<td>14.4</td>
<td>4.893</td>
</tr>
</tbody>
</table>
**Northern Star - Pogo Mine**

**Underground, shear zone/quartz vein-hosted gold mine**

- **Estimated 2020 Production:** ~200,000 oz Au
- **Increasing production to 300,000 oz/yr by 2023**
- **Cumulative production:** ~ 4.2 million oz
- **Endowment ~ 11 M oz, and expanding resource**
- **AISC US$1,200 – $1,400/oz**

**Accomplishments:**
- Since acquiring Pogo, reduced AISC/T by 29%
- New mining fleet significantly improving tonnage productivity
- Development rates increased 76% since March 2019
- Transitioned to 60% longhole stoping

**2020 Mine Drilling:**
- Underground reserve definition and extension drilling:
  - All Liese Vein systems (L1, L2, L3), North Zone, X-Vein, South Pogo, and Fun Zones
  - Excellent intersections from extensions
  - New veins in Liese 2 and South Pogo areas

**Plans through 2021:**
- Expand mill from ~1.0 to 1.3 M T/year

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**June 30, 2020**

<table>
<thead>
<tr>
<th></th>
<th>Million Tonnes</th>
<th>Au g/T</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>5.867</td>
<td>8.0</td>
<td>1.507</td>
</tr>
<tr>
<td>Resource</td>
<td>21.255</td>
<td>9.8</td>
<td>6.672</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27.122</strong></td>
<td><strong>9.4</strong></td>
<td><strong>8.179</strong></td>
</tr>
</tbody>
</table>

Data from Northern Star Resources, 2020; Photo courtesy North of 60 Mining News
2020 Goodpaster Exploration:
- Surface exploration drilling commenced in Q3
- Focused on southeast portion for conversion to resources

Select results:
- 4.0 m at 67.5 g Au/T;
- 5.2 m at 15.7 g Au/T;
- 8.9 m at 5.0 g Au/T

- 2.3 km strike, 500 m depth, open in all directions
- Series of stacked, flat- & steeply-dipping veins, very similar to Pogo Liese vein system

- New airborne magnetic & radiometric survey for regional exploration

Data from Northern Star Resources, 2020
**Coeur - Kensington Mine**

*Underground mesothermal gold quartz-vein system*

- Forecast production (2020): 122,500-130,000 oz. Au
- Production to date: ~1M oz. Au
- Current mine life through 2023

**Jualin:**
- First production Dec. 2018
- 15-20% of Kensington’s Au production in 2020
- Driving improved cash flow and lower costs

- US$6.8M 2020 exploration program (as of Q3)
- 3 drills active in Q3
- Surface drilling at Raven, Big Lake and Johnson Veins
- All drills underground in Q4 for resource conversion on Kensington, Johnson and Elmira veins

---

<table>
<thead>
<tr>
<th>Dec. 31, 2019</th>
<th>Million Tonnes</th>
<th>Au (g/T)</th>
<th>Au Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserves</td>
<td>1.677</td>
<td>6.78</td>
<td>0.366</td>
</tr>
<tr>
<td>Measured &amp; Indicated</td>
<td>3.226</td>
<td>7.34</td>
<td>0.762</td>
</tr>
<tr>
<td>Inferred</td>
<td>1.562</td>
<td>7.12</td>
<td>0.358</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6.465</strong></td>
<td><strong>7.15</strong></td>
<td><strong>1.486</strong></td>
</tr>
</tbody>
</table>

Data from Coeur Mining, 2020
Volcanogenic massive sulfide deposit, Southeast Alaska

<table>
<thead>
<tr>
<th>Dec. 31, 2019</th>
<th>Million Tonnes</th>
<th>Zn %</th>
<th>Pb %</th>
<th>Au g/T</th>
<th>Ag g/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserves</td>
<td>10.721</td>
<td>7.3</td>
<td>2.8</td>
<td>2.8</td>
<td>379</td>
</tr>
<tr>
<td>Measured &amp; Indicated</td>
<td>8.569</td>
<td>8.1</td>
<td>3.0</td>
<td>3.1</td>
<td>364</td>
</tr>
<tr>
<td>Inferred</td>
<td>1.848</td>
<td>7.4</td>
<td>3.1</td>
<td>2.8</td>
<td>426</td>
</tr>
<tr>
<td>Total</td>
<td>21.2</td>
<td>7.6</td>
<td>3.0</td>
<td>2.95</td>
<td>378</td>
</tr>
</tbody>
</table>

2020 Production Estimates:
- 10.5 M oz. Ag; 47,000 oz. Au; 67,000 tonnes Zn; 27,000 tonnes Pb
- Definition drilling in the Upper Plate, 9A, East Ore, Northwest, West zones
- Strong exploration drill results in 200 South zone (eg., 631 g Ag/T, 6.3% Zn, 2.9% Pb over 8.7 m)

Data from Hecla Mining, 2020
Teck - Red Dog Mine

Sediment-hosted Zn-Pb-Ag deposit
Began operating in 1989

2020 Production Estimates:
- 472,000 to 497,000 tonnes Zn;
- 90,000 to 95,000 tonnes Pb
- ~7 million ounces Ag

- VIP2 mill-upgrade project was commissioned in 2020
- Expected to improve throughput by ~15%
- Increased precipitation impacted water storage, necessitating intense water-management activities and an early tailings dam raise; also installed a new water-treatment plant to increase water-discharge capacity.

Currently mining Qanaiyaq and Aqqaluk

Data from Teck, 2020
Aktigiruq/Anarraaq

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 target: 80-150 M tonnes @ 16-18% Zn+Pb

2017-2019 program:
- 2016 drilling - 54.6 m @ 16.8% Zn, 3.63% Pb (DDH1737)
- Applied for permit to build road
- Resource-definition drilling at Aktiguruq and Anarraaq
- Ore bodies are 400 to 1,000 m below surface

2020 program:
- Analyzing 2019 core
- New drilling deferred to 2021

Data from Teck Alaska, 2020
Usibelli Coal Mine

Usibelli Coal Mine:
- 2020 Production ~907,000 tonnes
- Regional electrical generation

Credit: http://www.usibelli.com/Coal-Leases.php
[50% Barrick Gold Corp./50% NovaGold Resources Inc.]

2019 Program – US$26M
- State of Alaska permitting
- Geotechnical drilling of water & tailing storage areas
- Updating 2011 feasibility study to reflect optimized development plan

2020 Program – US$40M:
- Resource confirmation and model validation drilling
- 4 drill rigs, 85 holes, 23,400-m DDH program in ACMA & Lewis areas
- Results exceed prior modeled grades/thicknesses

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

<table>
<thead>
<tr>
<th>Jan. 2012</th>
<th>Million</th>
<th>Au (g/T)</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven &amp; Probable</td>
<td>504.8</td>
<td>2.09</td>
<td>33.85</td>
</tr>
<tr>
<td>Resources, inclusive of reserves*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured &amp; Indicated*</td>
<td>541.3</td>
<td>2.24</td>
<td>39.0</td>
</tr>
<tr>
<td>Inferred</td>
<td>92.2</td>
<td>2.02</td>
<td>5.99</td>
</tr>
<tr>
<td>Total</td>
<td>633.6</td>
<td>2.21</td>
<td>45.0</td>
</tr>
</tbody>
</table>

Data from Donlin Gold, 2020
**INTERNATIONAL TOWER HILL - LIVENGOOD**

**Metasediment-hosted, intrusion-related gold**

<table>
<thead>
<tr>
<th>April 2017</th>
<th>Million Tonnes</th>
<th>Au g/T</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proven/Probable</td>
<td>392</td>
<td>0.71</td>
<td>8.9</td>
</tr>
<tr>
<td>Measured, Indicated &amp; Inferred***</td>
<td>578</td>
<td>0.68</td>
<td>12.6</td>
</tr>
</tbody>
</table>

***Inclusive of reserves

**2017 Initial PFS:**
- 6.8 M oz. of Au/yr.; 23-yr mine life

**2019 program:**
- US$3.7 million work program
- Metallurgical studies
- Environmental studies

**2020 program:**
- US$2.6 million work program
- Metallurgical studies
- Environmental studies

**2021 program:**
- US$5.6 million work program
- Complete a PFS (Oct. 2021)

Data from ITH Mines, 2020
Volcanogenic massive sulfide, SE Alaska

**Million Tonnes** | **Cu %** | **Zn %** | **Ag g/T** | **Au g/T** | **Barite %**
--- | --- | --- | --- | --- | ---
Indicated | 4.7 | 1.49 | 5.23 | 30.8 | 0.30 | 23.9
Inferred | 9.6 | 0.59 | 4.95 | 69.3 | 0.39 | 27.7
Total | 14.3 | 0.89 | 5.04 | 56.6 | 0.36 | 26.5

**2020 program (US$2.2M):**
- Environmental and permitting work for underground exploration drift
- Greenfields exploration at Big Nugget Gold project in the Porcupine Creek placer district

[Constantine Metal Resources Ltd. (51%) & Dowa Metals & Mining Alaska Ltd. (49%)]

Data from Constantine Minerals, 2020
Volcanogenic massive sulfide, Northwest Alaska

<table>
<thead>
<tr>
<th>April 2018</th>
<th>Million Tonnes</th>
<th>Cu %</th>
<th>Zn %</th>
<th>Pb %</th>
<th>Au g/T</th>
<th>Ag g/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probable</td>
<td>43.04</td>
<td>2.32</td>
<td>3.24</td>
<td>0.57</td>
<td>0.49</td>
<td>36.0</td>
</tr>
</tbody>
</table>

2019 program (US$7 M):
- 11 holes, total 2,405 m
- Geotechnical & hydrological studies for Feasibility Study
- Working with AIEDA to advance Ambler Mining District Industrial Access Road project.

2020 program:
- Completed Feasibility Study
- 3-year payback at US$3.00/lb. Cu
- After-tax NPV(8%) of US$1.1B
- 12-year mine life
- All-in cash cost of US$0.96/lb. Cu
- Final EIS issued March 27, 2020 for Ambler Access Road
- Located 200,000 acres of new mining claims

Data from Trilogy Metals, 2020
2020 Program:
- 16 DDH, +25,000 m @ Korbel
- Expanded Korbel 2,000 m to SE
- Mineralization extends 200 m below resource, over +1,500 m of strike; open to expansion in multiple directions
- Initiated PEA; initial bulk ore-sorting tests are promising

RPM Area:
- 5 to 291 g Au/T from rock sampling
- DDH SE12-008 178 m @ 0.8 g Au/T

<table>
<thead>
<tr>
<th>Resource (Oct 2020)</th>
<th>Million Tonnes</th>
<th>Au (g/T)</th>
<th>Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferred</td>
<td>291</td>
<td>0.35</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Data from Nova Minerals, 2020
High grade Au-Cu-Zn-Ag-Pb polymetallic deposit, Alaska Peninsula

- 3 rigs, 33 DDH, 16,420 m drilling program on 5 targets
- DDH JT20-092 – 74 m @ 23.8 g AuEq/T
- Footwall Cu zone
- Significant upside on North Offset target, structurally displaced from JT deposit
- Released a new resource:

<table>
<thead>
<tr>
<th>JT Resource (June 2020)</th>
<th>Million Tonnes</th>
<th>Au Eq (g/T)</th>
<th>AuEq Ounces (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>2.14</td>
<td>10.93</td>
<td>0.75</td>
</tr>
<tr>
<td>Inferred</td>
<td>0.58</td>
<td>7.16</td>
<td>0.134</td>
</tr>
<tr>
<td>Total</td>
<td>2.72</td>
<td>10.1</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Data from HighGold, 2020
Intrusion-related gold system - Fairbanks District

+500,000 oz past production underground; grades >1 oz. Au/T
+6.75 M oz. placer Au recovered from streams draining project area

2020 Program:
- Testing possible connection between historical, high-grade Cleary Au-vein system & Dolphin intrusion-hosted Au system
- 3 drill rigs, 15-20 DDH, 10,000 m (average 500-m depth)

Select results:
GSDL2001 – 188 m @ 3.69 g Au/T
GSDL2002 – 136.4 m @ 1.02 g Au/T
GSDL 2005 – 119 m @ 3.78 g Au/T

- Additional assays pending
- Drilling resumes in February 2021

Data from Freegold Ventures, 2020
AVIDIAN GOLD – AMANITA

Intrusion-related gold system - Fairbanks District

- Adjacent to Fort Knox mine property
- 800-m-wide, NE-trending, gold-bearing structural zone

2020 Program:

- 9 DDH; 1,945 m
- Targeted down-dip extension of 2019 trench with 27 m of 4.22 g Au/T
- High-resolution lidar & drone magnetic surveys

Select results:

- DDH AM20-02 – 22.7 m @ 3.11 g Au/T
- Intrusion intersected at end of DDH AM20-07
- Additional assays pending

Data from Avidian Gold, 2020
2020 West Pogo Program:
- 9 DDH, 4,778 m Aurora, Echo, & Reflection prospects
- DDH 20AU07: 7 m quartz vein within 22-m-thick zone of intense sulfides, alteration, quartz veining, and anomalous Au in Central Zone at Aurora.
- Airborne ZTEM & magnetic surveys; ground-based CSAMT

2020 East Pogo Program:
- Reconnaissance exploration
- Rock & soil sampling
- CSAMT lines
- Expanded claim block
Intrusion-related, structurally hosted Au-Ag, Interior Alaska

- Low-angle, gold-bearing veins/breccias
- High-angle, higher-grade zones

2020 Program:
- 6,400 m DDH & RC; Naosi + 8 targets
- Exploration (~800 rock & soil samples)
- Metallurgy studies (positive; ongoing)
- Environmental baseline work
- 2020 update: North of 60 Mining News – Q1 2021
- Upgraded NI 43-101 resource estimate in Q1 of 2021

Naosi (pit-constrained, sulfide + oxide) draft resource:

<table>
<thead>
<tr>
<th>Dec. 2019</th>
<th>Million Tonnes</th>
<th>Au Oz. (million)</th>
<th>Ag Oz. (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>8.144</td>
<td>0.844</td>
<td>10.976</td>
</tr>
<tr>
<td>Inferred</td>
<td>10.398</td>
<td>0.524</td>
<td>6.414</td>
</tr>
<tr>
<td>Total</td>
<td>18.542</td>
<td>1.368</td>
<td>17.390</td>
</tr>
</tbody>
</table>

Data from GAME (Sam Alaska), 2020
Three styles of Au mineralization:
- Pogo-style high-grade Au-quartz veins (Gray Lead);
- Intrusion-hosted disseminated sulfides & stockwork Au+quartz+stibnite+arsenopyrite veins (Michigan & Upper/Lower Trench)
- Fort Knox-style intrusion-hosted sheeted Au-quartz-bismuthinite veins (Jorts and Hilltop)

2020 Program:
- 27 holes, 3,202 m RAB drilling
- Geologic mapping
- 115 rock samples
- 27.9 g Au/T; rock w/visible gold

-Partnership with Doyon, Alaska’s largest Native Corporation and private land holder

Data from Tectonic Metals, 2020
Cu-Au skarn, central Alaska Range

2020 program:
- 23-holes, 3,130 m DDH @ Zackly East
- Mineralization extended 900 m along strike; open in all directions (not in Zackly Main resource)
- Significant 2020 results:
  - ZX20035 - 11.6m @ 1.8 g/T Au, 0.4% Cu
  - ZX20040 – 11.2m @ 2.45 g/T Au, 1.07% Cu
- Assays pending on 7 holes

Ultra-high-resolution drone magnetic survey:
- Completed over entire Zackly system (3.5 x 1.5 km)
- Steep magnetic gradients = most intense skarn mineralization
- Identified new porphyry target

<table>
<thead>
<tr>
<th>JORC Resource</th>
<th>Million Tonnes</th>
<th>Au (g/T)</th>
<th>% Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zackly (Main)</td>
<td>3.4</td>
<td>2.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Caribou Dome</td>
<td>2.8</td>
<td>3.1</td>
<td></td>
</tr>
</tbody>
</table>

Data from PolarX, 2020
Mesothermal gold vein system, SE Alaska

- Large “ladder-vein” system
- Gold hosted in E-W veins within larger, district-scale NW-trending shear zone

2020 program:
- 21 DDH; 8,375 m
- Intersected 2 new veins
- Untested vein systems over 1,400 m to SE and 400 m to NW

Select results:
- 20T-3 – 2.71m @ 52.34 g/T Au
- 20T-7 – 3.74m @ 20.7 g/T Au
- 20T-9 – 2.63m @ 18.67 g/T Au

<table>
<thead>
<tr>
<th>Resource (June 2019)</th>
<th>Million Tonnes</th>
<th>Au (g/T)</th>
<th>Oz Au (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>1.9</td>
<td>10.03</td>
<td>0.61</td>
</tr>
<tr>
<td>Inferred</td>
<td>0.55</td>
<td>14.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Total</td>
<td>2.01</td>
<td>10.95</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Data from Grand Portage, 2020
Volcanogenic massive sulfide - Southeast Alaska

- Corporate restructuring & US$5.8 M financing
- New management team

2020 Program:
- 10 DDH, 1,774 m at historical Niblack mine
- Re-interpretation of folding
- Underground drift rehabilitation

2021 Program:
- Resource update (Q1 2021)
>2,000 m drilling
- Drill targets:
  - Lookout Zone down-dip (underground)
  - Dama Zone step-out
  - Down plunge from historical Niblack mine
  - Undrilled prospects on east and west side of trend
- Modern exploration targeting: IP geophysics & soil sampling

**Resource (2011)** | Million Tonnes | Cu % | Au g/T | Zn % | Ag g/T
--- | --- | --- | --- | --- | ---
Indicated | 5.64 | 0.95 | 1.75 | 1.76 | 29.52
Inferred | 3.94 | 0.73 | 1.42 | 1.17 | 20.1
Total | 9.6 | 0.86 | 1.61 | 1.52 | 25.65

Data from Heatherdale, 2020
Historical Oxide Au-Ag-Cu mine, Western Alaska

- Investigating reprocessing historical heap leach pad
- ~2.25 million tonnes stacked ore

2020 Program:
- 73 RC holes, 640 m (heap leach pad)
- Sampling for grade determination
- Metallurgical studies to optimize Au, Ag, & Cu recovery
- PEA in progress

<table>
<thead>
<tr>
<th>Resource (in pit) (Oct. 2019)</th>
<th>Million Tonnes</th>
<th>Au Eq (g/T)</th>
<th>Ounces Au (thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>6.76</td>
<td>1.48</td>
<td>226</td>
</tr>
<tr>
<td>Inferred</td>
<td>2.03</td>
<td>1.56</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>8.79</td>
<td>1.50</td>
<td>296</td>
</tr>
</tbody>
</table>

Data from Western Alaska Copper & Gold, 2020

RC drilling of historical Illinois Creek mine’s heap leach pad
**Orogenic(?)/Intrusion(?) Au, Northern Alaska Range**

- New Au discovery in 2019
- Hydrothermal silica-breccia bodies with Au-As-Sb; quartz-arsenopyrite veins; silicification

**2020 Program:**

- 2,700 line-km, 400 square km, airborne magnetic & radiometric survey
- Follow-up stream-sediment sampling (131 samples) identified new large Au anomaly to west
- 8 DDH, 1,990 m; maiden drill program
- 4 targets: Pickle, Sidewinder West, Double Down, & Sidewinder Blowout
- 9 line-km, 4 lines CSAMT to identify resistive zones

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Data from White Rock Minerals, 2020
Tectonic Metals – Seventymile

Orogenic Au system, eastern Alaska

- 40-km-long structural zone
- Gold, arsenopyrite, pyrite, quartz veins
- Lease with Doyon Regional Native Corporation

2020 Program:
- Geologic mapping; 82 rock samples
- 26 holes, 2,587 m RAB drilling
- Tested high-tenor Au-in-soil & top-of-bedrock anomalies situated above interpreted shear zones along lithological contacts

Select results:
2.07 g Au/T over 6.10 m at previously undrilled Flume-Bonanza Zone;
1.37 g Au/T over 19.81 m at Bonanza Zone;
1.20 g Au/T over 4.57 m at Flanders Zone

Data from Tectonic Metals, 2020
Epithermal Au-Ag, Aleutians

- Surface outcrops of high-grade Au-Ag mineralization

**2020 Program:**
- Released results of 2019’s regional geochemical and ground-geophysical surveys on Unga & Pofp Islands

- Maiden resource SH-1 Zone (formerly Shumagin Zone):
  Avg. grade of 13.8g/t Au; and Avg. grade of 35.4g/t Ag

<table>
<thead>
<tr>
<th>Resource (Feb. 2020)</th>
<th>Tonnes</th>
<th>Au (oz.)</th>
<th>Ag (oz.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferred</td>
<td>866,015</td>
<td>384,318</td>
<td>986,321</td>
</tr>
</tbody>
</table>

- 3 rigs, 22 DDH, 3,063 m (as of Nov.)
- SH-1 resource (9 DDH, 743 m)
- Historical Apollo mine (3 DDH)
- Aquila prospect (5 DDH, 508.5 m); with 3.6 m of 4.5 g Au/T in first DDH
- Sitka prospect (4 DDH)
- Empire Ridge prospect (1 DDH)

Data from HelioStar Metals, 2020
DGGS Projects

2020 ACTIVITIES:
- Pogo area helicopter magnetic and radiometric surveys

UPCOMING 2021:
- Styx digital geologic map
- Wrangellia digital geologic map & mineral potential report

Yukon-Tanana Upland:
- Eastern Tanacross geologic map
- New geologic mapping in W. Tanacross and Eagle quadrangles
- New fixed-wing magnetic + radiometric surveys
- Stream sediment (modern, full-elemental-suite re-analyses) & online geochemical anomaly maps

https://dggs.alaska.gov/
- 2020 State of Alaska + industry funded helicopter magnetic + radiometric surveys
- 2021 State of Alaska fixed-wing magnetic + radiometric surveys
MDag = Augen gneiss

★ = Pogo mine & prospects
Earth-MRI FW Mag+RAD Surveys

- Fixed-wing magnetic & radiometric surveying of Yukon-Tanana Upland
  - USGS, BLM, SOA funded

Summer 2021-2022

YTU data coverage
- 80% magnetic
- 55% radiometric
- 30% electromagnetic
Summer 2021
- Mosquito & Goldfish projects
- 1:100,000-scale geologic mapping
- 7-week, helicopter-supported program
- 7-geologists
- Total area: 6,320 sq. km (2,440 sq. miles)

Geologic Investigations:
- Mineral-resource potential
  - Porphyry/skarn Cu-Au-Ag-Mo
  - Reduced intrusion Au
  - Orogenic Au
  - Epithermal Au-Ag
  - REE and other critical minerals
- Lake George & Yukon-Tanana Terranes
- Low- & high-angle fault systems

USGS funded - Earth MRI Program
**Alaska Information and Data**

**Division of Geological & Geophysical Surveys**
http://dggs.alaska.gov/

- Geochemistry
- Geophysics
- Geology Maps
- Elevation Data
- Mineral Report
- Mineral Occurrences

**Geologic Materials Center**
http://dggs.alaska.gov/gmc/

- Core Repository
- Indoor core viewing
- Surface samples
- Geochemistry pulps
- Online Inventory
- Confidential storage and viewing

**Division of Mining, Land & Water**
http://dnr.alaska.gov/mlw/

- Land status
- Mining claims
- Mine Permitting
- Mine Regulation

**Office of Project Management and Permitting**
http://dnr.alaska.gov/opmp/

- Project and mine permit coordination