



# **Preliminary Economic Assessment of the Heap Leach Operation on the Beartrack Arnett Gold Project Lemhi County, Idaho, USA NI 43-101 Technical Report**



## **Prepared for:**

Revival Gold Inc.

## **Report Effective Date:**

November 17, 2020

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## CERTIFICATE OF QUALIFIED PERSON

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I, Kirk Hanson, P.E., am employed as a Technical Director, Open Pit Mining with Wood USA Mining Consulting SLC Engineering.

This certificate applies to the technical report entitled Preliminary Economic Assessment of the Heap Leach Operation on the Beartrack Arnett Gold Project, Lemhi County, Idaho, USA - NI 43-101 Technical Report with the effective date November 17, 2020 (the "Technical Report").

I am registered as a Professional Engineer in the State of Idaho (#11063). I graduated with a B.Sc. degree from Montana Tech of the University of Montana, Butte, Montana in 1989 and from Boise State University, Boise, Idaho with an MBA degree in 2004.

I have practiced my profession for 31 years. I was Engineering Superintendent at Barrick's Goldstrike operation, where I was responsible for all aspects of open-pit mining, mine designs, mine expansions and strategic planning. After earning an MBA in 2004, I was assistant manager of operations and maintenance for the largest road department in Idaho. In 2007, I joined AMEC (now Wood) as a principal mining consultant. Over the past 13 years, I have been the mining lead for multiple scoping, pre-feasibility, and feasibility studies. I have also done financial modelling for multiple mines as part of completing the scoping, pre-feasibility and feasibility studies.

I am responsible for sections 1.1 to 1.4, 1.6, 1.11, 1.14, 1.16 to 1.20, sections 2 to 6, section 12.1.2, section 15 and 16, sections 19, and sections 21 to 24, sections 25.1, 25.4, 25.7, 25.9 to 25.12, sections 26.1, 26.2.2, 26.6.1, 26.7, and 26.8, and section 27 of the Technical Report.

I am independent of Revival Gold Inc. as independence is described by Section 1.5 of NI 43-101.

I have been involved with the Beartrack Arnett property since May 2020. On May 18<sup>th</sup>, 2020, I visited the site in preparation for completing a preliminary economic assessment (PEA) for the Project.

I have read NI 43-101, and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"Signed and sealed"

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I am a member of the Professional Engineers of Ontario. I graduated with a B.Sc. degree in Mining Engineering from Ecole Polytechnique in 1987 and with a M.Sc. degree in Mining Engineering/Mineral Processing from Laval University in Quebec City in 1989. I have practiced my profession for 32 years. I have been directly involved in the operations, management and technical services of several large mining companies and operations. I have joined Wood in 2018 and I have conducted several engineering studies, including gold projects.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101).

I am responsible for sections 1.9, 1.12, 1.16, 1.17, 1.19, 1.20, sections 2.1, 2.2, 2.4, and 2.5, section 3.1, section 12.1.1, sections 13 and 17, sections 21.3.1, 21.3.2 and 21.3.4 and sections 25.3, 25.5, 25.9, 25.10 and 25.12, sections 26.1, 26.2.2, 26.6.2, 26.7, and 26.8, and section 27 of the Technical Report.

I am independent of Revival Gold Inc. as independence is described by Section 1.5 of NI 43-101.

I have had no previous involvement with the Beartrack Arnett Gold property.

I have read NI 43-101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

"Signed and sealed"

Benoit Bissonnette, P.Eng, Technical Director

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## CERTIFICATE OF QUALIFIED PERSON

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I am a member of Idaho Board of Professional Engineers and Professional Land Surveyors. I graduated from the Slovak Technical University in Bratislava, Slovakia with Diploma in Civil Engineering in 1980.

I have practiced my profession for 38 years. I have been directly involved in site investigations, site development, infrastructure and civil works scoping studies, prefeasibility and feasibility studies, and detailed engineering on mining, infrastructure, and other industry projects.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101).

I am responsible for sections 1.13, 1.19, 1.20 and section 2.1, 2.2, 2.4, and 2.5, section 3.1, section 18, sections 25.6 and 25.12, sections 26.1, 26.2.2, 26.6.1, 26.7, and 26.8, and section 27 of the Technical Report.

I am independent of Revival Gold Inc. as independence is described by Section 1.5 of NI 43-101.

I have been involved with the Beartrack Arnett Gold property since May 2020.

I have read NI 43-101 and this report has been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"Signed and sealed"

Paul Baluch, P.E.

Dated: December 17, 2020

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This certificate applies to the technical report entitled Preliminary Economic Assessment of the Heap Leach Operation on the Beartrack Arnett Gold Project, Lemhi County, Idaho, USA - NI 43-101 Technical Report. with the effective date of November 17, 2020(the "Technical Report").

I am a professional engineer in good standing in Montana, in the area of civil engineering. I graduated from the University of Colorado, Denver, Colorado with a Bachelor of Civil Engineering in 1993.

I have practiced my profession for twenty-seven years since my graduation. During this period, I have been directly involved in engineering design, environmental permitting, reclamation and closure planning for mines.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101).

I visited the Meridian Beartrack Mine between *October 10<sup>th</sup> and 11<sup>th</sup> 2019*.

I am responsible for Sections 1.15, 20, 25.8 and 26.4 of the Technical Report and I am co-responsible for Sections 1.19, 1.20, 2, 3.1, 25.12, 26.1, 26.8 and 27 of the Technical Report.

I am independent of Revival Gold Inc. as independence is described by Section 1.5 of NI 43-101.

I have prior involvement with the Beartrack Arnett Gold property which is the subject of the Technical Report. KC Harvey Environmental, LLC has previously worked as a consultant to the Meridian Beartrack Mine since 2011 supporting mine closure and discharge permitting and is currently providing consulting services to Revival Gold Inc. related to environmental planning for the project.

I have read NI 43-101 and the relevant Sections of the Technical Report that I am responsible for have been prepared in compliance with that Instrument.

As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

"Signed and sealed"

---

David P. Cameron, P.E.

Dated: December 17, 2020

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**MARK B. MATHISEN**

I, Mark B. Mathisen, C.P.G., as an author of this report entitled “Preliminary Economic Assessment of the Heap Leach Operation on the Beartrack Arnett Gold Project, Lemhi County, Idaho, U.S.A. NI 43-101 Technical Report” (the Technical Report) dated November 17, 2020, and prepared for Revival Gold Inc., do hereby certify that:

1. I am Principal Geologist with Roscoe Postle Associates USA Ltd., now part of SLR Consulting Ltd, of Suite 100, 1658 Cole Boulevard, Lakewood, Co., USA 80401.
2. I am a graduate of the Colorado School of Mines in 1984 with a B.Sc. degree in Geophysical Engineering.
3. I am a Registered Professional Geologist in the State of Wyoming (No. PG-2821) and a Certified Professional Geologist with the American Institute of Professional Geologists (No. CPG-11648). I have worked as a geologist for a total of 25 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Mineral Resource estimation and preparation of NI 43-101 Technical Reports.
  - Mineral Resource and Reserve estimation, due diligence, corporate review and audit on exploration projects and mining operations worldwide.
  - Director, Project Resources, with Denison Mines Corp., responsible for resource evaluation and reporting for uranium projects in the USA, Canada, Africa, and Mongolia.
  - Design and direction of geophysical programs for US and international base metal and gold exploration joint venture programs.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Beartrack-Arnett Gold Project on July 29, 2019
6. I am responsible for portions of Sections 2.0 to 2.5, 3.1, 7.0 to 11.0, 12.2, 12.3, 14 (Arnett) and related disclosure in Sections 1.5, 1.7, 1.8, 1.10, 1.19, 1.20, 25.2, 25.12, 26.1 to 26.4, 26.8, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have prepared a previous Technical Report dated February 21, 2020 on the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 17<sup>th</sup> day of December, 2020

**(Signed and Sealed) Mark B. Mathisen**

Mark B. Mathisen, C.P.G.



## RYAN RODNEY

I, Ryan Rodney, C.P.G., as an author of this report entitled "Preliminary Economic Assessment of the Heap Leach Operation on the Beartrack Arnett Gold Project, Lemhi County, Idaho, U.S.A. NI 43-101 Technical Report" (the Technical Report) dated November 17, 2020. and prepared for Revival Gold Inc., do hereby certify that:

1. I am Geologist with Roscoe Postle Associates USA Ltd., now part of SLR Consulting Ltd, of Suite 100, 1658 Cole Boulevard, Lakewood, Co., USA 80401.
2. I am a graduate of the University of Arizona in 2008 with a B.Sc. degree in Geology.
3. I am a Certified Professional Geologist with the American Institute of Professional Geologists (No. CPG-11954) and a Registered Member of SME (RM #4229254). I have worked as a geologist for a total of 12 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Mineral Resource estimation and preparation of NI 43-101 Technical Reports
  - Geologic modelling, resource estimation, and preparation of NI 43-101 Technical Reports
  - Planning and execution of resource exploration and reserve conversion drilling
  - Experienced user of acQuire, Maptek Vulcan, Maptek I-Site and Leapfrog
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I did not visit the Beartrack Arnett Gold Project.
6. I am responsible for portions of Sections 2.1 to 2.5, 3.1, 7.0 to 11.0, 12.2, 12.3, 14 (Beartrack) and related disclosure in Sections 1.5, 1.7, 1.8, 1.10, 1.19, 1.20, 25.2, 25.12, 26.1 to 26.4, 26.8, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have prepared a previous Technical Report dated February 21, 2020 on the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 17<sup>th</sup> day of December, 2020

**(Signed and Sealed) Ryan Rodney**

Ryan Rodney, C.P.G.

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## **1.0 Summary**

### **1.1 Introduction**

Wood was requested to prepare an independent Technical Report (Report) for the Beartrack Arnett Gold Project for Revival Gold Inc. (Revival) disclosing results of a preliminary economic assessment (PEA) of a heap leach operation. Mineral Resources have been declared to reflect the potential for heap leach, sulphide mill and underground opportunities. This Report describes the economic potential for a heap leach only project where all resource categories (leach and mill) above the leach cut-off grade were considered in developing the plan.

The Project is located near Salmon, Idaho, USA, and approximately 240 km (150 mi) northeast of Boise.

### **1.2 Terms of Reference**

The Report is being used by Revival as a conceptual analysis of a development option to assess the economic viability of the Project and identify work required to complete more advanced mining studies.

Mineral Resource estimates were prepared in accordance with the Canadian Institute of Mining a, Metallurgy and Petroleum (CIM) Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (2019) and reported in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (2014).

Measurement units used in this Report are both metric and imperial (bracketed) and the currency is expressed in US dollars.

### **1.3 Mineral Tenure and Surface Rights**

#### **1.3.1 Beartrack**

Revival entered into an earn-in agreement to purchase a 100% interest in the mineral rights for 305 unpatented claims totalling approximately 2,055 ha (5,079 acres) and 14 patented claims totalling approximately 187 ha (463 acres) from Meridian Beartrack. In addition, Revival has staked 240 unpatented lode claims surrounding the Beartrack property that are subject to the earn-in agreement. Due to overlapping of unpatented lode claims over unpatented mill site and patented placer claims, the total footprint of the Beartrack claims is 3,071 ha (7,589 acres).

### 1.3.2 Arnett

At Arnett, Revival has optioned or purchased a 100% interest in the mineral rights for 95 unpatented lode claims, two unpatented placer claims, and one patented lode claim totalling approximately 799 ha (1,974 acres) from the registered owners and staked an additional 195 unpatented lode claims surrounding the Arnett property. Due to the overlapping of unpatented lode claims over unpatented placer claims, the total footprint of the Arnett claims is 2,369 ha (5,853 acres).

## 1.4 Agreements and Royalties

The property agreements are subject to certain property payments, royalties, and performance obligations that are described in more detail in Section 4 of this Report.

## 1.5 Geology and Mineralization

The Project occurs east of the Idaho Batholith within the Cretaceous Cordilleran thrust belt. The area is dominated by a structurally complex package of metasedimentary rocks known as the Mesoproterozoic Belt Supergroup (Belt Supergroup). Approximately 1,370 million years ago, Belt Supergroup rocks were buried, metamorphosed, and intruded by the megacrystic granitic rocks (rapakivi granite) and augen gneiss. Metasedimentary rocks near Salmon and Leesburg exhibit a regional biotite-grade metamorphism.

### 1.5.1 Beartrack

The bedrock geology in the Beartrack area is dominated by two Mesoproterozoic rock units: the Yellowjacket Formation and a rapakivi (megacrystic) granite. The Yellowjacket Formation consists predominantly of a thick sequence of very fine-grained non-calcareous silty sandstone to sandy siltstone units which locally exhibits crossbedding.

The Yellowjacket Formation has been intruded by the Proterozoic rapakivi granite, which is located on the east side of a 4 km (2.5 mi) long section of the Panther Creek Shear Zone (PCSZ) in the Beartrack mine area. The intrusive is medium- to coarse-grained, sub-equigranular to porphyritic, and is composed predominantly of potassium feldspar (locally as megacrysts up to six centimetres (2.3 in.) in size displaying poikilitic textures), plagioclase, quartz, and biotite.

Gold mineralization on the Beartrack property is associated with a major gold-arsenic-bearing hydrothermal system where stockwork, vein, and breccia-hosted mineralization has been identified in four areas over more than 5 km (3 mi) of strike length. Gold mineralization at Beartrack exhibits many of the characteristics of the class of gold deposits known as mesothermal, orogenic, lode gold, or shear zone-hosted deposits. Mineralization at Beartrack

consists of quartz-pyrite-arsenopyrite veins and veinlets occurring in a broad halo of sericitic alteration controlled by the PCSZ.

## 1.5.2 Arnett

The Arnett property occurs within a discrete structural block consisting primarily of the Yellowjacket Formation bounded on the east and west by the northeast-trending PCSZ and the Hot Springs fault, and the northwest-trending Pine Creek and Poison Creek faults to the south and north. The Yellowjacket Formation is intruded by the polyphase intrusion of the Cambro-Ordovician syenite complex, which includes the unit known informally as the crowded porphyry. The block is surrounded by the rapakivi (megacrystic) granite.

Gold mineralization, as it is currently known, is primarily hosted by the crowded porphyry, which is part of the Cambro-Ordovician Arnett Alkaline Pluton and consists of quartz-iron oxide (pyrite) veinlets occurring in a broad halo of potassic and sericitic alteration. Gold mineralization at Arnett exhibits some of the characteristics of intrusion-related gold deposits.

## 1.6 History

Placer gold was discovered in the Mackinaw Mining District in 1867 with the first lode mine in the Beartrack area (Gold Flint) opening in 1880 followed by the Italian mine on Arnett Creek in 1892.

Exploration activities at Beartrack began in 1983 by Canyon Resource Corporation and was further explored by Meridian Minerals Corporation (a predecessor to Meridian Beartrack Co.) until mining was initiated in 1994. Beartrack was an open pit, heap leach operation that mined over 21 Mt (23 Mtons) and pouring over 600,000 oz of gold until leaching stopped in 2002. In 2007 Yamana purchased the parent companies of Meridian Beartrack Co. In 2017, Revival executed an earn-in and related stock purchase agreement to purchase Meridian Beartrack Co.

Cyprus Mines Corporation first started exploring the Arnett Creek area in 1973. In 1985 American Gold Resources Corporation (AGR) leased claims in the area from two families and later began drilling near the Haidee mine with their partner British Petroleum Minerals American (BPMA). Within a year of Ashanti Goldfields acquiring AGR, the Arnett Creek Project was sold to Meridian Minerals who completed confirmation and exploration drilling until returning the claims to their original owners in 1998. In 2017, Revival announced the acquisition of the Arnett property.

## 1.7 Drilling and Exploration Activities

Reverse circulation drilling (RC) and diamond drilling (DD) on the Project is the principal method of exploration. As of the effective date of this Report, Revival and its predecessors have completed 1,253 holes, 951 RC and 302 DD, totalling 188,127 m (617,212 ft) drilled. From 2017 to the effective date of this Report, Revival has completed a total of 97 DD holes (58 – Arnett, 39 – Beartrack) totalling 23,728 m (77,849 ft) of drilling. Of the 97 DD holes drilled by Revival, 37 (7-Beartrack, 30-Arnett) totaling 7,103 m (23,304 ft) were drilled in 2020 after the effective date of the resource estimate and will be in the next resource estimate.

Apart from drilling, Revival's exploration activity on the Beartrack property includes reprocessing historical geophysical data and structural mapping in the North and South Pit areas. Revival's exploration activity at Arnett from 2017 to the end of 2020 includes mapping, rock sampling, and soil geochemical survey.

Between 2017 and November 17, 2020, Revival completed 39 DD holes totalling 14,041 m (46,067 ft) at Beartrack. Revival's drilling programs for Beartrack focused on increasing the resources at the Beartrack deposit and testing the sulphide mineralization along strike and at depth. The programs were targeted to confirm historical drill data and to expand known areas of mineralization.

Between 2018 and November 17, 2020, Revival completed 58 DD holes totalling 9,687 m (31,782 ft) at Arnett. Revival's drilling programs in the Haidee area focused on confirming the presence of mineralization and expanded the mineralized footprint to the northeast and southwest.

In 2019, MPX Limited conducted a helicopter-borne magnetic survey at the Arnett project. Magnetic data from the Arnett and historical Beartrack magnetic surveys were processed in a consistent manner. Lithologic units at the surface within the project areas possess low to very low magnetic susceptibilities, making them effectively magnetically transparent. As interpreted, the prominent magnetic highs are due to buried magnetic intrusions. The geophysics interpretation considers features evident in the various geophysical datasets to create the lithology, structure, and alteration interpretation. Cenozoic surficial deposits are excluded from the interpretation. In addition, the gold mineralization associated with the PCSZ is not directly detectable with the airborne geophysical data; hence the merged Beartrack-Arnett dataset interpretation is oriented toward geology rather than direct targeting for exploration.

Faults and buried intrusions were identified from the magnetic data. The PCSZ and the Coiner fault have strong associated magnetic lows as do several other faults. In addition, several buried intrusions have been identified, chiefly beneath the Haidee and Haidee West target areas, between Roman's Trench and the Italian mine and near the intersection of the two claim blocks.

Geologic mapping at Arnett undertaken by Revival in 2019 showed the wide-spread nature of float of the Yellowjacket Formation, which is thought to be from Tertiary epiclastic rocks. Lack

of exposure on the property led to the decision to conduct soil sampling using a partial leach. Results showed the presence of strong anomalies that will be further examined.

## 1.8 Data Verification

RPA conducted various database validation checks on the existing Beartrack and Arnett databases including comparing the assay table directly with the assay laboratory certificates and found the database to be sufficiently reliable for Mineral Resource estimation. It was determined that Beartrack legacy RC data prior to 1990 and all RC holes drilled at Arnett would be excluded from mineral resource estimation due to biases detected in the samples.

## 1.9 Metallurgical Test Work

The heap leach test work comes from historical metallurgical investigations and historical production information, supplemented by recent bottle rolls tests in SGS in 2020.

The higher sulphide/milling material process is based on recent test work by SGS in 2020.

Column tests on oxide material at Beartrack show a soluble gold recovery of 85% over a 36-day cycle with the potential to attain 90% over a longer term.

Historical production reports show that oxide material processed reached 90% of soluble gold recovery.

Column leach tests on trench and chip samples (not from drill core) from the Arnett deposit were performed and reported by KCA (1991). Five bottle rolls tests were conducted on material in 2020 by SGS. The recovery of gold is approximately 75% of the total gold content, which is in line with the 85% of the soluble gold.

Assumed metallurgical recoveries for the mineralized material using a heap leach processing method include:

- Beartrack: For oxide, transition and sulphide material, 85% of soluble gold followed by secondary leaching to 90%
- Arnett: For oxide, 75% of soluble gold followed by secondary leaching up to 80%

More recently, metallurgical test work conducted by SGS has shown that the Beartrack oxide, transition and sulphide material is amenable to a more complex recovery method involving milling, flotation, pressure oxidation of the concentrate followed by cyanide leaching of the concentrate and the flotation tails, yielding improved gold recoveries over the heap leach option, which is the basis of this report.

Additional test work is recommended on representative samples for oxide, sulphide and mixed materials, with a special focus on column tests to quantify the effect of crush size on gold

recovery and longer-term column tests to quantify the potential of mine acid formation from various geological materials which could interfere with the heap leach operation.

## 1.10 Mineral Resource Estimate

The updated Mineral Resource estimates for the Beartrack and Arnett deposits, were carried out by RPA and are summarized in Table 1-1. The Mineral Resource estimates are based on open pit mining and underground mining scenarios. The Mineral Resources are based on a gold price of \$1,400/oz. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions) were used for Mineral Resource classification.

**Table 1-1: Mineral Resource Estimate – Effective date December 10, 2019 (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Resource Category	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Gold (000 oz)
Indicated (Leach)			
Beartrack – Open Pit	11,900	0.56	215
Arnett – Open Pit	2,500	0.65	52
Indicated (Mill)			
Beartrack – Open Pit	22,216	1.52	1,089
Beartrack – Underground	NA	NA	NA
<b>Total Indicated</b>	<b>36,616</b>	<b>1.15</b>	<b>1,356</b>
Inferred (Leach)			
Beartrack – Open Pit	9,961	0.53	169
Arnett – Open Pit	8,200	0.55	144
Inferred (Mill)			
Beartrack – Open Pit	22,228	1.19	850
Beartrack - Underground	6,700	2.19	471
<b>Total Inferred</b>	<b>47,089</b>	<b>1.08</b>	<b>1,638</b>

Notes:

- Effective date of December 10, 2019. CIM (2014) definitions were used for Mineral Resource classification.
- Qualified Persons:  
Mark B. Mathisen, C.P.G., Ryan Rodney, C.P.G.  
Mineral Resources were tabulated for model blocks with positive net value located within an optimized

conceptual pit.

3. The price, recovery, and cost data translate to a breakeven gold cut-off grade of approximately 0.52 g/t Au for mineral resources amenable to the mill option and open pit mining; and 0.17 g/t Au for the mineral resources amenable to the leach option and open pit mining at Beartrack; a breakeven gold cut-off grade of approximately 1.26 g/t Au for the incremental underground mill option at Beartrack, and approximately 0.19 g/t Au for the leach option and open pit mining at Arnett. The cut-off grades include considerations of metal price, process plant recovery, mining, processing, and general and administrative costs. A gold price US\$1,400 per ounce was used in the estimation. Additional details below.
4. Tonnes are based on bulk density of each lithologic unit ranging at Beartrack from 2.0 t/m<sup>3</sup> to 2.75 t/m<sup>3</sup>. An average bulk density of 2.35 t/m<sup>3</sup> was used at Arnett.
5. Leachability is yet to be determined and further metallurgical studies are required to fully understand the behaviour of transitional and sulfide ores when mixed with readily leachable oxide materials. Leach material defined by cyanide soluble grade leach characteristics.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Rounding may result in apparent discrepancies between tonnes, grade, and contained metal content. The geological model supporting the mineral resource model is based on interpretations based on drilling and mapping which may change with more data. The metallurgical sampling data may not be representative of the material as a whole or may have significant variations locally in the metallurgical characteristics that could affect cost or recoveries.
8. The cut-off grade for the open pit mill resource assumes a 20,000 tpd flotation mill with pressure oxidation of flotation concentrate followed by cyanidation of the concentrate and the flotation tailings, with gold recovery of 94%, pit slopes of 37-50%, mining costs of \$2.25 per tonne, re-handle costs of \$0.10 per tonne, G&A costs of \$0.50-\$1.00 per tonne and a mill processing cost of \$18.46 per tonne.
9. The cut-off grade for the mineral resources amenable to underground mining and mill processing assumes a 3,000 tpd, ramp-access, mechanized mine with a bulk mining method and mining cost of \$35.00 per tonne.
10. The cut-off grade for the mineral resources amenable to open pit mining and heap leach processing assumes recoveries of 85% of cyanide soluble gold at Beartrack and 75% of contained gold at Arnett. Pit slopes of 37-50%. Mining costs were assumed to be \$2.25 per tonne, G&A costs of \$0.50-\$1.00 per tonne and heap leach processing costs of \$3.25 per tonne processed.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political, factors that could materially affect the Mineral Resource estimate other than what has been described in this Report.

## 1.11 Mine Plan

The pit shells that define the ultimate pit limit, as well as the internal phases, were derived using the Lerchs–Grossmann (LG) pit optimization algorithm. This process considers the information stored in the resource model, pit slope angles, metal prices, mining and processing costs, process recovery, and the sales costs for the metal produced. The ultimate pits were defined based on a gold price of \$1,400/oz and \$1,500/oz for Beartrack and Arnett, respectively as pricing changed throughout the study.

The Project has been designed as a conventional truck-shovel operation with the pit design considering two phases in Beartrack's North Pit, three phases in Beartrack's South Pit and two



nested pits at Arnett. A subset of the Mineral Resources included within the PEA mine plan is summarized in Table 1-2.

The proposed mine plan supports a seven-year mine life with a half a year of pre-production. It is planned that the two pits at Beartrack will be mined before commencing the Arnett pit. Required mine equipment considers a 24 hours per day seven day a week work schedule with an owner-operated equipment fleet comprising of three production drills, two hydraulic shovels, one front end loader and thirteen 62 t (68 ton) haul trucks.

**Table 1-2: Subset of Mineral Resources included in the PEA Mine Plan**

Deposit	Resource Class	Tonnes (Mt)	AuCN (g/t)	AuFA (g/t)	Contained Au (koz)
Beartrack	Indicated	12.85	0.617	1.104	456.4
	Inferred	9.22	0.575	0.801	237.2
Arnett	Indicated	2.38	-	0.647	49.5
	Inferred	5.75	-	0.567	104.9
<b>Total</b>	<b>Indicated</b>	<b>15.23</b>	<b>0.520</b>	<b>1.033</b>	<b>505.9</b>
	<b>Inferred</b>	<b>14.96</b>	<b>0.354</b>	<b>0.711</b>	<b>342.1</b>

Notes to Accompany Subset of Mineral Resource Estimate within the PEA Mine Plan Table:

1. Mineral Resources within the PEA Mine Plan were estimated assuming open pit mining methods and include the dilution resulting from reblocking from a 6.1 m (20 ft) x 6.1 m (20 ft) x 6.1 m (20 ft) f to a 6.1 m (20 ft) x 6.1 m (20 ft) x 7.6 m (25 ft) block size. Beartrack waste material includes sulphide backfill located in the North Pit that will be mined and placed in the waste rock facility.
2. Input assumptions to the pit shells that constrain the Beartrack estimate include metal price of US\$1,400/oz Au, fixed process recovery of 90% (AuCN), mining cost of US\$2.14/t (US\$1.94/ton), a backfill reclaim cost of US\$1.66/t (US\$1.51/ton), an incremental material haulage cost of US\$0.46/t (US\$0.42/ton), and processing operating costs of US\$3.25/t (US\$2.95/ton) for oxide material and US\$4.57/t (US\$4.15/ton) for transitional and sulphide material. In addition, G&A costs were estimated at US\$1.66/t (US\$1.51/ton), sustaining capital costs at US\$0.40/t (US\$0.36/ton) and closure costs at US\$0.55/t (US\$0.50/ton). No royalty was included. Variable overall slope angles were applied by lithology.
3. Input assumptions to the pit shells that constrain the Arnett estimate include metal price of US\$1,500/oz, fixed process recovery of 80% (AuFA), mining cost of US\$1.85/t (US\$1.68/ton), an incremental material haulage cost of US\$1.50/t (US\$1.65/ton), and processing operating cost of US\$3.76/t (US\$3.41/ton). In addition, G&A costs were estimated at US\$1.09/t (US\$0.99/ton), sustaining capital costs at US\$1.10/t (US\$1.00/ton) and closure costs at US\$0.55/t (US\$0.50/ton). No royalty was included as all royalties are subject to nominal buyout caps. An overall slope angle of 45 degrees was used.
4. Tonnes, grades and contained metal content may not sum due to rounding.

Table 1-3 shows the average recovery by material and class for the PEA mine.

**Table 1-3: Metallurgical Recoveries by Material Type**

PEA Classification of Material Processed	Classification	Material Processed (M tonnes)	Heap Leach Gold Recovery
Oxide	Indicated	8.5	87%
	Inferred	11.3	87%
Transition	Indicated	3.1	55%
	Inferred	1.7	55%
Sulphide	Indicated	3.6	28%
	Inferred	2.0	28%

## 1.12 Process Design

The process circuits will include modular crushing plant consisting of primary and secondary crushing, heap leaching, carbon in column (CIC), adsorption-desorption-recovery (ADR) plant and refining circuits located at Beartrack. Following the mine plan/schedule, the modular crushing is fed mineralized material from the Beartrack mine for the first five years followed by mineralized material from Arnett for the remaining two years of the mine life.

The existing Beartrack leach pad will be expanded into three pads that will process a combination of oxide, transitional and sulphide mineralized material. Special considerations for increased lime addition and the use of interlift HDPE liners have been incorporated in the design of the mixed mineralization heap leach facilities to cope with the potential for acid generation within the pads.

An additional Arnett heap leach pad will process oxide material and will be constructed partially overlapping the Beartrack pad.

The ADR process plant will utilize mostly refurbished equipment with the exception of a new electrowinning circuit and gold room for smelting gold dore.

The process has been designed for a nominal throughput of 4.38 Mt/yr (4.83 Mton/yr) with a crushing plant availability of 85%.

## 1.13 Planned Project Infrastructure

The Project has planned to utilize existing infrastructure wherever possible. This includes refurbishing equipment in the existing ADR plant, leach and overflow ponds, reconfiguring the water treatment plant, fuel storage and distribution, collection ditches and refurbishing the

water wells. New facilities will include a modular crushing plant, truck shop / warehouse, offices, explosives storage and fuel storage / distribution facilities, electrical equipment and stormwater ponds and ditches.

No improvements to the Forest Service road which provides access to the site are required. Existing on-site roads will be improved prior to operations. A double lane mine haul road with portions of a single lane will be constructed from Beartrack to Arnett prior to mining at Arnett.

Two waste rock facilities are planned for the Project; one each located at Beartrack and Arnett, respectively.

Three heap leach pads are constructed in a phased approach at Beartrack and will process a mixture of material types. A single heap leach pad for leaching Arnett oxide material is constructed at the Beartrack site.

Two stormwater ponds are proposed for the Beartrack site to separate pumped flows from the North and South Pits and minimize treatment requirements for metal leaching / acid rock drainage. A stormwater pond is planned for the Arnett site. The existing leach and overflow ponds at Beartrack provide sufficient storage to manage runoff from the HLPs.

There will be three effluent treatment plants on the Property. A cyanide destruction and acid rock drainage plant at Beartrack and a total suspended solids plant at Arnett.

An existing 69 kV overhead line provided by the local utility Idaho Power feeds the Beartrack mine site and is considered sufficient to supply power demand at the site. A section of the overhead line will be relocated as it currently runs through the proposed site for the HLPs. Improvements to the existing electrical infrastructure are necessary to meet recent requirements and include relocating the main substation, replacing the main transformer and the main switchgear, utilizing portable pre-wired E-rooms, and upgrading the existing 4.16 kV overhead line to 13.8 kV using the same poles if possible. No power will be supplied or distributed at the Arnett mine site. Mine equipment and water treatment plant at Arnett will be powered by dedicated diesel-generators.

## 1.14 Markets

Revival has not completed any market studies for the Project, nor are there any current refining agreements or sales contracts in place. Given the available market for gold doré, limited effort is expected to be required for the development of a market strategy and it is assumed that sales contracts would be typical with standard industry practice.

## 1.15 Environment, Permitting and Socio-Economics

Environmental baseline studies have been previously conducted for the Meridian Beartrack Project and additional studies are anticipated to support permitting for the Beartrack Arnett Project. As the Project is located primarily on federal National Forest lands, permitting and approval for mining operations will be subject to The National Environmental Policy Act (NEPA). Revival proposes to pursue a simpler environmental review process initially within the area previously reviewed for the Meridian Beartrack Mine Plan of Operations, reflecting its past-producer or brownfields history. A full environmental assessment process is considered necessary for the Arnett site as this will be a new development of a greenfield site. Significant new development at the Beartrack site may also trigger increased environmental review if it is determined that substantially increased impacts would occur. The final determination as to level of study will be made by the US Forest Service.

Proposed developments for the Project will require independent water management systems for Beartrack and Arnett during construction, operation and closure periods.

Final design for the new development will require management of the historical waste materials that will be excavated from the North Pit, and new potentially acid generating mine rock materials during mining. Careful consideration of closure and ongoing water treatment will be required. The NEPA review will address the potential impacts related to the geochemistry of the mined materials and mitigation measures will likely be incorporated in the final analysis during development of the preferred alternative for the environmental assessment.

The Project area is within the habitat range of four species federally listed under the Federal Endangered Species Act of 1973.

Environmental review under NEPA will include public scoping in order to obtain input from the local community and to develop alternatives to the proposed action. This process will include consultation with the local community as well as various non-profit groups and the Nez Perce and Shoshone-Bannock Tribes.

A detailed reclamation and closure plan has not yet been developed. It is anticipated that post-closure monitoring and maintenance will be required following reclamation, including water treatment. Since the project is located on federal land, development of a Plan of Operations (PoO), reclamation planning as well as financial assurances (bonds) will be required for the reclamation and long-term obligations for the Project.

The development of the mining operation is anticipated to have a positive impact on the local communities by providing direct employment in the mining industry and secondary employment in the local community; income generated from wages and by secondary job employers; and local and state jurisdictions revenue generated through taxes paid by the mining operation. Given the mine history of Beartrack there is a precedent for permitting the proposed Beartrack Arnett Project. Although Arnett does not have the same history of mining,

the QP believes it is likely that permits could be obtained for the development of both mine areas. This outcome is subject to the final NEPA review and Record of Decision (ROD) which would be published by the Salmon Challis National Forest, Forest Supervisor.

## 1.16 Capital Costs

The Project's initial capital cost, as summarized in Table 1-4 is US\$120.5 million including major mine equipment leases of \$21 million, indirect costs of \$10.1 million and contingency of \$19.6 million.

This estimate was prepared in accordance with the American Association of Cost Engineers (AACE) Class 5 study definitions with an expected accuracy of +/-35%. Costs are expressed in third-quarter 2020 US dollars.

Sustaining capital relates to heap leach pad expansions and construction of the Arnett Pit in Yr 4 and 5 and equals \$69.1 million. The total project capital inclusive of initial and sustaining is estimated at \$189.6 million.

**Table 1-4: Initial Capital Cost Estimate Summary**

Area	Cost (\$ 000's)
Mining	16,336
Heap Leach facilities	11,898
Process facilities	19,147
Infrastructure	14,680
Indirect costs	10,105
Owner's cost	7,684
Contingency	19,620
<b>Sub Total</b>	<b>99,471</b>
Mining - Major Equipment Leases	21,017
<b>Grand Total</b>	<b>120,488</b>

*Note: Figures may not sum due to rounding.*

## 1.17 Operating Costs

Total operating costs over the LOM have been estimated at \$400 million with an average operating cost estimated at \$13.24/t (\$12.01/ton) of material processed as summarized in Table 1-5.

**Table 1-5: Average Unit Operating Costs**

<b>Cost Area</b>	<b>\$/t processed</b>
Mining	7.49
Processing	4.65
G&A	1.10
<b>Total</b>	<b>13.24</b>

## 1.18 Financial Analysis

The financial evaluation of the Project generates positive before and after-tax results. Key financial inputs and outcomes of the project are presented in Table 1-6. The after-tax IRR is 25.4% and the after tax NPV at a 5% discount rate, is \$87.6 million. After tax payback of the initial capital is achieved 3.0 years following the start of production.

Cost metrics for total cash costs (TCC), all-in sustaining costs (AISC), and all-in costs were calculated for the Project according to World Gold Council guidance (World Gold Council, 2013). The TCC, AISC, and AIC are \$809, \$1,057, and \$1,254 per ounce sold, respectively.

With regards to the after-tax evaluations, the Project is most sensitive to changes in metal price and grade, followed by changes to operating costs and capital costs. The Project is least sensitive to changes in capital costs.

The Beartrack Arnett PEA study represents forward-looking information, including the Mineral Resource estimates in the PEA mine plan and the cash flows derived from them, gold prices used, capital and operating cost estimates, estimated gold production, and payback period. Actual results may vary from the forward-looking information with the Mineral Resource estimates, costs, gold prices, metallurgical recoveries, and taxes being different from what was assumed for the PEA.

**Table 1-6: Key Financial Inputs and Outcomes**

<b>Economics</b>	<b>Units</b>	<b>Pre-Tax</b>	<b>After-Tax</b>
Net present value (NPV <sub>5</sub> )	\$M	102	88
Internal rate of return (IRR)	%	28	25
Payback period (undiscounted)	years	2.9	3.0
LOM average annual cash flow	\$M	22	19
LOM cumulative cash flow (undiscounted)	\$M	153	134
LOM average cash costs	\$/oz	809	
LOM average AISC	\$/oz	1,057	
LOM average AIC	\$/oz	1,254	
Pre-production capital costs	\$M	99	
Sustaining capital costs (LOM)	\$M	62	
Gold price assumption	\$/oz	1,550	
Mine life	years	7	
Head grade (diluted)	g/t Au	0.87	
Average recovery	% (FA)	60	
Average annual mining rate	t/d	12,000	
Average annual gold production	oz/yr	72,288	
Total LOM recovered gold	oz	506,000	

Note:

1. Capital cost does not include \$21 M in mine equipment leases which are reflected in operating costs
2. Sustaining capital cost does not include \$7 M in mine equipment leases which are reflected in operating costs

## 1.19 Interpretations and Conclusions

Under the assumptions in this Report, the Project shows a positive financial return. This PEA identifies additional test work and engineering studies required to support further mining studies including a pre-feasibility study of a heap leaching operation and a PEA on a milling operation.

The QPs recognize that the PEA is partially based on Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that this PEA will be realized.

## 1.20 Recommendations

The QPs have identified further drilling, test work and studies recommended for progressing the Project to the next stage – both in respect of the heap leach and mill opportunity. The total estimated cost for the work summarized in Table 1-7 is \$17.7 million.

**Table 1-7: Recommended Work Program**

Area	Description
Drilling	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Complete drilling to expand on the current Mineral Resources at Joss and Moose</li> <li>• Exploration drilling between Ward’s Gulch and South Pit and between South Pit and Joss</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Infill drilling to expand on current Mineral Resources at Haidee</li> <li>• Exploration drilling to expand the Mineral Resource along strike</li> <li>• Condemnation drilling in the area of the waste rock facility and heap leach pad</li> <li>• Geotechnical drilling on all pit sides to assess geological profile</li> <li>• Hydrology wells to collect water information for pit management</li> </ul>
Mineral Resource Estimation	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Convert drilling and geologic records from Local Mine coordinates to Idaho State Plan coordinates to align with Arnett</li> <li>• Submit reject material to obtain additional AuCN assays</li> <li>• Include AuFA and Soluble AuAA analyses for all additional samples</li> <li>• Apply a different approach to estimating data (AuFA and AuCN) on unequal support</li> <li>• Perform a quantitative drill hole spacing study to determine the spacing required to support Mineral Resource classification</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Submit reject material to obtain additional AuCN assays</li> <li>• Perform a quantitative drill hole spacing study to determine the spacing required to support Mineral Resource classification</li> </ul>
Metallurgical Sampling and Testing	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Bulk density determinations from rock types at different depths</li> <li>• In addition to ICP and carbon suite (total carbon and organic carbon) tests, include Leco analyses as part of the assaying suite at</li> </ul>



Area	Description
	<p>Beartrack to better understand the sulphide sulphur content of future potential mill feed</p> <ul style="list-style-type: none"> <li>• Prolonged heap leach column tests using the two-stage column test procedure to better understand ARD associated with prolonged exposure to water and oxygen</li> <li>• ABA testing on waste rock, in-pit mineralized material and heap leach material</li> <li>• Humid cell test of sulphide bearing tailings and waste rock</li> <li>• To further explore the milling option, ICP, Stot, SS, Ctot, Corg, Hg tests on samples with grades between 2 and 2.5 g/t, comminution tests and mill-flot-POX-flot tails leach sequence tests</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Single stage heap leach column test</li> <li>• ABA testing on waste rock, in-pit mineralized material and heap leach material</li> <li>• Humid cell test of sulphide bearing tailings and waste rock</li> </ul>
Mining	<p>Beartrack and Arnett</p> <ul style="list-style-type: none"> <li>• Geotechnical studies to verify the pit slope angles</li> <li>• Hydrological studies to support geotechnical studies and to provide inputs to a regional dewatering program</li> </ul>
Infrastructure	<p>Beartrack and Arnett</p> <ul style="list-style-type: none"> <li>• Electrical trade-off study to explore technically feasible options once the existing electrical equipment has been evaluated, available power capacity confirmed and project power demand further defined</li> <li>• Trade-off study to optimize the number of stormwater management ponds, the treatment and operation</li> <li>• Groundwater characterization study</li> </ul>
Environment	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Geochemical characterization study to identify volumes of PAG rock at Beartrack</li> <li>• Baseline studies and preparation of all permitting required for the Project as input into the development of an EIS</li> </ul>

## 2.0 Introduction

Wood was requested to prepare an independent Technical Report (Report) for the Beartrack Arnett Gold Project for Revival Gold Inc. (Revival) disclosing results of a preliminary economic assessment (PEA) of a heap leach operation. Mineral Resources have been declared to reflect the potential for heap leach, sulphide mill and underground opportunities. This Report describes the economic potential for a heap leach only project where all resource categories (leach and mill) above the leach cut-off grade were considered in developing the plan.

The Project is located near Salmon, Idaho, USA, and approximately 240 km (150 mi) northeast of Boise.

## 2.1 Terms of Reference

The Report is being used by Revival as a conceptual analysis of a development option to assess the economic viability of the Project and identify work required to complete more advanced mining studies.

Mineral Resource estimates were performed in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019) and reported in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 10, 2014).

Measurement units used in this Report are both metric and imperial (bracketed) and the currency is expressed in US dollars.

## 2.2 Qualified Persons

The following individuals served as Qualified Persons (QPs) as required by the Instrument 43-101, Standards of Disclosure for Mineral Projects, and in compliance with the Form 43-101F1:

- Mr. Mark B. Mathisen, C.P.G., Principal Geologist, Roscoe Postle Associates Inc. (RPA/SLR)
- Mr. Ryan Rodney, C.P.G., Geologist, Roscoe Postle Associates Inc. (RPA/SLR)
- Mr. Kirk Hanson, P.E., Technical Director, Open Pit Mining, Wood
- Mr. Ben Bissonnette, P.Eng., Technical Director, Metallurgical Process Engineering, Wood
- Mr. Paul Baluch, P.E., Technical Director Civil/Structural/Architectural, Wood
- Mr. David Cameron, P.E., Executive VP and Principal Engineer, Geotechnical and Environmental Engineering, KC Harvey Environmental LLC

QPs Mr. Mathisen and Mr. Rodney take responsibility for sections relating to geology and Mineral Resource estimation, specifically deposit types, exploration, drilling, sample

preparation, analyses and security, data verification and mineral resource estimates as well as parts of the summary, introduction, interpretation and conclusions and recommendations relating to those areas.

QP Mr. Hanson takes responsibility for the introduction, reliance on other experts, property description and location, accessibility, climate, local resources, infrastructure and physiography, history, mining methods, market studies and contracts, the mine operating costs, economic analysis, adjacent properties, other relevant data and information as well as parts of summary, interpretation and conclusions and recommendations relating to those areas.

QP Mr. Bissonnette takes responsibility for mineral processing and metallurgical testing, recovery methods, capital and operating costs, and the summary, interpretation and conclusions and recommendations relating to those areas.

QP Mr. Baluch takes responsibility for project infrastructure, and the summary, interpretation and conclusions and recommendations relating to it.

QP Mr. Cameron takes responsibility for the environmental studies, permitting, and social or community impact and the summary, closure costs, interpretation and conclusions and recommendations relating to those areas.

## 2.3 Site Visits

Mr. Kirk Hanson, P.E. visited the Beartrack Arnett Project site on May 18, 2020 in preparation for this Report. The following areas were inspected:

- Access roads from Salmon to the property
- On site infrastructure including diesel and gas, process facilities, core storage, fencing, fresh water wells, and stormwater collection
- Existing Beartrack North and South Pits, heap leach pads and waste rock facility
- Existing Forest Service road from Beartrack to Arnett and Arnett project site area

Mr. Mark Mathisen, C.P.G. visited the Beartrack Arnett Project site on July 29, 2019. The following work was completed:

- Reviewed vertical sections (cross and long) and level plans in the Revival Salmon, Idaho field office
- Reviewed core from three holes representative of mineralized intercepts and lithology at Revival core logging facility
- Visited and toured both the Beartrack and Arnett project areas, including Beartrack North and South pits and 2019 drill sites at Arnett
- Reviewed collar and down hole orientation surveying practices
- Confirmed project grid co-ordinate system (projection, zone, and datum) used

- Checked hard copy information in paper drill logs against database
- Reviewed logging procedures, logging manual, and core reference suite
- Determined whether sample preparation is done on site by owner personnel
- Checked sample preparation and analytical protocols
- Observed analytical QA/QC methods and confirmed appropriateness
- Reviewed CRM and blank supply and packaging as well as method of sample submission
- Observed data management system
- Reviewed the security/chain of custody of samples to laboratory

Mr. David Cameron, P.E. most recently visited the Beartrack Arnett Project site on October 10-11, 2019 and inspected all areas of the site and collected reports on historical operations.

## 2.4 Effective Date

The effective date for this Report is November 17, 2020.

## 2.5 Sources of Information

All sources of information used for the development of this Report are listed in Section 27.

A key source of information for this Report includes the following Technical Report filed earlier in 2020:

- Mathisen, M.B, Rodney, R. and Altman, K. A, 2020, Technical Report on the Beartrack – Arnett Gold Project, Lemhi County, Idaho, USA; report prepared by Roscoe Postle Associates Inc. for Revival Gold Inc., February 21, 2020, 283 p.

Expert reports the QPs relied on for legal and tax information are listed in Section 3.

### 3.0 Reliance of Other Experts

The QPs have relied upon the following other expert reports or statements which provided information regarding mineral rights, surface rights, property agreements, royalties and taxation contained with this Report.

#### 3.1 Mineral Tenure, Surface Rights and Royalties

The QPs have not independently reviewed ownership of the Project area and any underlying property agreements, mineral tenure, surface rights or royalties. The QPs have fully relied upon, and disclaim responsibility for information derived from Revival and legal experts retained by Revival for this information through the following:

- Christopher Gabbert, Lyons O'Dowd, PLLC, 2020, email statement confirming the validity of the contents contained in Section 4 of the Report herein, dated 27 October 2020.

This information is used in Section 4 for property description, in Section 14 to support reasonable prospects for eventual economic extraction, including inputs to the cut-off applied to the Mineral Resource estimate, and in Section 22 to support various inputs to the financial model of the Report.

#### 3.2 Taxation

The Wood QPs have not independently reviewed the taxation information. The Wood QPs have fully relied upon, and disclaim responsibility for, taxation information derived from experts retained by Revival contained in the following document:

A letter authored by PricewaterhouseCoopers LLP ("PwC") with the title:

"NI 43-101 Technical Report Prepared for Revival Gold In. – Taxation Narrative" dated November 12, 2020.

PwC is an Ontario limited liability partnership, which is a member firm of PricewaterhouseCoopers International Limited, each member firm of which is a separate legal entity.

This information is used in Section 22.2.6 of the Report.

## 4.0 Property Description and Location

### 4.1 Location

The Project is located in Lemhi County, Idaho, in the northwestern USA (Figure 4-1). Beartrack and Arnett are located approximately 18 km (11 mi) and 26 km (16 mi), respectively, west-northwest of the town of Salmon, and approximately 240 km (150 mi) northeast of Boise, the capital of Idaho. Approximate geographic coordinates for the centre of the resource at Beartrack are 45°14'13"N and 114°6'12"W and the Haidee target at Arnett, 45°14'8"N and 114°12'42"W. The approximate elevations for the above cited coordinates are 2,165 m (7,103 ft) above mean sea level at Beartrack and 2,225 m (7,300 ft) at Arnett.

### 4.2 Mineral Tenure

#### 4.2.1 Beartrack

Revival entered into an earn-in agreement on August 31, 2017, and amended on May 8, 2019 and May 20, 2020, to purchase a 100% interest in the mineral rights for 305 unpatented claims totalling approximately 2,055 ha (5,079 acres) and 14 patented claims totalling approximately 187 ha (463 acres) from Meridian Beartrack. In addition, Revival has staked 240 unpatented lode claims surrounding the Beartrack property that are subject to the earn-in agreement. Due to overlapping of unpatented lode claims over unpatented mill site and patented placer claims, the total footprint of the Beartrack claims is 3,071 ha (7,589 acres) (Figure 4-2). The information presented in Table 4-1 presents the breakdown of claims, by type and area, and includes the estimated holding costs to maintain these claims.

Claim locations in the USA are described with respect to the Section, Township, and Range system employed throughout the country. The claims that comprise the Beartrack land position are located, all or in part, in Section 1, Township 21 North, Range 19 East; Sections 4, 5 and 6, Township 21 North, Range 20 East; Section 36, Township 22 North, Range 19 East; Sections 2, 3, 4, 5, 9, 10, 11, 12, 14, 15, 16, 17, 19, 20, 21, 22, 28, 29, 30, 31, 32, and 33, Township 22 North, Range 20 East; Section 36, Township 23 North, Range 19 East; and Section 34, Township 23 North, Range 20 East, Boise Meridian.

All 545 unpatented claims and are in good standing until September 1, 2021 when the next filings and required maintenance fee payments to the U.S. Bureau of Land Management (BLM) are due.

**Table 4-1: Beartrack Land Ownership**

<b>Registration</b>	<b>Claim Type</b>	<b>No. of Claims</b>	<b>Anniversary Date</b>	<b>In Good Standing To</b>	<b>Approx. Area (acres)</b>	<b>Estimated Holding Cost (US\$)</b>
Meridian Beartrack	Unpatented Lode	356	08/31/2020	09/01/2021	7,120	58,740
Meridian Beartrack	Unpatented Mill Site	143	08/31/2020	09/01/2021	715	23,595
Meridian Beartrack	Unpatented Placer	46	08/31/2020	09/01/2021	1,967	19,305
Meridian Beartrack	Patented Claims	14	08/31/2020	09/01/2021	463	383
<b>Total</b>		<b>559</b>			<b>10,265</b>	<b>102,023</b>

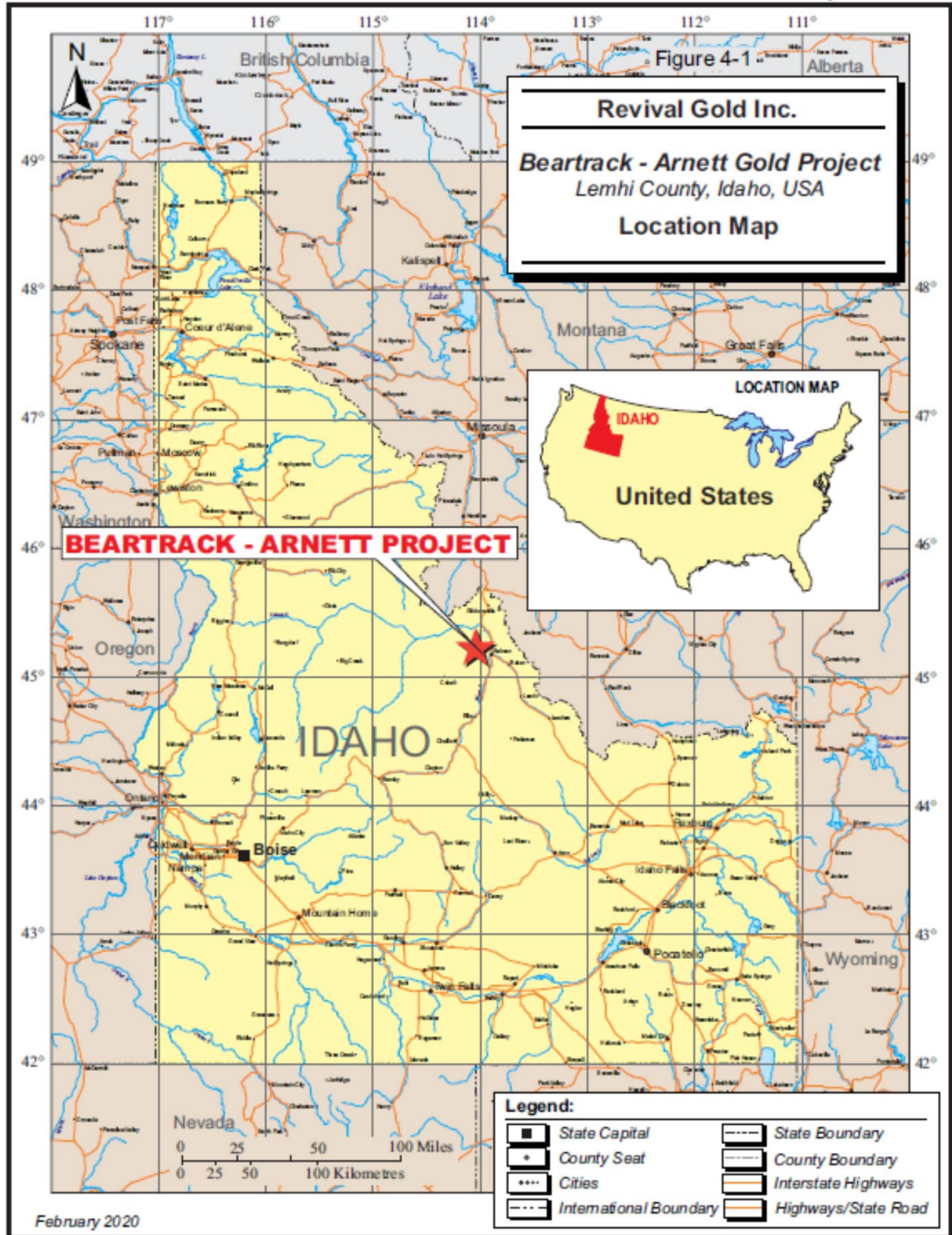
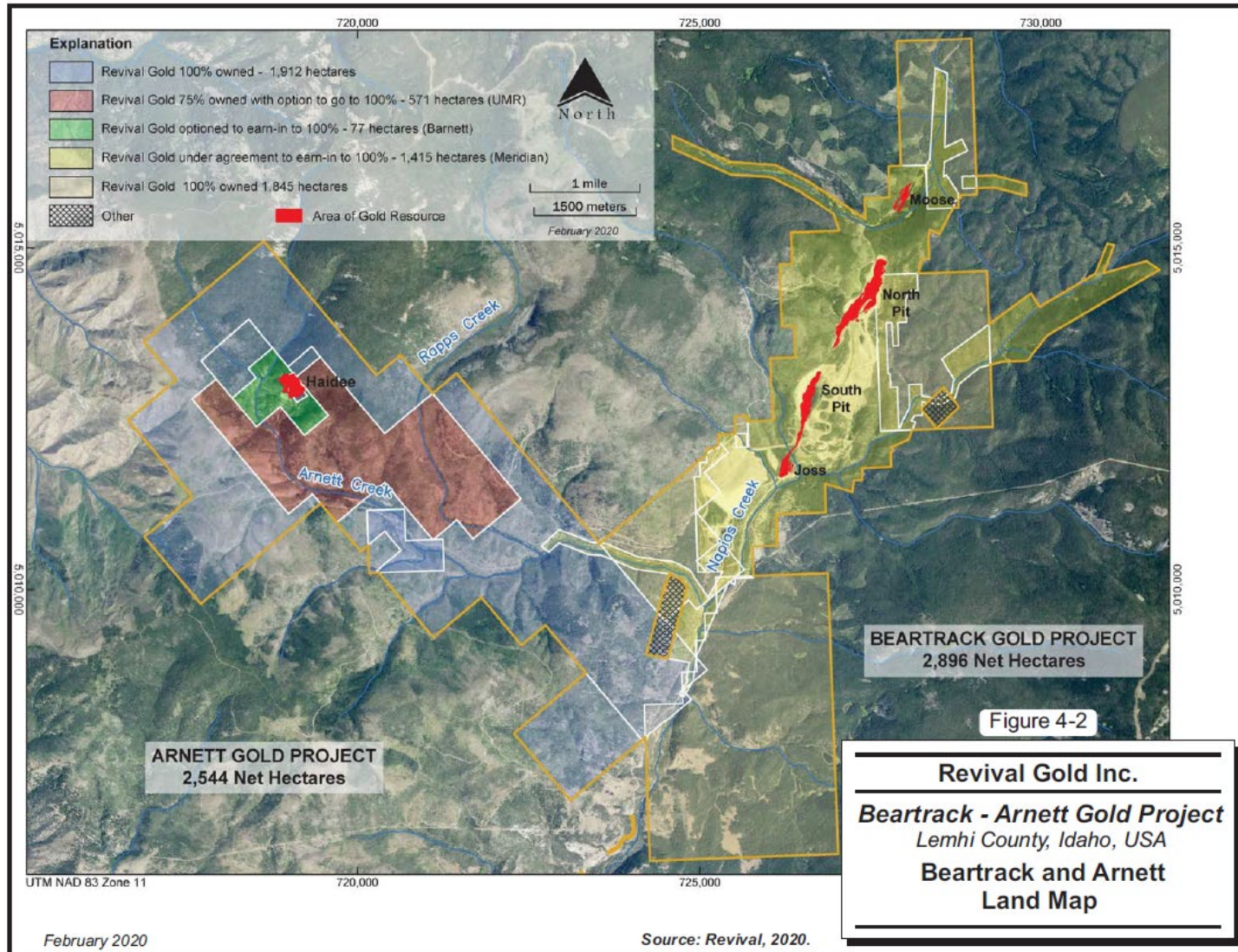


Figure 4-1: Project Location Map (Source: Revival, 2019)





**Figure 4-2: Beartrack and Arnett Land Map**

## 4.2.2 Arnett

At Arnett, Revival has optioned or purchased a 100% interest in the mineral rights for 95 unpatented lode claims, two unpatented placer claims, and one patented lode claim totalling approximately 799 ha (1,974 acres) from the registered owners and staked an additional 195 unpatented lode claims surrounding the Arnett property. Due to the overlapping of unpatented lode claims over unpatented placer claims, the total footprint of the Arnett claims is 2,369 ha (5,853 acres). Table 4-2 lists the claims by type and area and includes the estimated holding costs to maintain these claims. Figure 4-2 illustrates the land ownership at Arnett.

The Arnett claims are located, all or in part, in Sections 9, 10, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 36 Township 22 North, Range 19 East and Sections 19, 29, 30, 31 and 32, Township 22 North, Range 20 East, Boise Meridian.

All 290 unpatented lode claims, and two unpatented placer claims are in good standing until September 1, 2021 when the next filings and required maintenance fee payments to the BLM are due.



**Table 4-2: Arnett Land Ownership (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Registration	Claim Type	Claim Names	No. of Claims	Anniversary Date	In Good Standing To	Approx. Area (acres)	Estimated Holding Cost (US\$)
Revival (75)	Unpatented Lode	ACE	68	08/31/2020	09/01/2021	1,411	11,220
Revival (100)	Unpatented Lode	HAI 1 to 7, Gold Bug 12 to 17 & 27 to 29	16	08/31/2020	09/01/2021	331	2,640
Revival (100)	Unpatented Lode	GB 1 to 195 & Mapatsie #18A	196	08/31/2020	09/01/2021	3,920	32,340
Revival (100)	Unpatented Placer	Arnett Creek Pl. & Dump Creek Pl.	2	08/31/2020	09/01/2021	40	330
Revival (100)	Patented Lode	Haidee	1	08/31/2020	09/01/2021	20	20
Private Individuals	Unpatented Lode	Mapatsie 6 to 9, 11, 13, 18, 19 & Poco 34	10	08/31/2020	09/01/2021	192	1,650
<b>Total</b>			<b>293</b>			<b>5,914</b>	<b>48,200</b>

Note:

1. Due to overlapping claims, the total area is 5,853 acres

### 4.3 Obligations to Maintain the Properties

The primary obligation to maintain unpatented mining claims in good standing is payment of an annual maintenance fee of \$165 per lode or mill site claim on or before September 1 of each year. Placer claims over 20 acres must pay an additional \$165 per 20 acres or portion thereof. Property taxes are also due for patented claims, as these are classified as real property. The total estimated financial obligation to maintain the claims that constitute the Project that is the subject of this Report is \$102,023 per year for Beartrack (Table 4-1) and \$48,200 per year for Arnett (Table 4-2). In addition to these property payments, there is a property tax on buildings at the Beartrack mine site. This amount is expected to increase incrementally over time.

### 4.4 Agreements

#### 4.4.1 Beartrack

On August 31, 2017, Revival entered into a four year earn-in and related stock purchase agreement (the Agreement) with Meridian Gold Company and Meridian Beartrack Co. (subsidiaries of Yamana) by which Revival may acquire a 100% interest in Meridian Beartrack Co., owner of the Beartrack Property. On May 8, 2019, and May 20, 2020 Revival executed amendments to the Agreement (together, the Amended Agreement) to acquire Meridian Beartrack Co. The following is a summary of the Amended Agreement.

Revival may acquire Meridian Beartrack by making a cash payment of US\$250,000 (paid), delivering four million shares of Revival (delivered), spending US\$10 million on exploration and funding certain remediation costs during a five year earn-in period (approximately US\$6.7 million spent as of the date of this Report). Upon completion of the acquisition, Revival will assume future site remediation and closure obligations. Revival will be required to complete a Mineral Resource estimate and report it in accordance with NI 43-101 and make a cash payment equal to the greater of US\$6/oz of gold in Mineral Resources or US\$15/oz of gold in Mineral Reserves based on the Mineral Reserve and Mineral Resource estimate at the end of year seven which includes all Mineral Resources or Mineral Reserves discovered and determined during the five year earn in period and a two year period post earn-in (Table 4-3). Revival will also be required to pay a 1.50% Net Smelter Return (NSR) royalty, 0.50% of which is capped at US\$2 million.

Meridian Beartrack Co. retains all asset retirement obligations (ARO) for the entire earn-in period, with Revival funding work related to the ARO after Year 4 of that period. Additionally, Meridian Beartrack Co. will maintain bonding on closure during the earn-in period, with Revival funding applicable costs of bonding on closure following Year 4 of that period.

**Table 4-3: Earn-In Term for the Beartrack Property (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

<b>Year Payments</b>	<b>(US\$)</b>	<b>Work Commitment (US\$)</b>	<b>Stock (Common Shares)</b>
Closing	250,000 (paid)	NA	1,000,000 (issued)
1	NA	2,000,000 (spent)	1,000,000 (issued)
2	NA	2,000,000 (spent)	1,000,000 (issued)
3	NA	2,000,000 (spent)	1,000,000 (issued)
4	NA	2,000,000	NA
5	NA	2,000,000	NA
<b>Total</b>	<b>250,000</b>	<b>10,000,000</b>	<b>4,000,000</b>

#### 4.4.1.1 Royalties and Other Encumbrances

The 305 unpatented claims and 14 patented claims subject to the Agreement with Meridian Beartrack are subject to a 0.5% Net Profit royalty to Mr. Raymond W. Threlkeld. The royalty is to be paid within 30 days of the end of each quarter in which gold is sold or produced. There are no historical payments due to Mr. Threlkeld.

An agreement between Meridian Minerals Company (Meridian Minerals), currently Meridian Beartrack, and the Marvin Johnson family covers certain patented and unpatented placer claims located largely south and west of the South Pit zone at Beartrack. These placer claims are subject to a 25% of Net Return royalty calculated as the profits from sales of all placer gold mined from the claims. The royalty covers all “placer” gold, which is defined as gold occurring within 30.5 m of the surface. The agreement, signed on October 3, 1989, allows for the return of the claims in question to the Johnsons, or the heirs of the Johnson family living at the time the agreement was signed, if they are deemed to not have value for exploration or mining.

Other than the foregoing, Revival is not aware of any third parties currently claiming an active right to royalty payments or other financial payments in relation to the Property, except for an annual payment on a per claim basis to the Federal government for unpatented claims, and Lemhi County tax payments on patented claims.

#### 4.4.2 Arnett

The Mapatsie 6 to 9, 11, 13, 18, and 19 and Poco 34 unpatented lode claims (Table 4-2) are owned collectively by a group of private individuals (Private Individuals). Revival signed a definitive agreement dated June 2, 2017 and amended on April 9, 2020 in which the Private Individuals will transfer a 100% interest in the claims to Revival for payment of US\$10,000 upon signing the letter of intent (paid), US\$150,000 upon signing of formal documentation (paid)

and in Years 1 (paid) and 2 (paid), US\$75,000 in Year 3 (paid) and payments of US\$250,000 in each of Years 4 and 5. The agreement includes a 2.0% NSR royalty that can be purchased for US\$2,000,000 (Table 4-4).

#### **4.4.2.1 Royalties and Other Encumbrances**

Revival owns 75% of the ACE unpatented lode claims (Table 4-2). Bull Run Capital Inc. (Bull Run) owns the remaining 25% interest in the claims. Revival may purchase the 25% interest from Bull Run for US\$500,000 at any time prior to June 30, 2022. The claims are subject to a 1.0% NSR that may be purchased for US\$2,000,000 (Table 4-4).

The HAI 1 to 7 and Gold Bug 12 to 17 and 27 to 29 unpatented lode claims are subject to a 1.0% NSR that may be repurchased for US\$2,000,000 (Table 4-4).

The Haidee patented lode claim is subject to a 2.0% NSR that may be repurchased for US\$1,000,000 (Table 4-4).

Other than the foregoing, Revival is not aware of any third parties currently claiming an active right to royalty payments or other financial payments in relation to the Property, except for an annual payment on a per claim basis to the Federal government for unpatented claims, and Lemhi County tax payments on patented claims.

**Table 4-4: Terms of Agreement for the Arnett Property (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Claim Names	Initial Interest	Initial Payment (US\$)	Initial Payment (Shares)	1st Year (US\$)	2nd Year (US\$)	3rd Year (US\$)	4th Year (US\$)	5th Year (US\$)	NSR Royalty	Royalty Buy Back (US\$)	Residual Buyout Option (US\$)
Mapatsie 6 to 9, 11, 13, 18, 19 & Poco 34	100%	\$150,000 (paid)	NA	\$150,000 (paid)	\$150,000 (paid)	\$75,000 (paid)	\$250,000	\$250,000	2.00%	\$2,000,000	NA
ACE	75%	NA	3,000,000 (issued)	NA	NA	NA	NA	NA	1.00%	\$2,000,000	\$500,000
HAI 1 to 7, Gold Bug 12 to 17 & 27 to 29	100%	\$74,074 (paid)	2,750,000 (issued)	NA	NA	NA	NA	NA	1.00%	\$2,000,000	NA
Haidee	100%	\$300,000 (paid)	NA	NA	NA	NA	NA	NA	2.00%	\$1,000,000	NA

## **4.5 Environmental and Permitting**

The Beartrack deposit is a brownfield mine site. Refer to Section 20 for discussion on the environmental and permitting aspects of the Project.

## **4.6 Significant Factors and Risks**

According to the policy perception discussed in the 2019 Fraser Institute Annual Survey of Mining Companies (Stedman, et al, 2019), Idaho ranks in the top 10 internationally for favourable mining jurisdictions.

The Project is located within a brownfield mine site providing useful information to assess and mitigate risks that may affect access, title, or ability to perform work on the property.



## 5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

### 5.1 Accessibility

The Project is can be accessed via all-weather paved highways from Missoula, Montana (225 km (140 mi)), Idaho Falls, Idaho (257 km (160 mi)) or from Boise, Idaho (240 km (150 mi)). Drive times are 3.0, 3.0 and 5.5 hours, respectively. Missoula, Idaho Falls, and Boise have daily air service to larger, western airports such as Denver and Salt Lake City and regular air service exists between Boise and Salmon. In addition, there are several passable four-wheel drive roads and trails that allow for access to much of the Project.

### 5.2 Climate

The climate of the region is dependent on altitude. Salmon, approximately 51 km (32 mi) southeast of the Project represents the nearest location for which weather statistics are readily available, lies at 1,202 m (3,944 ft) above mean sea level, while the elevation of the Project is nearly 2,195 m (7,201 ft). Salmon is located within a valley with a semi-arid climate, characterized by cold dry winters and hot, slightly wetter summers. Ascending the mountains to the west, the climate changes to a damper and cooler humid climate. At Salmon, the average monthly high temperature is 29°C (84°F) in July and the average monthly low is -1°C (30°F) in January. Winter minimum temperatures range from -14°C (57°F) to -9°C (16°F), while summer highs range from 10°C (50°F) to 29°C (84°F). The average annual precipitation is 24.2 cm (9.5 in.), most of which occurs May through July. Average annual snowfall is 63.5 cm (25 in.), with December and January being the snowiest months on average.

Temperatures at the Project are substantially lower while annual precipitation amounts are higher due to the higher elevation of the mine site (2,001 m (6,565 ft)) for the mine versus 1,202 m (3,944 ft) for Salmon). Based on weather statistics from the Cobalt Blackbird Mine climate station for the period 1951 through 1960, the average annual maximum and minimum temperatures were 14.5°C (58°F) and -9.5°C (15°F). The maximum temperature generally occurs in July or August while the minimum temperature generally occurs between December and February.

The average precipitation for this period was 54.5 cm (21.5 in.) with maximum precipitation generally occurring between March and June.

The operating season with respect to exploration fieldwork and drilling is generally from mid-June through the end of October. However, should Revival wish to do so, roads can be kept

open and drilling operations can be conducted year-round, provided that the appropriate permits have been obtained from the USFS.

Historically, Meridian Beartrack operated the Beartrack open pit mine and heap leach processing year-round so climate should not present an impediment to mining.

### 5.3 Local Resources

The town nearest the Project is Salmon. Lemhi County had a 2016 population of 7,723 (<https://www.census.gov/quickfacts/table/PST045215/16059>) while Salmon's 2016 population was reported to be approximately 3,300 (<http://www.cityofsalmon.com>). Most basic services can be found in Salmon, Missoula (population 117,000) or Idaho Falls (population 56,800).

Salmon is located some 5.5 hours from Boise, the capital of Idaho, where many State and Federal government agencies are located. Semi-skilled and unskilled labour can be obtained regionally as mining is active in Idaho and in Nevada to the south.

### 5.4 Infrastructure

A high-tension power line currently provides power to the Beartrack site. The reported capacity of the line is 69 kV.

Some infrastructure remains at the Project from the historical mining operation. The Beartrack site includes an adsorption-desorption-regeneration (ADR) plant with some equipment, change rooms, offices (limited equipment), leach (pregnant) ponds, overflow (stormwater) ponds, a fully winterized core logging and storage facility, an electrical substation, a Pall microfiltration water treatment plant, and a fuel farm. There is sufficient space for waste disposal areas, heap leach pads, and additional processing plant sites.

It is believed that the availability of power, water, and mining personnel would be sufficient should the Project advance.

### 5.5 Physiography

The Project consists of relatively gentle, forested terrain ranging in elevation from 1,951 m (6,401 ft) to about 2,256 m (7,401 ft). Vegetation consists largely of coniferous trees (primarily Lodgepole pines with lesser Douglas fir and Engelmann spruce) with sage, mountain mahogany shrubs and grasses at lower elevations. Mule deer, elk, moose, black bear, and mountain lions are present in the area.

## **6.0 History**

### **6.1 District History**

Placer gold was discovered at Napias Creek in the Mackinaw Mining District (the District) in 1867 less than 1 km (0.6 mi) downstream from the Beartrack mine. The District subsequently became one of the largest placer mining districts in Idaho. The use of sluice boxes and shakers to mine placers in the late 1800s gave way to hydraulic mining in the 1920s and to dredges in the 1930s and 1940s. Total placer gold production from the District is estimated to be equivalent to 475,000 oz of gold (Johnson et al., 1998) but could be as high as 600,000 oz of gold.

All mining work in the District focused on alluvial gold until 1870 when the first lode claim, the Shoo Fly, was located. The first lode mine in the Beartrack mine area, the Gold Flint, opened in 1880 followed by the Italian mine on Arnett Creek in 1892. Total production from these lode deposits is unknown but is thought to be limited.

The largest mining operation in the District was the Beartrack mine. Between 1995, when the first gold was poured, and 2002 when leaching stopped, the Beartrack mine produced approximately 609,000 oz of gold from 21,880,000 tonnes at an average cyanide-soluble gold grade of 0.028 oz/ton Au, based on an unpublished Meridian Gold Inc. (Meridian Gold) production summary.

### **6.2 Beartrack Property History**

#### **6.2.1 Ownership**

##### **6.2.1.1 Canyon Resource Corporation**

In 1983, representatives of Canyon Resources Corporation (Canyon) visited the Beartrack property and recognized the potential for bulk tonnage mineralization in what became the North deposit. On the basis of three samples collected in 1983 and follow-up sampling in 1984, Canyon staked 39 unpatented lode claims over the North deposit in 1984. Canyon continued to sample the property between 1985 and 1986. Prior to the initiation of drilling, in late 1986 or early 1987, Mr. Raymond Threlkeld, a consultant acting on behalf of Meridian Minerals, examined the property and recognized its bulk tonnage potential. On his recommendation, Meridian Minerals provided limited funding for a nine-hole reverse circulation (RC) drilling program in 1987 (Perry, 2003). The success of the drilling campaign led to the acquisition of

the property in 1988 by Meridian Minerals, a Montana corporation and subsidiary of Burlington Resources Inc.

None of the Canyon drilling data were used to estimate the Mineral Resources that are the subject of this Report.

### **6.2.1.2 Meridian Minerals Corporation**

Meridian Minerals' exploration efforts focused predominantly on the areas of the North and South deposits. Regional mapping and sampling programs were conducted in 1990 and 1991 to examine the remainder of the land position (Meyer, 1990 and Trujillo, 1991a and 1991b). Regional work focused on areas beyond the two known deposits and led to a much broader understanding of the property geology. The geologic map prepared by Trujillo (1991a) remains the most detailed geologic map of the Beartrack deposits and target area.

FMC Gold Company (FMC Gold), a Delaware Corporation, purchased Meridian Minerals a Montana corporation, including the Beartrack project, in May of 1990. Mining was initiated in late 1994. In July 1996, FMC Gold merged into Meridian Gold Inc. a Delaware corporation (Meridian Gold), as a result of its reincorporation from Delaware into Canada. Meridian's interest in the site, through Meridian Minerals (Montana) was later renamed Meridian Beartrack Co. Between 1995, when the first gold was poured, and 2002, when leaching stopped, the Beartrack mine produced approximately 609,000 oz of gold. In October 2007, Yamana purchased Meridian Gold. The mine is currently in remediation, through its wholly owned subsidiary Meridian Beartrack.

In 2012, Meridian Beartrack initiated a three-year, \$10 million exploration program to evaluate the deep potential at Beartrack. In 2013, Meridian Beartrack terminated the program having completed 21 core holes totalling approximately 10,728 m (35,295 ft). No further exploration work was conducted on the property.

Meridian Minerals, FMC Gold, Meridian Gold, and Meridian Beartrack Co. are collectively referred to as Meridian in the subsequent sections of this Report.

### **6.2.1.3 Revival Gold Inc.**

On September 9, 2017 Revival announced the execution of an earn-in and related stock purchase agreement with Meridian.

## **6.2.2 Exploration and Development Activities**

Extensive regional geophysical surveys were completed by Meridian that included airborne magnetics, very low frequency electromagnetics (VLF), and induced polarization (IP). IP and

resistivity data were collected at the Beartrack property using the dipole-dipole (DPDP) and gradient arrays.

IP and resistivity anomalies were found to be associated with the economic deposits along the Panther Creek Shear Zone (PCSZ). Low amplitude, well defined IP and resistivity anomalies were found to be directly associated with the gold mineralized zones at the Beartrack deposits. The IP anomalies are caused by pyrite in the quartz-sericite-pyrite alteration assemblage associated with gold mineralization. High resistivity anomalies caused by silicification in the alteration assemblage help distinguish IP anomalies associated with gold mineralization from anomalies caused by pyrite randomly distributed in the Yellowjacket and rapakivi granite. The consistent broad coverage of the gradient array survey has been important for identifying the lateral continuity of the IP anomalies associated with gold mineralization.

### 6.2.2.1 Drilling

Together, Canyon and Meridian completed 922 drill holes for a total of 136,483 m (447,778 ft). Canyon drilled the first holes on the Beartrack property in 1987, drilling nine RC drill holes in the North deposit for a total of 692 m (2,270 ft). Beginning in 1988, Meridian completed 913 drill holes totalling 135,791 m (445,508 ft) of RC and diamond drilling (DD) (Table 6-1 and Table 6-2).

Revival completed 32 core holes totalling 11,867 m (38,934 ft), as described in Section 10, Drilling.

**Table 6-1: Historical Beartrack Drilling by Type**

Type	No. Drill Holes	Metres Drilled (m)	Number of Samples
RC	728	97,542	59,979
DD	194	38,941	23,786
<b>Total</b>	<b>922</b>	<b>136,483</b>	<b>83,765</b>

**Table 6-2: Historical Beartrack Drilling by Year**

Company	Year	Drill Type	No. Drill Holes	Metres Drilled (m)	Drill Hole Sequence Number
Canyon	1987	RC	9	692	CRC-001 – CRC-009
Meridian	1988	RC	123	17,166	88-001 – 88-126
		DD	10	1,420	DD-001 – DD-009
	1989	RC	298	43,783	89-127 – 89-417 BT898AC-01 – BT89AC-10
	1990	DD	43	4,600	DD-010 – DD-052
		RC	149	18,803	90-406 – 90-554 BT90AC-11 – BT90AC-27
	1991	DD	65	12,510	DD-053 – DD-116
		RC	17	2,123	L001 – L009 BT91AC-28 – BT91AC-36
	1992	RC	13	1,652	L010 – L022
		DD	6	390	DD-117 – DD-122
	1995	RC	29	3,463	69-560 - 95-589
	1996	RC	87	9,281	96-590 – 96-681
		DD	27	5,068	DD-123 – DD-149
	1997	RC	3	579	97-686 – 97-688
		DD	22	4,195	DD-150 – DD-172
2012	DD	14	6,726	BT12-174D – BT12-186D	
2013	DD	7	4,032	BT13-187D – BT13-193D	
<b>Total</b>			<b>922</b>	<b>136,483</b>	

### 6.2.3 Past Production

The Beartrack mine was an open pit heap leach mine that produced 13,600 tonnes of mineralized material and between 13,600 tonnes to 27,200 tonnes of non-mineralized material per day. Mining was conducted on 7.6 m (25 ft) high benches and after blasting, ore was transported to the crusher and non-mineralized material to the rock storage facility using a fleet of eight 83 tonne haul trucks. Ore was dumped directly into the crusher by the trucks and subjected to a two-stage crushing and screening process to achieve a minus 5 cm (2 in.) product. Crushed ore was placed on an approximately 800 m (2,625 ft) long conveyor line for transport to the heap leach pad. Ore was stacked in a semicircular fashion into panels where leach lines with emitters were placed on the ore in a grid pattern for distribution of weak sodium

cyanide solution. A life-of-mine (LOM) recovery of 88% was based on cyanide-soluble grade from leachable material during heap leaching operations. Table 6-3 summarizes tonnes, cyanide soluble gold (AuCN) grade, and gold ounces poured by year based on historical information obtained from Meridian.

**Table 6-3: History of Beartrack Gold Production (Source: Revival, 2018)**

<b>Year</b>	<b>Tonnes Mined (000 t)</b>	<b>Cyanide Soluble Au Grade (g/t)</b>	<b>Au Ounces Poured (oz)</b>
1994	735	1.25	0
1995	3,539	1.16	39,180
1996	4,130	0.9	108,708
1997	3,983	0.85	112,655
1998	4,023	0.82	105,039
1999	4,662	1.13	137,207
2000	808	1.04	72,137
2001	n/a	n/a	18,338
2002	n/a	n/a	8,678
2003-2014	n/a	n/a	7,199
<b>Total</b>	<b>21,880</b>	<b>0.99</b>	<b>609,141</b>

Note: 1. Numbers may not add up due to conversion from Imperial to metric units and rounding.

### 6.3 Arnett Property History

The principal historical mining areas on the Arnett property are the Haidee and the Italian mine areas. The Haidee lode was patented by George L. Shoup, the first governor, and an early senator of Idaho in 1892 near the peak of lode mining activity in the District. In 1903, a New York firm began driving a 900 m (2,953 ft) adit on the property. Mineralization of interest was discovered, but the adit never reached the target vein due to caving problems and the project was abandoned (Kiilsgaard et al., 1989). The potential ore was reported to be worth \$7/ton at the time (Umpleby, 1913), or about 0.34 oz/ton Au, based on the \$20/oz Au price in effect at that time.

The Italian mine claims were also located in 1892. The Italian mine was reported to be the major lode producer in the District. In 1908 a hoist was installed and shaft sinking began, leading to the discovery of gold in the shaft. A 30-stamp mill was built in 1910, and a 700 hp hydroelectric power plant was installed 11 km (6.8 mi) west of the mine, however, the new facilities did little to increase production. Total reported production from 1902 through 1935 was 722 oz of gold and 194 oz of silver (Kiilsgaard et al., 1989).

More recently, Mr. James Clutis recognized the potential for large tonnages of low-grade gold mineralization in the area of the Haidee and Italian mines and he staked the Mapatsie and Poco claims (Patricia Clutis, verbal communication; Reed and Hutchins, 1973). There is no evidence that Mr. Clutis attempted to advance the hard rock potential of the Arnett property but, beginning in the early 1970s, he began to seek a partner or buyer for Arnett. Available information suggests that between 1973 and 1985 Cyprus Mines Corporation (Cyprus), Amselco Minerals Inc., St. Joe American Corporation, Anaconda Copper Company, Phelps Dodge Corporation, Pegasus Gold Corporation, Coeur d'Alene Mining, and High Country Mining Corporation (High Country Mining) evaluated the Arnett property. The most in-depth review was conducted by Cyprus in 1973.

In 1985, High Country Mining submitted a mining proposal to the Cobalt Ranger District for a placer mine in the vicinity of the Italian and Haidee mines in the Arnett Creek drainage. High Country Mining also submitted a proposal to conduct an exploration operation in the Arnett Creek drainage area consisting of four exploration trenches and approximately 610 m (2,000 ft) of access road. No documentation of this program has yet been found (Wolfson, 2016).

In 1985, privately owned American Gold Resources Corporation (AGR) leased the Mapatsie 1 through 37, Poco 1 through 46, Poco Extension 1 through 9 lode claims and the Goldfinch 1 through 6 placer claims from Elsie Clutis, Wayne and Patricia Clutis and Frank and Verna Taft. AGR explored the Arnett property with various partners before signing a joint venture agreement with Meridian in 1991. Meridian returned the property to the Clutis and Taft families in 1998 terminating its involvement at Arnett.

In 2004, Kilgore Gold Company staked 16 unpatented lode claims covering the Little Chief Extension (seven Hai claims) and the eluvial placer workings east-southeast of the Italian mine (nine Gold Bug claims). Through a series of corporate transactions, those claims were owned by Otis Gold Corporation until their sale to Revival in 2017.

In 2016, Bull Run, a privately held corporation, acquired the 68 ACE claims from Utah Mineral Resources.

### **6.3.1 Ownership**

#### **6.3.1.1 Cyprus Mines Corporation**

In 1973, Cyprus completed geologic mapping, soil and rock sampling, a magnetometer survey, and 10 shallow percussion holes. Cyprus conducted soil geochemistry and ground magnetics on 11 northeast-trending lines spaced 305 m (1,000 ft) apart across the trend of the claim block as it was then. Soil samples and magnetometer readings were collected every 122 m (400 ft) along the lines. In addition, samples were collected from dumps and limited outcrop in the area (Reed and Hutchins, 1973).



Cyprus concluded that gold mineralization occurs within quartz-filled fractures hosted by intrusive rocks. The quartz was found to contain variable amounts of pyrite with lesser amounts of sphalerite and galena. Higher gold grades correlate with a higher density of quartz veining and pyrite (or limonite) content. Sampling indicated that gold values were erratically distributed within the quartz. Cyprus concluded that the results obtained did not warrant further work on the Arnett property (Reed and Hutchins, 1973).

### **6.3.1.2 American Gold Resources Corporation**

In 1985, AGR leased the Clutis and Taft family claims while exploring for gold in Lemhi County. By the end of 1989, AGR had assembled an overall land position of over 32,375 ha (80,000 acres), of which, 28,328 ha (70,000 acres) was contiguous to the north, west, and south boundaries of Meridian Minerals' Beartrack property.

In the Arnett Creek area, AGR controlled 156 unpatented mining claims and one patented mining claim for a total of 1,100 ha (2,718 acres). The unpatented claims consisted of 96 unpatented claims from the Clutis and Taft families (now the Barnett group), 50 unpatented mining claims from High Country Mining and 10 claims staked in AGR's name. An interest in one patented claim, the Haidee lode, was leased from the Shoup family (American Gold Resources Corp., 1995).

Late in 1991, AGR signed a joint venture operating agreement with Meridian on the Arnett property. In June 1996, a Plan was submitted to the USFS for continued exploration drilling in the vicinity of the Haidee mine, however, in mid 1996, AGR was acquired by Ashanti Goldfields Inc., who then sold the Arnett Creek Project along with Ditch Creek (also known as Humbug), to Meridian for \$1.0 million in 1997.

In 1992 PAH was commissioned by AGR to prepare a pre-feasibility study for the Arnett Creek project. The purpose of the study was to establish the economic feasibility of the project given certain parameters, quantify the proven and probable reserves delineated to date, and to identify any deficiencies in the data prior to undertaking a full feasibility study. The study was confined to technical feasibility from geology through processing and did not consider environmental or legal factors (Sandefur et al, 1993).

### **6.3.1.3 Meridian Minerals Company**

In 1997, Meridian completed 11 confirmation and exploration DDH on the Arnett property, all on the Haidee patented claim. In 1997, Meridian submitted a two-year proposal to the USFS for exploration in the Arnett Creek area, including trenching and drilling near the Haidee and Italian mines, but in mid 1998 Meridian terminated its involvement in the project, returning the unpatented and patented claims to their original owners

### 6.3.1.4 Revival Gold Inc.

On June 30, 2017 Revival announced the acquisition of the Arnett property followed by the acquisition of the internal Haidee patented lode claim and the Mapatsie #18A unpatented lode claim on July 24, 2018. Between August 2018 and June 2019 Revival completed 28 core holes totalling 4,758 m (15,611 ft). This drilling is described in greater detail in Section 10.

## 6.3.2 Exploration and Development Activities

In 1991, AGR performed a series of cold cyanide soluble leach tests on 116 drill samples selected to represent the various types of material that would be leached. Also, in 1991 AGR commissioned Kappes, Cassiday and Associates (KCA) to conduct column leach tests using trench samples and RC cuttings from the Property.

A ground magnetics survey was completed by Cyprus. AGR reports that a VLF survey was conducted over the Arnett property. No digital data for either survey has been found.

AGR conducted extensive trenching in the Haidee area. Maps were obtained from Meridian showing the general lithology, alteration, and structure. Results for 755 trench samples are included in the Arnett database. Descriptions of trenching are limited to two reports, one prepared by AGR and one prepared by BPMA (American Gold Resources, 1991). There are no descriptions of the procedures employed in the sampling of trenches or the logging of drill holes.

### 6.3.2.1 Drilling

In total, 236 RC and DD holes have been completed on the Arnett property totalling 28,156 m (92,375 ft). Table 6-4 and Table 6-5 summarizes this drilling by type and year, respectively.

**Table 6-4: Historical Arnett Drilling by Type**

Type	No. Drill Holes	Metres Drilled (m)	Number of Samples
RC	223	26,578	17,258
DD	13	1,578	885
<b>Total</b>	<b>236</b>	<b>28,156</b>	<b>18,143</b>

**Table 6-5: Historical Arnett Drilling by Year**

Company	Year	Drill Type	No. Drill Holes	Metres Drilled (m)	Drill Hole Sequence Number
BPMA - AGR	1988-1989	RC	14	1,606	ACR-1 to ACR-14
		DD	2	241	ACD-1 to ACD-2
AGR-Meridian	1990	RC	158	17,955	ACR-15 to ACR-170 RC-01
Meridian	1992	RC	28	2,920	ACR92-171 to ACR92-198
	1993	RC	17	3,171	ACR93-199 to ACR93-215
	1995	RC	6	925	ACR95-215 to ACR95-220
	1997	DD	11	1,337	ADD-01 to ADD-11
<b>Total</b>			<b>236</b>	<b>28,156</b>	

Written drill logs do not indicate whether collars have been surveyed. Pincock, Allan & Holt, Inc. (PAH) noted a significant error in some collar elevations (Sandefur et al., 1993). Revival noted a similar issue with some collar elevations, which were as much as 30 m (98 ft) above or below the Light Detection and Ranging (LiDAR) surface. In these cases, collar elevations were adjusted back to the LiDAR surface. In cases where drill pads are visible on the LiDAR surface, hole locations can be confirmed, at least within the area of the drill pad.

No downhole surveys are available for the historical drill holes.

The particulars of the 1992, 1993 and 1995 RC drilling programs are not known. All RC drilling was conducted using a track mounted rig.

BPMA completed two DDH during the 1988 to 1989 drilling campaign. All that is known about this DD program is that the total drilling was 241 m (790 ft). No other information has been found by Revival.

In 1997, Meridian completed 11 DDH totalling 1,337 m (4,387 ft). All 11 holes were drilled on the Haidee patented claim. These holes were drilled to confirm previous RC drilling, as gold was found to occur, at least in part, as free gold on iron oxide crystal faces and there was concern that downhole contamination might have occurred below the water table (Barbarick, 1997). To ensure the recovery of free gold and prevent it from being washed away during drilling, drilling was conducted with a triple tube system and a high polymer bentonite mud mix to form a protective coating on the core.

In order to preserve free gold during the core handling process, core was logged without removing it from the core box and core was split using a hydraulic splitter rather than a core saw. Splitting was done perpendicular to fracture planes and all fragments were collected from both the splitting surface and the core box (Barbarick, 1997).

Three of the core holes were drilled as twins of RC holes. The study, conducted independently by Meridian, concluded that there was overall poor to moderate correlation of gold bearing intersection between RC and core twins, and that moderate to occasionally heavy downhole contamination had taken place below the water table. Reasons cited for the lack of correlation include down hole contamination below the water table, but the lack of correlation is at least partially due to the inherent variability in the pinch and swell geometry of individual mineralized zones and significant variation in grade over short distances within the mineralized zones (nugget effect). The study concluded that additional drilling of mineralized zones should be done with DD, but that RC drilling was useful in testing outlying zones (Barbarick, 1997).

### 6.3.2.2 Studies

In 1992 AGR commissioned PAH to prepare a pre-feasibility study for the Arnett Creek Project. The purpose of the study was to establish the economic feasibility of the project given certain parameters, quantify reserves delineated to date, and identify any deficiencies in the data prior to undertaking a full feasibility study (FS). The study was confined to technical feasibility from geology through processing and did not consider environmental or legal factors (Sandefur et al., 1993).

In 1994 AGR enlisted PAH to prepare an update to a previous report for the Arnett property (Sandefur et al., 1993). The report was intended to update the economic feasibility of the project, quantify reserves as delineated at the time and to identify deficiencies in the data required prior to committing to a full FS on the Property (Sandefur and Kolin, 1994).

## 7.0 Geological Setting and Mineralization

### 7.1 Regional Geology

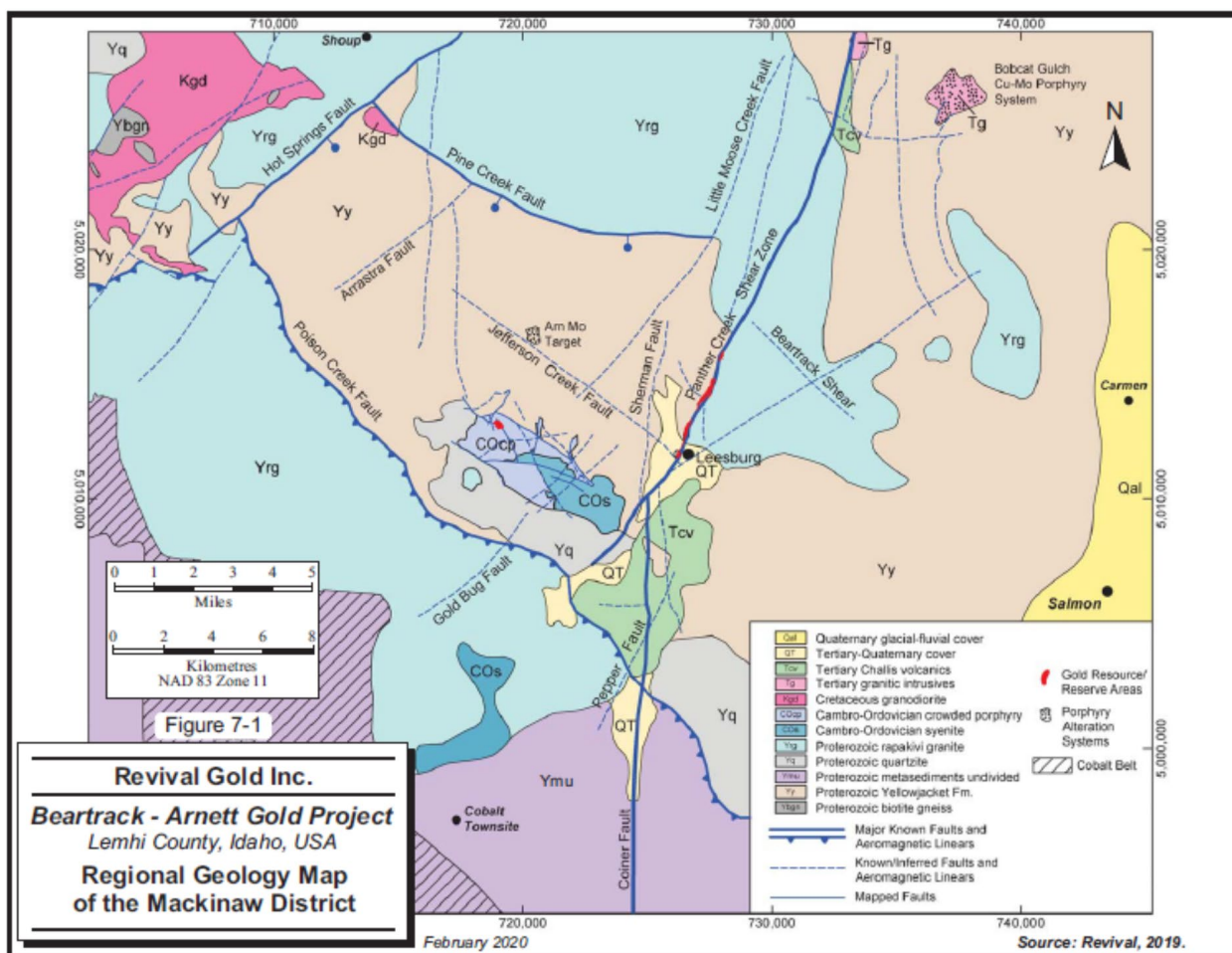
The Project occurs east of the Idaho Batholith within the Cretaceous Cordilleran thrust belt. The area is dominated by a structurally complex package of metasedimentary rocks known as the Mesoproterozoic Belt Supergroup (Belt Supergroup) (Figure 7-1). Approximately 1,370 million years ago, Belt Supergroup rocks were buried, metamorphosed, and intruded by the megacrystic granitic rocks (rapakivi granite) and augen gneiss. Metasedimentary rocks near Salmon and Leesburg exhibit a regional biotite-grade metamorphism (Evans and Zartman, 1990).

Several syenitic plutonic suites are exposed in a northwest-striking belt across central Idaho, referred to as the Big Creek–Beaverhead belt. Two of these, Arnett Creek and Deep Creek, occur within the District and are Late Cambrian and Early Ordovician in age. These intrusions are thought to be coextensive with recurrent uplifts of the Lemhi Arch (Lund et al., 2010).

During the Cretaceous Sevier orogeny (ca. 130-60 Ma), the region underwent folding, thrusting and plutonism resulting in a series of north-northwest-trending folds and northwest-striking thrust faults. The emplacement of the Idaho Batholith also began at this time.

The Idaho Batholith is composed of Cretaceous granite and granodiorite and covers much of central Idaho. The southern Atlanta Lobe and the northern Bitterroot Lobe of the Idaho Batholith are separated by metasedimentary rocks of the Belt Supergroup in the Salmon River Arch. The Atlanta lobe was emplaced from 98 Ma to 67 Ma while the Bitterroot lobe was emplaced from 66 Ma to 54 Ma (Gaschnig et al., 2010). Rocks related to the Idaho Batholith are exposed near the confluence of Panther Creek and the Salmon River less than 16.1 km northwest of the Project and are dated at 83 Ma (Lund et al., 1983, Tysdale et al., 2003, Lund, unpublished data).

Extension along several sets of normal faults began before the Middle Eocene Challis volcanism and produced numerous Tertiary half grabens in a system of north-trending Paleogene basins containing interlayered epiclastic sediments and volcanoclastic rocks. Quaternary glacial deposits are present locally.



**Figure 7-1: Regional Geology Map of the Mackinaw District**

## 7.2 Beartrack

### 7.2.1 Local and Property Geology

The bedrock geology in the Beartrack area is dominated by two Mesoproterozoic rock units (Figure 7-1): the Yellowjacket Formation and a rapakivi (megacrystic) granite. The Yellowjacket Formation consists predominantly of a thick sequence of very fine-grained non-calcareous silty sandstone to sandy siltstone units which locally exhibits crossbedding.

The Yellowjacket Formation has been intruded by the Proterozoic rapakivi granite, which is located on the east side of a four-kilometer-long section of the PCSZ in the Beartrack area. The intrusive is medium- to coarse-grained, sub-equigranular to porphyritic, and is composed predominantly of potassium feldspar (locally as megacrysts up to six centimeters in size displaying poikilitic textures), plagioclase, quartz, and biotite.

It should be noted that, although metasedimentary rocks in the Leesburg area have been mapped by the United States Geological Survey (USGS) as sandstones and siltites of the Gunsight and Swauger formations (Tysdale et al., 2003), all Meridian maps and reports refer to these lithologies as the Yellowjacket Formation. This Report uses the Meridian nomenclature of Yellowjacket throughout. Descriptions of these units as mapped on the Project are provided below, taken directly from Hawksworth et al. (2003) with contributions from Meyer (1990) and Trujillo (1991a and 1991b), unless otherwise noted.

#### 7.2.1.1 Lithology

##### ***Mesoproterozoic Yellowjacket Formation***

The Yellowjacket Formation is confined primarily to the west of the PCSZ and to the southeast of Leesburg. The Yellowjacket Formation consists of a thick sequence of very fine-grained, non-calcareous silty sandstone to sandy siltstone. Compositionally, it consists of biotite, feldspar, and quartz. Bedding ranges in thickness from 5 cm to 60 cm with most beds averaging 15 cm to 25 cm. Graded bedding and crossbedding are present locally with thin, sandy argillite beds sometimes capping the graded beds. Parallel laminations and ripple cross-lamination are the most common sedimentary structures.

Bedding typically strikes 345° and dips 85° southwest in the South Pit area and strikes 345° and dips 50° southwest in the North Pit. Crossbedding suggests that the Yellowjacket may be tightly folded however, no folds have been mapped. Metasedimentary rocks of the Yellowjacket Formation are locally highly contorted in a zone measuring 15 m to 35 m (50 ft to 115 ft) in width in the hanging wall of the PCSZ in the North Pit of the Beartrack mine.

### ***Mesoproterozoic Igneous Rocks***

The Yellowjacket Formation has been intruded by Mesoproterozoic-age rapakivi, or megacrystic, granite, which occurs primarily to the east of the PCSZ in the Beartrack area. This intrusive is medium-to coarse-grained, sub-equigranular to porphyritic and is composed primarily of potassium feldspar (locally as megacrysts up to six centimeters in length displaying poikilitic texture), plagioclase, quartz, and biotite. Older deformation fabrics, ranging from mineral lineations to mylonite, are widely distributed throughout the quartz monzonite but are most prominent near the PCSZ. Prominent foliation trends include 30° to 050° and 300°.

Mafic to felsic dikes intrude both the Yellowjacket Formation and the rapakivi granite, particularly near the PCSZ. Dikes locally display foliation or mylonitic fabric, and strong sericitic or chloritic alteration, which can make identification difficult. At the Beartrack mine, mineralization may be partially controlled by these dikes. Most of the dikes in the South deposit are essentially barren, whereas a dike swarm near the south end of the North deposit is highly mineralized.

### ***Cenozoic Basin-Fill Deposits***

Beartrack occurs in the Leesburg basin which has been mapped as Cenozoic undifferentiated deposits consisting of epiclastic deposits and Tertiary volcanic rocks with minor Quaternary glacial deposits. Based on Revival's 2019 drilling program, the unit mapped as Quaternary by Meridian in the past is probably largely Tertiary in age. This is consistent with observations made by Janecke et al. (1997) and Link and Janecke (1999) for the area south of the Project where numerous Tertiary half grabens in a system of north-trending Paleogene basins have been mapped. Age dates on volcanic rocks in the Panther Creek half graben indicate that it formed between 47.7 Ma and 44.5 Ma (Janecke et al., 1997).

The sedimentary rocks consist largely of angular to subrounded boulder and cobble beds interlayered with massive tuffaceous sediments, epiclastic rocks and volcanoclastic rocks. Boulders and cobbles are largely composed of metasedimentary rocks of the Yellowjacket Formation but the rapakivi granite and volcanic rocks are also represented. Local landslide deposits containing mineralized Yellowjacket Formation have been mined from Cenozoic deposits. Cenozoic basin-fill deposits are over 200 m (650 ft) thick in the vicinity of the Joss target.

#### **7.2.1.2 Structure**

The PCSZ is a structure of regional significance as well as the primary control on mineralization at the Beartrack mine. Near the North Pit and South Pit at Beartrack, the fault separates metasedimentary rocks of the Yellowjacket Formation on the west side of the fault from the

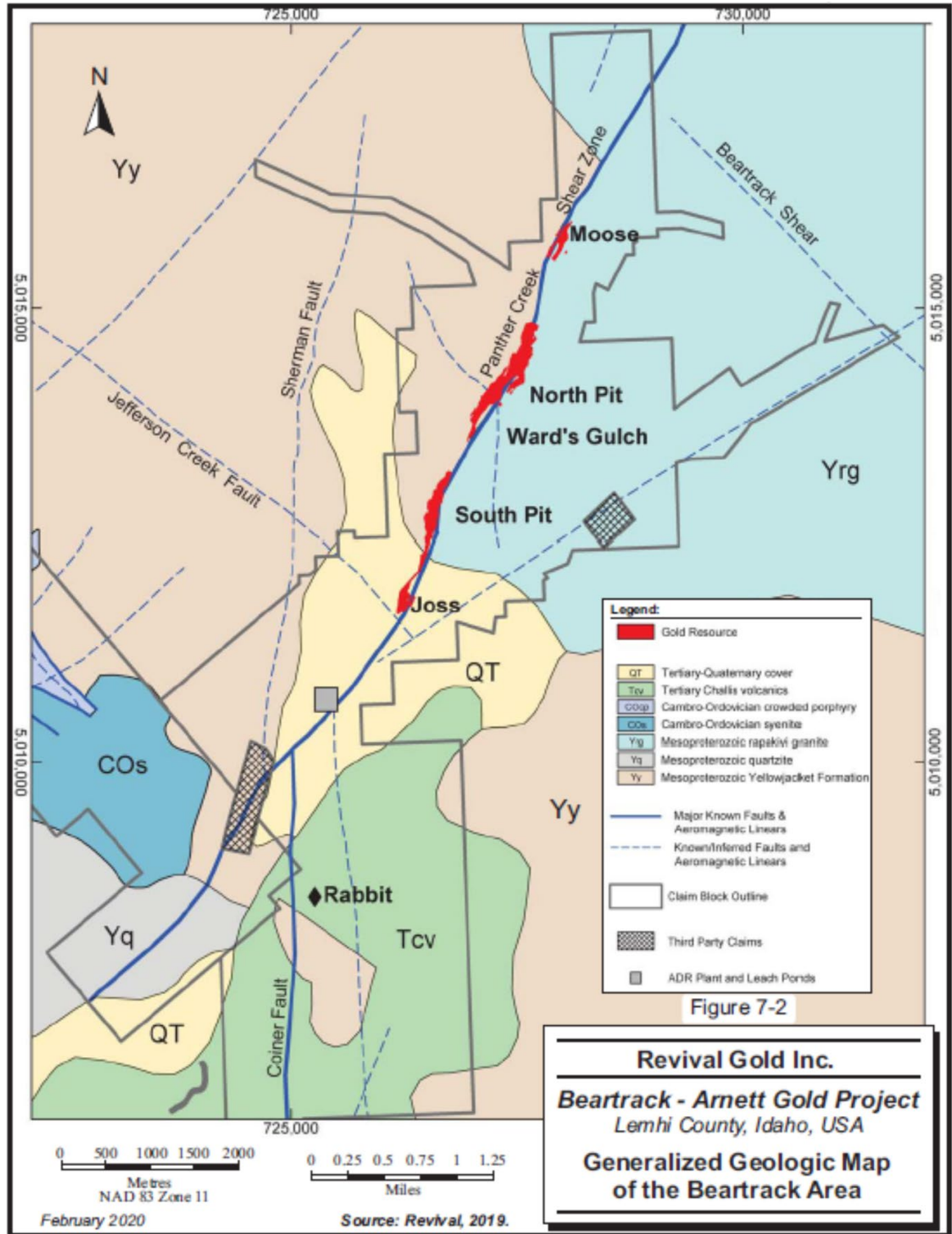


rapakivi granite on the east side of the fault (Figure 7-2). North of the North Pit, the fault occurs entirely within the rapakivi granite while south of the South Pit the fault occurs entirely within the Yellowjacket Formation. The PCSZ is a deep-seated, long-lived structure with multiple stages of movement as evidenced by foliation and mylonite in the granite to post-mineral fault breccia and gouge in both host rocks and in the Cenozoic gravels.

The PCSZ generally strikes 25° but varies between 18° and 40°. The dip is generally between 80° and 90° to the northwest but shallows to 50° northwest in some areas. Deep DD completed in 2012 and 2013 suggests that the PCSZ rolls back to a steep southeasterly dip at the south end of the North Pit.

Sense of displacement on the PCSZ is complex and difficult to quantify. Evidence exists for both right-lateral and left-lateral strike-slip movement as well as significant dip-slip movement. If the Cenozoic epiclastic rocks and Eocene Challis volcanics in the Leesburg basin were deposited in a graben or half-graben then there must have been relatively recent dip-slip movement on this segment of the PCSZ. How this down-thrown block reconciles with other segments of the PCSZ is unknown.

Compilation and reprocessing of airborne magnetic data indicates that the PCSZ in the vicinity of the Beartrack mine represents a northeast-trending bend in a regional north-south-trending fault, or the reactivated portion of an older northeast-trending structure, rather than a single, prominent northeast-trending fault as suggested on some geologic maps (Tysdale et al, 2003 and Lewis et al., 2012). The southern, north-south-trending segment of the PCSZ is known locally as the Coiner Fault (Figure 7-1). The intersection of the two structures is thought to occur near the confluence of Napias and Arnett creeks.



**Figure 7-2: Generalized Geologic Map of the Beartrack Area**

Support for the PCSZ being primarily a north-south-trending fault comes from Figure 1 of Lewis et al. (2019) and Janecke et al. (1997) who indicate unequivocally that no fault has been mapped in Panther Creek. Regardless of this observation, the PCSZ is a major structure at Beartrack and is the primary control for gold mineralization.

It is also worth noting, that the PCSZ appears to extend to the southwest beyond the intersection of the PCSZ and the Coiner Fault and that a well developed linear feature that follows part of Panther Creek on satellite images suggesting that a structural feature of some kind is present in Panther Creek.

Variations in the character of brittle deformation along the PCSZ are indicative of a pattern of alternating compressive and dilatant zones. In dilatant zones, such as in the South Pit and the south end of the North Pit at the Beartrack mine, the PCSZ has been the focus for the localization of a complex lithologic assemblage including 1) silicified tectonic breccias, locally containing sulphides; 2) massive bull quartz  $\pm$  pyrite veins, and; 3) mafic to intermediate dikes. In compressive areas, the fault is typified by zones of gouge and cataclasite ranging from one metre to 100 m (325 ft) in width. Stockwork and breccia-hosted mineralized zones at the Beartrack mine are clearly cross-cut by post-mineral shears as indicated by gouge zones between one metre and 15 m (50 ft) in width. The amount and direction of post-mineral offset of mineralized zones at the Beartrack mine has not been determined but may be substantial.

## 7.2.2 Mineralization

Gold mineralization on the Beartrack property is associated with a major gold-arsenic-bearing hydrothermal system where stockwork, vein, and breccia-hosted mineralization has been identified in four areas over more than five kilometers of strike length (Figure 7-2). All mineralization is spatially related to, and primarily controlled by, the PCSZ. The gold mineralization has been intersected over a vertical range of 600 m with no indication that mineralization stops or of grade, mineral or metal zonation with depth. All areas drilled to date at Beartrack display similarities in style of mineralization and alteration with only slight variations in geochemistry. The primary difference between areas is host rock.

Based on  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of sericite and potassium feldspar (Meridian Gold, unpublished data), mineralization from the Beartrack gold system is approximately 68 million years old, with additional thermal events at 74 million years and 58 to 60 million years.

Previous exploration and exploitation of gold mineralization by Meridian at Beartrack focused on leachable gold but the presence of unoxidized sulphide mineralization beneath the leachable material was known. In 2012 and 2013, Meridian conducted deep drilling to determine the depth potential of sulphide mineralization along the PCSZ. For corporate reasons, Meridian did not complete the planned drilling program, but the deep drilling established the continuity of mineralization at depth.

### 7.2.2.1 Deposit Mineralization and Descriptions

Main-stage gold mineralization occurs as quartz-pyrite-arsenopyrite stockwork vein zones, veins and tectonic breccias. Stockwork zones range in width from 5 m to 100 m (15 ft to 325 ft) and are generally characterized by very continuous gold mineralization. Metallurgical studies show that gold is submicroscopic, occurring primarily as inclusions that are micron-sized within arsenopyrite or in arsenic-rich growth bands within pyrite. This is confirmed by metallurgical flotation studies, which record gold grades ranging from 92 ppm Au to 122 ppm Au in arsenopyrite concentrates, and up to 12 ppm Au to 28 ppm Au in pyrite concentrates (Kesler, 1989a and 1989b).

Mineralization at Beartrack is hosted by a Proterozoic rapakivi granite intrusion and Proterozoic metasedimentary rocks in proximity to the PCSZ, which is the primary control on mineralization. In the Yellowjacket Formation, stockwork veinlets are predominantly 0.2 cm to 1.0 cm thick, with larger veins ranging up to 5.0 cm. Individual veins are filled with massive to crystalline milky to light gray quartz, containing fine-grained pyrite and arsenopyrite as disseminations or concentrations along vein margins. In the rapakivi granite, vein zones 0.5 cm to 10.0 cm thick have been emplaced into pre-existing irregular joint and fractures sets. Individual veins are generally very discontinuous along strike and may be offset by post-mineral shearing.

The primary control on mineralization at Beartrack is the north-northeast trending PCSZ. Mineralization occurs within a broad zone of fracture-controlled sericite-pyrite alteration that can extend up to 150 m (500 ft) from the PCSZ. Mineralization occurs over a vertical range of more than 600 m (1,950 ft) and exhibits no apparent vertical zonation in metal content, mineralogy, or alteration with only slight variations in geochemistry horizontally. Mineralization is open at depth and along strike.

Key secondary controls on mineralization are the intersections of northwest-trending, northeast-dipping faults with the PCSZ and the presence of quartzite units in the metasedimentary package. Mineralization is typically higher-grade in the footwall of northwest-trending faults and intersections of the PCSZ with larger northwest-trending faults may have influenced the location of mineralization at Ward's Gulch (Camp Creek fault) and Joss (Johnson Creek fault).

Mineralization extends further from the PCSZ in quartzite units than in micaceous, or phyllitic units. This can be seen in the South deposit where mineralization in the structure passes from predominantly quartzite units in at the south end of the deposit to predominantly micaceous units at the north end of the deposit. Conversely, mineralization in granitic rocks, or more micaceous metasedimentary units, tends to be lower-grade and may be less continuous.

Multiple stages of mineralization have been recognized on the Beartrack property. There is no known gold mineralization associated with Stage I, Stages IIA or IIB or Stage III (Norman 2018).

Stage IIC, which consists of veins and veinlets of quartz-pyrite-arsenopyrite, is the main stage of gold mineralization at Beartrack.

Each stage of mineralization has its own distinct geochemical signature, resulting in a wide range of elemental concentrations. The three stages are outlined below:

- Stage I - quartz-plagioclase-biotite-magnetite-barite veins; pre-Au mineralization; coeval with leucogranite dikes.
- Stage IIA - sheeted northeast-trending quartz-pyrite±galena±sphalerite±chalcopryrite veins; formed during northwest-southeast extension; pre-Au mineralization. Associated elements: Cu-Pb-Zn-Ag-Cd-Fe.
- Stage IIB - bull quartz + coarse-grained pyrite veins in shoots formed in dextral jogs along the PCFZ; pre-Au mineralization.
- Stage IIC - fine-grained, dark gray quartz+arsenopyrite+pyrite veins. Main stage Au mineralization. Associated elements: As-Fe-Au±W-Mo.
- Stage III – epithermal quartz+pyrite+galena veins that crosscut the PCFZ; age unknown but possibly related to the Challis Volcanics. Associated elements: Hg-Sb-Ba.

Limited multi-element geochemistry from mineralized intervals in drill core from the 2012 through 2018 drilling programs is presented in Table 7-1. Mercury and tellurium are not available for all samples. It is apparent that arsenic increases from north to south and that base metals and tellurium, although low overall, generally decrease from north to south. Elevated mercury and antimony contents in the South Pit suggest a stronger, late-stage epithermal overprint in this area. Additional information supporting this hypothesis has been put forth by Konyshv (2015).

Arsenic is the only metal that shows a consistent statistical correlation with gold, yielding a correlation coefficient of 0.5. The relatively low correlation coefficient between gold and arsenic is probably related to the separation of the elements during oxidation and the fact that a substantial portion of the gold occurs in pyrite.

**Table 7-1: Beartrack Mine Geochemistry – Revival Gold Inc. – Beartrack – Arnett Gold Project**

Element (ppm)	North Pit	Ward's Gulch	South Pit	Joss	Joss South
Au	1.36	3.3	2.05	1.85	1.74
Ag	5.49	13.19	12.69	2.73	9.25
As	1,063	1,180	2,422	3,859	4,700
Sb	31	62	118	42	54
Hg	6	11	16	NA	NA
Bi	7	2	3	2	0.09
Mo	22	22	10	2	7
Te	0.72	0.39	0.52	0.03	0.03
W	21	55	14	241	34
Cu	175	103	443	7	22
Pb	250	264	2,320	11	19
Zn	86	128	384	55	69

### ***South Deposit Mineralization***

The South deposit at Beartrack is lens-shaped, measuring approximately 1,300 m (4,250 ft) in length and reaching a maximum width of 140 m (450 ft) while decreasing to less than 10 m (30 ft) at each end. Oxidation extends from between 30 m (100 ft) to over 300 m (1,000 ft) in depth. Mineralization is open at depth and along strike to the south.

Pyrite-arsenopyrite stockwork veinlets occur primarily in the metasedimentary rocks of the Yellowjacket Formation, while the higher-grade silica-sulphide-flooded breccia zone is located on the western margin of the PCSZ, between metasedimentary rocks of the Yellowjacket Formation and silicified, mylonitized quartz monzonite on the eastern side of the PCSZ. The breccia zone is up to 500 m (1,640 ft) long and 25 m (80 ft) wide. It has been traced down dip for over 600 m (1,950 ft) and remains mineralized at depth.

East of the PCSZ, intrusive-hosted stockwork mineralization is restricted to a zone that is up to 400 m (1,300 ft) long and ranges from 10 m to 60 m (30 ft to 200 ft) in width in the southern half of the pit. Oxidation in the quartz monzonite rarely extends below depths of 40 m (130 ft). The marked contrast in alteration and mineralization across the fault is attributed to a lack of structural preparation within the quartz monzonite.

### ***North Deposit Mineralization***

The oxide body in the North deposit is 1,600 m (5,250 ft) in length, 10 m to 200 m (30 ft to 650 ft) wide and has been intersected by drilling to depths locally in excess of 250 m (820 ft). Gold mineralization occurs primarily as a network of oxidized quartz-pyrite-arsenopyrite stockwork and sheeted veins, which commonly overprint older mylonitized zones in the quartz monzonite near the PCSZ. As a general rule, mineralization does not extend to the depths recorded in the South Deposit or Ward's Gulch and it tends to be lower grade.

In the Ward's Gulch area, significant mineralization also occurs within the Yellowjacket Formation. High-grade mineralization occurs in a dilatant zone containing a complex assemblage of silica-sulphide-flooded breccias, intermediate dikes, massive quartz-pyrite veins, and post-mineral cataclasite and gouge zones. Post-mineral shearing is prominent in the quartz monzonite, resulting in the formation of sheared gouge zones up 40 m (130 ft) wide along the PCSZ footwall.

High-grades have also been intersected at depth in the Ward's Gulch area in hole BT12-175D, which intersected nine metres drilled width, averaging 78 g/t Au from 504 m to 513 m (1654 ft to 1683 ft). Revival offset this hole in 2017 (holes BT17-194DB and BT17-199D) but failed to reproduce the results from hole BT12-175D.

The oxide boundary in most of the North deposit is shaped like a relatively flat-lying blanket, ranging from 25 m to 75 m (80 ft to 245 ft) in thickness. Oxidation is shallowest in the center of the North Pit, where the PCSZ dip rolls from 80°NW to 50°NW. The thick gouge zone along the fault served as a barrier to the downward migration of oxidizing fluids. By contrast, oxidation along the 85°NW-dipping PCSZ in the Ward's Gulch area locally extends on both sides of the fault to drilled depths in excess of 450 m (1,475 ft); the mineralized intersection in hole BT12-175D was oxidized at 450 m (1,475 ft) vertically below the surface.

### ***Joss Area***

The Joss area is defined as the area north of the Leesburg townsite southwestward for approximately 1,000 m (3,280 ft). Mineralization consists of quartz-arsenopyrite-pyrite stockwork and breccia-hosted gold mineralization along the PCSZ in the Yellowjacket Formation. Sericitic alteration, typical of the Beartrack property, is also present in the Joss area.

Although mineralization was reported to crop out south of the Leesburg townsite between the reclaimed placer ground and the cemetery (Bartles, 1991), no such outcrop has been found by Revival. It seems unlikely that mineralization would reach the surface in the Joss area as all holes drilled in the area, including the shallow L-series RC holes as well as the deeper exploration holes, were collared in post-mineralization Cenozoic deposits. If mineralization does reach the surface it is likely to be from one of the mineralized structures east of the PCSZ.

In drilling, mineralization has been encountered from 75 m (245 ft) below the surface (overlain by Tertiary epiclastic rocks and localized Quaternary till) to depths of 490 m (1,600 ft) below the surface. Estimated true widths range from a few meters to over 75 m (245 ft). This can vary depending on how many mineralized intervals are present in the Yellowjacket Formation east of the PCSZ. Mineralization is open at depth and along strike in both directions.

As mentioned above, Cenozoic deposits overlie mineralization at Joss and occur in a paleo-valley to the immediate west of the PCSZ. Cenozoic deposits are estimated to be at least 200 m (650 ft) thick. In the central Joss area, the PCSZ forms the eastern boundary of the paleo-valley and Cenozoic deposits immediately adjacent to the PCSZ may show signs of faulting.

### 7.2.3 Alteration

Main stage gold mineralization is directly associated with sericitic (sericite±pyrite) alteration. Sericitic alteration is fracture-controlled but in areas of high veinlet density the alteration is pervasive. The alteration zone varies from 15 m to 150 m (50 ft to 500 ft) in width. Sericite, and to a lesser degree pyrite, replaces primary biotite in intrusive rocks and metamorphic biotite in metasedimentary rocks. Except for variations in intensity, alteration does not display any obvious lateral or vertical zonation. Sericitic alteration grades directly to unaltered rock with no associated propylitic or argillic alteration.

Silicification is strongly associated with disseminated pyrite-arsenopyrite mineralization in tabular tectonic breccia zones related to the PCSZ, or in local breccia veins in the Yellowjacket Formation. Outside brecciated zones, weaker silicification is locally present in wallrock adjacent to stockwork veins or structural intersections.

Secondary potassium feldspar veining is present, particularly southeast of the South Pit, but its association with gold mineralization is unclear.

### 7.2.4 Oxidation

The oxidation of pyrite and arsenopyrite formed iron oxides (goethite and hematite) and liberated micron-size gold into a form amenable to heap leach cyanide recovery. Oxidized mineralization was exploited by Meridian at Beartrack from 1995 to 2002. During this time, approximately 600,000 oz of gold were produced by heap leach cyanide recovery of oxidized mineralization.

The depth of oxidation is highly variable and is influenced by a combination of structural, lithologic, and alteration controls. The morphology of the oxide/sulphide boundary is complex and does not appear to correlate with the current water table, nor can it be mapped to any useful degree. Oxidation within the Yellowjacket Formation and along the PCSZ may extend to depths of more than 600 m (1,950 ft) below the present surface in some areas. In comparison,



oxidation within the quartz monzonite is confined to a near-surface environment and forms a flat-lying blanket less than 20 m to 70 m (65 ft to 230 ft) in thickness.

It is believed that most of the oxidation is related to Tertiary weathering. This is perhaps reflected in the shallower, tabular zone of oxidation in the North Pit with the deeper, more irregular structurally controlled oxidation being younger.

## 7.2.5 Fluid Inclusions

Gangue quartz in the Beartrack hydrothermal system has contrasting fluid inclusion signatures. The earliest stages of quartz are similar to that found in greenstone-hosted lode-, or orogenic gold deposits. For instance, liquid CO<sub>2</sub> is common among millions of crisscrossing healed microfractures, yielding a wispy texture, while later, euhedral quartz displays primary, irregularly shaped three phase liquid CO<sub>2</sub>-bearing inclusions defining growth zones in quartz. The later texture has not been reported for greenstone-hosted lode gold deposits.

Abundant pyrite and arsenopyrite are associated with an even later clear mosaic quartz with few fluid inclusions. These inclusions exhibit inconsistent liquid to vapor ratios, which is suggestive of formation temperatures below ~220°C. This temperature is at, or just below, the lower end of the temperature range typical of greenstone-hosted lode gold deposits (Hawksworth et al, 2003).

Fluid inclusion data presented by Konyshv (2015) from the base metal quartz veins yield two homogenization temperature ranges between 204°C to 216°C and 241°C to 247°C. These homogenization temperatures fall within the range of epithermal deposits and this is part of the evidence presented by Konyshv (2015) in support of Beartrack being an epithermal deposit that was reworked by the PCSZ.

## 7.3 Arnett

### 7.3.1 Local and Property Geology

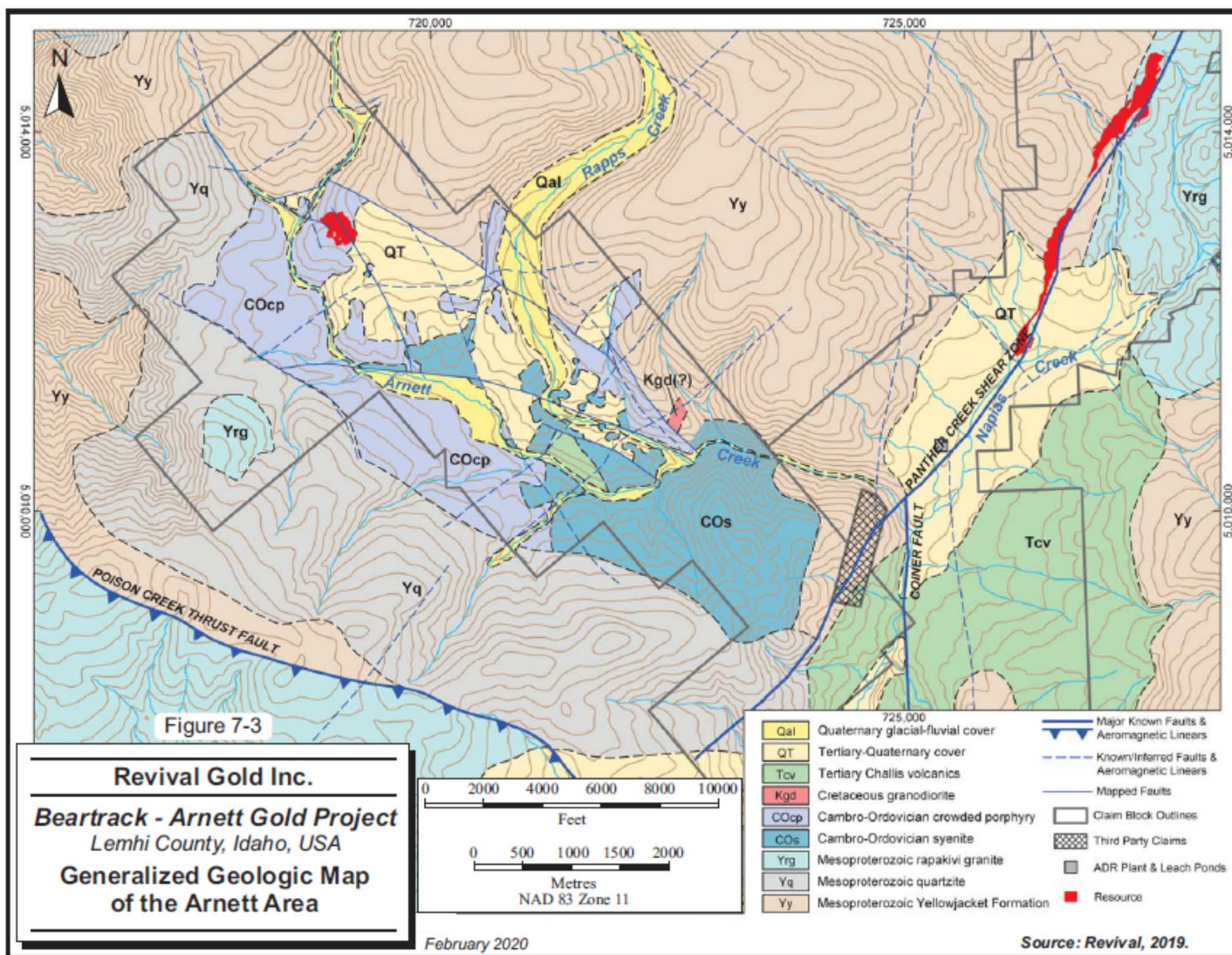
The Project occurs within a discrete structural block consisting primarily of the Yellowjacket Formation, bounded on the east and west by the northeast-trending PCSZ and the Hot Springs fault, and the northwest-trending Pine Creek and Poison Creek faults to the south and north (Figure 7-3). The Yellowjacket Formation is intruded by the polyphase intrusion of the Cambro-Ordovician syenite complex, which includes the unit known informally as the crowded porphyry. The block is surrounded by rapakivi granite (Tysdale et al., 2003).

Gold mineralization, as it is currently known, is primarily hosted by the crowded porphyry, which is part of the Cambro-Ordovician Arnett Pluton. Gold occurs in wide-spaced quartz-FeOx (pyrite)-Au veinlets associated with wide-spread sericitic and potassic alteration consisting of

both potassium feldspar and biotite. Mineralization and alteration are structurally controlled and are largely confined to the crowded porphyry or the alkali granite near the Italian mine. Mineralization is not believed to extend into the adjacent metasediments at this time.

Based on  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of sericite and potassium feldspar, mineralization from the Arnett gold system is approximately 80 million years old (Meridian Gold, unpublished data).

The metasedimentary rocks are mapped as sandstones and siltites of the Swauger and Gunsight formations (Tysdale et al., 2003) on published maps, however, older maps depict them as the Yellowjacket Formation and the Hoodoo Quartzite or the Big Creek Formation (American Gold Resources Corp, 1991). Descriptions of the units mapped on the Project are provided above.



**Figure 7-3: Generalized Geologic Map of the Arnett Area**

### 7.3.1.1 Lithology

#### ***Mesoproterozoic Yellowjacket Formation***

The Yellowjacket Formation occurs north and west of the Cambro-Ordovician syenite complex and the crowded porphyry. There is little exposure of the Yellowjacket Formation in the Arnett area with a few scattered outcrops in Rapps Creek and Arnett Creek. The Yellowjacket Formation consists of a thick sequence of very fine-grained, non-calcareous silty sandstone to sandy siltstone. Compositionally, the Yellowjacket Formation consists of biotite, feldspar, and quartz.

The Yellowjacket Formation float is wide-spread, and a portion of the float likely comes from erosional remnants of the Cenozoic epiclastic rocks. There is little outcrop of the Yellowjacket Formation on the Arnett property making bedding difficult to measure. There is one outcrop of metasedimentary rocks on the west side of Arnett Creek north of the Haidee West area. In this area bedding dips moderately to the west.

#### ***Mesoproterozoic Quartzite***

A white to gray quartzite occurs south and west of the Cambro-Ordovician syenite complex and the crowded porphyry at Arnett. There is very little outcrop of the quartzite, however, there is abundant quartzite float. No petrographic description is available, but the unit appears to be composed predominantly of quartz and may exhibit crossbedding.

On the ridge west of Arnett Creek, along the USFS Road 016, there is an outcrop of brecciated quartzite. The origin of this breccia is unknown but assumed to be related to faulting.

On USGS geologic maps (Tysdale et al., 2003) this unit is mapped as the Swauger Formation and represents the northwestern extension of a quartzite unit that is exposed on Phelan Mountain in the footwall of the Poison Creek thrust fault. Revival simply refers to this unit as quartzite without assigning a formation name.

#### ***Cambro-Ordovician Alkaline Arnett Pluton***

The Cambro-Ordovician Arnett Pluton is a northwest-trending polyphase alkaline pluton extending from just west of the confluence of Arnett Creek with Napias Creek to the Haidee West area. The Pluton measures six to seven kilometers in length and one to three kilometers in width. The composition of the Pluton ranges from medium-grained, equigranular alkali-feldspar syenite through medium- to coarse-grained, equigranular to porphyritic alkali-feldspar granite.

The predominant lithology at Arnett is a porphyritic syenogranite unit informally referred to as the crowded porphyry by Revival. This unit is the main host rock at Arnett. It has been mapped by AGR and Meridian geologists as Mesoproterozoic-age rapakivi granite but on maps produced by the USGS the crowded porphyry is mapped as part of the Cambro-Ordovician alkaline complex (Connor and Evans, 1986 and Tysdale et al., 2003). Revival obtained a U-Pb age date of approximately 489.0 Ma  $\pm$  4.63 Ma for this unit supporting the maps of Connor and Evans, 1986 and Tysdale et al., 2003 (Link and McCurry, 2019).

The crowded porphyry is coarse-grained hypidiomorphic inequigranular biotite-bearing syenogranite composed primarily of phenocrysts of potassium feldspar with occasional larger, rounded phenocrysts of potassium feldspar up to two or three centimeters in length, quartz, plagioclase, biotite, and accessory magnetite. Phenocrysts of potassium feldspar are often mantled by plagioclase. Older deformation fabrics, consisting of foliation to mylonite, are present in the crowded porphyry near mineralized zones in the Haidee and Haidee West areas.

The crowded porphyry exhibits four distinct type of hydrothermal alteration; 1) fracture controlled and pervasive potassium feldspar alteration, 2) recrystallization of primary biotite to aggregates of fine-grained biotite, 3) replacement of magnetite specular hematite, and 4) sericitic alteration. Both the crowded porphyry and alkali granite in the Thompson-Hibbs and Italian mine areas are mineralized.

The Arnett Creek Pluton has U-Pb dates of 492 Ma  $\pm$  39 Ma (Evans and Zartman, 1988) and 486 Ma  $\pm$  6 Ma (Lund et al., 2010). Revival obtained U-Pb dates of 477 Ma  $\pm$  3 Ma from the alkali granite near the Italian mine and 489.0 Ma  $\pm$  4.63 Ma for the crowded porphyry in the Haidee West area (Revival Gold, unpublished data; Link and McCurry, 2019).

### ***Other Intrusive Rocks***

Mafic and intermediate dikes intrude the crowded porphyry. Dikes may, or may not, be altered and mineralized and are of unknown and, probably, varying ages.

### ***Cenozoic Basin-Fill Deposits***

Cenozoic epiclastic rocks and interbedded Tertiary volcanic rocks are present on the Arnett property, although Arnett lacks the thick accumulations observed at Beartrack. At Arnett, the Cenozoic deposits occur as a thin layer bounded by faults, or as isolated erosional remnants, that manifest as angular to subangular float fragments of the Yellowjacket Formation within the crowded porphyry and the syenite complex. The placer workings at the Haidee mine appear to have exploited Cenozoic deposits of this type. At Haidee, deposits of Cenozoic epiclastic rocks appear to have been no more than three or four meters thick. It also appears that the placer deposits along lower Arnett Creek, and possibly elsewhere in the Arnett Creek drainage basin, may have exploited terrace gravels related to the Cenozoic deposits.

Felsic Tertiary volcanic rocks are present on the southern side of the ridge between Rapps Creek and Arnett Creek, not far from the confluence of the two drainages.

### ***Tertiary Oxidation***

The oxidation at Arnett is thought to be related to the Tertiary weathering surface upon which the Cenozoic epiclastic rocks were deposited. Oxidation in the Haidee area extends to the depths of current drilling, approximately 2,135 m (7,000 ft) in elevation, but mineralization in the Haidee West area occurs primarily as sulphides. Even though the 2019 drilling at Haidee West was collared at a lower elevation, intersections are only approximately 30 m (100 ft) deeper than those at Haidee suggesting that the Tertiary oxidation surface is not horizontal across the Project or that it varies with topography.

#### **7.3.1.2 Structure**

The structural geology of the Arnett property is complex with any interpretation of structure complicated by lack of outcrop. Based on mapping, structures developed within a north-south dextral wrench fault system. This style of faulting developed regionally as part of the Western Idaho Shear Zone (WISZ), which placed the District distal to the main WISZ shear approximately 80.5 km (50 mi) to the west. Deformation along the WISZ began around 104 Ma and ceased at approximately 88 Ma (Braudy et al., 2016). This tectonic framework likely provided the ground preparation in both Arnett and Beartrack, especially within dilation zones along structures.

Dominant structures on the Arnett property are oriented 270° to 300°. In addition, 340° structures were also mapped at Arnett. Most of the faults are vertical to steeply dipping to the southwest, with exception northwest-trending thrust faults and reverse faults that dip moderately to the southwest. Mineralization in the Haidee area strikes approximately 340° to 330° and dips moderately to the southwest.

Two sets of nearly perpendicular, near-vertical post-mineral faults have been identified at Haidee. These faults create a fault block measuring approximately 100 m in a northeast-southwest direction and 650 m in a northwest-southeast direction. Although mineralization extends in all directions beyond this block, the core of the known higher-grade mineralization at Haidee occurs within the block defined by these two sets of faults. Neither set of faults crops out because exposure in the Haidee area is limited.

The most prominent set of these post-mineral faults is oriented 340° to 330°. The two faults are separated by approximately 100 m (325 ft). The southwestern-most of these faults was first identified in an historical VLF survey and confirmed by drilling in 2019. The northeastern fault of the pair was identified during drilling.

The second pair of faults is roughly perpendicular to the first set with an orientation of approximately 60°. These two faults are approximately 650 m (2,130 ft) apart and have been inferred from drilling. These faults also offset mineralization with the central block, being uplifted with respect to the blocks on either end.

### 7.3.2 Mineralization

Gold mineralization on the Arnett property is associated with a wide-spaced quartz-FeOx (pyrite)-Au veinlets hosted primarily by the Cambro-Ordovician crowded porphyry, although the alkali granite is mineralized in the Italian mine and Thompson-Hibbs area. Gold is associated with widespread sericitic and potassic alteration, both of which are structurally controlled. Pyrite is coarse-grained and typically occurs along veinlet margins. Native gold is present locally in oxidized pyrite. Mineralization is not known to extend into the adjacent metasedimentary rocks.

Surface weathering has generally oxidized pyrite to form limonite and nontronite, a bright green Fe-rich smectite clay present on fractures, generally in proximity to quartz-iron oxide veinlets. Higher gold grades are associated with increased quartz veining, limonite/pyrite concentration and sericitic alteration. Mineralized zones, and the individual structures and veins within those zones, pinch and swell both along strike and down dip.

There is limited multi-element geochemistry available for the Arnett property but drill hole AC18-12D in the Haidee area was sampled for multi-element geochemistry. The results from the mineralized interval are presented in Table 7-2. Very few of the elements would be considered geochemically anomalous but Bi and Cu have strong correlations with Au while Te, Fe, Ag and W have weaker correlations with Au.

**Table 7-2: Multi-Element Geochemistry, Haidee Area (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

<b>Element (ppm)</b>	<b>Average Concentration (ppm)</b>	<b>Correlation Coefficient with Au</b>
Au	1.63	1
Ag	0.29	0.44
As	9	0.3
Sb	2.36	0.37
Bi	4.6	0.9
Mo	2.6	0.09
Te	0.36	0.49
W	26.6	0.4
Cu	42	0.63
Pb	18	0.26
Zn	26	-0.14
Fe (%)	2.84	0.49

### 7.3.2.1 Deposit Mineralization and Descriptions

There are several mineralized areas on the Project but only one that has resources, Haidee. It should be noted that historical gold resources were defined by AGR in five zones, the Haidee Main, Haidee West, Haidee East, Little Chief, and Little Chief Extension. Revival combined the Haidee Main, Haidee West, and Haidee East areas into one larger area simply called the Haidee area, and the Little Chief Extension has been renamed Haidee West. In general, mineralization is similar in each area, however, some differences occur. Primary differences include the orientation and density of mineralized structures the amount of alteration present in each area.

#### **Haidee Area**

This area is centered on the Haidee patented claim. Drilling and trenching performed by AGR and various joint venture partners identified a historical resource that was amenable to mining by open pit methods. Drilling by Revival has largely confirmed the presence and continuity of mineralization in this area.

The mineralized body as currently known has a strike length of approximately 400 m (1,300 ft) in a north-northwest direction and a total width of approximately 300 m (1,000 ft). Mineralization extends from the surface up to 120 m (390 ft) depth, or an elevation of about



2,135 m (7,000 ft) above mean sea level. Mineralized structures dip moderately to the southwest. Gold mineralization is controlled by a strong north-northwest-trending fracture system exhibiting quartz veins and veinlets in a stockwork of limonite-filled fractures.

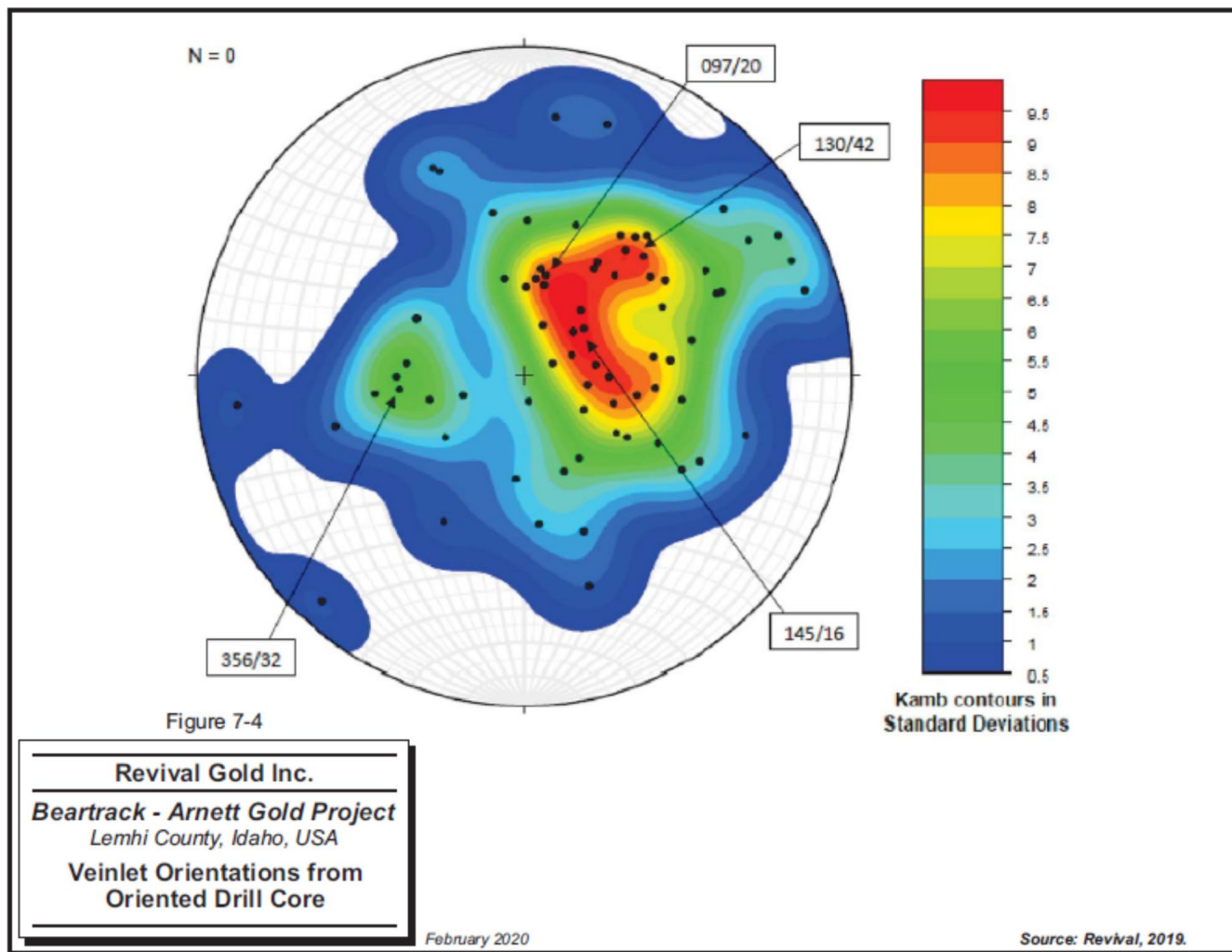
Data collected from oriented drill core from three Meridian core holes (ACDD-5, ACDD-6 and ACDD08) and four Revival core holes (AC19-36D through AC19-39D) indicates that there are four primary orientations for veinlets:

- 145°; 16° SW
- 130°; 42° SW
- 356°; 32° E
- 097°; 20° SW

These orientations are based on measurements from 77 veinlets and they reflect the interpreted orientation of the mineralized zones at Arnett (Figure 7-4).

Mineralization occurs as medium- to coarse-grained pyrite, typically oxidized to goethite, in veinlets of glassy gray to white quartz. Native gold has been observed in oxidized pyrite, although sulphides are nearly completely oxidized, pyrite remains in isolated veinlets, even in oxidized intervals

There is a strong nugget effect at Arnett which is related to a number of factors: veinlet density is irregular, sulphide distribution within those veinlets is uneven, and oxidation has resulted in the occurrence of coarse-grained native gold in oxidized pyrite grains. The latter factor makes it difficult to duplicate assays, whether they be duplicate samples taken from drill core, laboratory duplicates, or even fire assay and cyanide-soluble assays.



**Figure 7-4: Veinlet Orientations from Oriented Drill Core**

Meridian identified 11 different vein/alteration types related to gold mineralization at Arnett (Barbarick, 1997). A count was made of each type of occurrences from all 11 core holes where the gold grade was greater than or equal to 0.34 g/t Au. The results, presented in Table 7-3, demonstrate that gold is most commonly associated with iron oxides and/or potassic alteration in the form of secondary feldspar or biotite. The fact that gold is more strongly associated with iron oxides suggests that some secondary enrichment may have taken place.

**Table 7-3: Occurrence of Gold by Mineral Assemblage in the Haidee Zone (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

<b>Vein/Alteration Type</b>	<b>Frequency</b>
Quartz vein with iron oxide(s) as fracture fill, disseminations or marginal to veins	130
Quartz vein containing pyrite with no iron oxide present	5
Quartz vein containing iron oxides and pyrite	25
Quartz vein containing secondary feldspar	85
Quartz vein containing magnetite	5
Quartz vein containing silica fracture fill and/or matrix fill when vein has been brecciated and/or with wall rock silicified at margins	35
Iron oxides disseminated and/or as fracture fill in country rock or dikes when no quartz vein is present	45
Disseminated and/or fracture fill sulphides when no quartz vein is present	0
Secondary feldspar disseminated and/or as fracture fill in country rock	70
Secondary biotite disseminated and/or as fracture fill in quartz vein and/or country rock	70

### ***Haidee West***

Mineralization at Haidee West is related to a near-vertical, northwest-striking shear zone that has been traced by RC drilling for a strike length of 180 m (590 ft). The average width is 20 m (65 ft).

Five core holes were drilled in the Haidee West area by Revival in 2019. Mineralization is oxidized near the surface but most of the 2019 drilling encountered unoxidized sulphides in this area. RPA notes that the 2019 drilling did not confirm either the grades or drilled widths obtained in RC drilling by AGR. This is thought to be the result of downhole contamination in

the RC, particularly below the water table, which is where the majority of the mineralization was intersected by AGR. Revival's 2019 drilling was core drilling and not subject to sampling difficulties related to the presence of water in drill holes. Haidee West is not included in the final resource estimate and further exploration drilling is warranted.

The Haidee West exhibits a strong VLF signature which suggests that Haidee West connects to the Little Chief mine area. A second, similar parallel anomaly 120 m (390 ft) to the north remains undrilled. Mineralization appears to be faulted off to the northwest.

### ***Little Chief Mine***

This zone was identified through underground sampling of the Little Chief Mine in 1989 when a 27.4 m (89.9 ft) wide zone was sampled in a crosscut that averaged 1.5 g/t Au (American Gold Resources Corp, 1991). Six RC holes tested this mineralization in 1990 and 1992, identifying several low- to moderate-grade mineralized structures. This zone has been defined on one drill section, so lateral continuity is unknown. Revival has not completed any drilling in the Little Chief Mine area.

### **7.3.3 Alteration**

Hydrothermal alteration is characterized by wide-spread sericitic and potassic alteration and the oxidation of magnetite to specularite. Argillic alteration is present locally. Sericitic and potassic alteration, and the oxidation of magnetite to specularite, are hypogene in nature while the argillic alteration is thought to be largely supergene, resulting from the weathering of pyrite in veinlets and wall rocks. All three alteration types affect the crowded porphyry and, locally, rocks of the syenite complex.

There is not a one-to-one relationship between the alteration types and gold values, however they usually occur in spatial relationship with gold mineralization. It is likely that the fluids responsible for the earlier alteration used the same fracture system, but not necessarily the same fractures, as those responsible for gold mineralization.

The earliest alteration is potassic alteration. Potassic alteration consists of gray fracture-controlled potassium feldspar alteration, white to pink potassium feldspar flooding and the recrystallization of primary magmatic biotite to fine-grained aggregates of black biotite. Potassic alteration may also be accompanied by quartz±biotite±magnetite veinlets.

Potassic alteration is followed by the oxidation of magnetite to specularite. Regardless of the origin of the magnetite, be it magmatic or hydrothermal, it is often partially or completely altered to specularite. The specularite may retain weak magnetism but this is rare.

The most abundant type of hydrothermal alteration at the Project is sericitic alteration of feldspars and biotite. This alteration affects plagioclase, and primary and hydrothermal biotite.

In early stages, biotite is destroyed, followed by sericitic alteration of plagioclase rims of zoned feldspars. With progressive alteration, feldspar and biotite in the host rock are converted to pale to dark green sericite.

### **7.3.4 Oxidation**

The oxidation at Arnett is thought to be related to the Tertiary weathering surface upon which the Cenozoic epiclastic rocks were deposited. Oxidation in the Haidee area extends to the depths of current drilling, approximately 2,135 MASL (7,000 ft), but mineralization in the Haidee West area occurs primarily as sulphides. Even though the 2019 drilling at Haidee West was collared at a lower elevation, intersections are only approximately 30 m (100 ft) deeper than those at Haidee suggesting that the Tertiary oxidation surface is not horizontal across the Project or that it varies with topography.

## 8.0 Deposit Types

### 8.1 Beartrack

Gold mineralization at Beartrack exhibits many of the characteristics of the class of gold deposits known as mesothermal, orogenic, lode gold, or shear zone-hosted deposits. In these deposits, gold is deposited at crustal levels within and near the brittle-ductile transition zone at depths of six kilometres to 12 km (3.7 mi to 7.5 mi) at temperatures from 200°C to 400°C. Deposits may have a vertical extent of up to two kilometres and lack pronounced zoning. Gold-bearing quartz veins and veinlets with minor sulphides crosscut a wide variety of host rocks and are localized along major regional faults and related splays (Robert, 2004). The wall rock is typically altered to silica, pyrite, and muscovite within a broader carbonate alteration halo (Ash and Alldrick, 1996).

The primary sulphide minerals in mesothermal gold deposits are pyrite and arsenopyrite, however, galena, sphalerite, chalcopyrite, pyrrhotite, tellurides, scheelite, bismuthenite, stibnite and molybdenite may also be present. Primary gangue minerals are quartz and carbonate (ferroan-dolomite, ankerite, ferroan-magnesite, calcite, siderite), with lesser albite, mariposite (fuchsite), sericite, muscovite, chlorite, and tourmaline (Ash and Alldrick, 1996).

Mesothermal gold deposits may be enriched in many elements, including S, Cu, Mo, Sb, Bi, W, Pb, Zn, Te, Hg, As, and Ag, however, most mesothermal gold deposits are characterized by elevated Fe, S, and As, with only minor enrichment in the other elements (Goldfarb et al., 2005).

Mineralization at Beartrack consists of quartz-pyrite-arsenopyrite (Au-Fe-As-S) veins and veinlets occurring in a broad halo of sericitic alteration related to the PCSZ. The PCSZ exhibits both brittle and ductile deformation and is interpreted to be a deep-seated regional structure that has been active from the Proterozoic to recent time. Mineralization does not exhibit any zonation to currently drilled depths of over 600 m (1,950 ft) below the surface. All these characteristics are typical of mesothermal gold deposits.

In the case of gold mineralization at Beartrack, the characteristics and controls of mineralization are reasonably well known. The primary control on mineralization is the regional, northeast trending PCSZ and an important secondary control is the Proterozoic Yellowjacket Formation, which appears to be a more favorable host rock than the Proterozoic intrusive rock. These factors, along with the known characteristics of orogenic gold mineralization, will guide future exploration activity at Beartrack.

## 8.2 Arnett

Gold mineralization at Arnett exhibits some of the characteristics of intrusion-related gold deposits. In these deposits, gold is deposited at depths from less than one kilometre to over eight kilometres (0.6 mi to 5 mi) with a typical range of four kilometres to six kilometres (2.5 mi to 3.7 mi). Given the substantial range of depths over which intrusion-related gold deposits may form, homogenization temperatures vary dramatically, but fluids tend to be of low salinity and high in CO<sub>2</sub>. A wide variety of deposit types can occur in intrusion-related gold systems. Intrusion and/or country rock hosted deposits may consist of skarns, replacements, disseminations, stockworks and veins. The most common occurrence is sheeted, gold-bearing quartz veins and veinlets with minor sulphides, often occurring in the cupola of the source intrusion.

Intrusion-related gold deposits normally exhibit low sulphide content (less than 5%) with arsenopyrite, pyrrhotite and pyrite in quartz veins. Bismuth minerals may also be present. Alteration consists of potassic (K-feldspar), sodic (albite) and sericitic alteration with greisen and skarn development in some deposits. Geochemically, intrusion-related gold systems typically contain Au ± Bi, As, W, Mo, Sb, Te with highly variable assemblages of Cu-Zn-Pb-As (Hart and Goldfarb, 2005; Hart, 2005).

In the case of gold mineralization at Arnett, the characteristics of mineralization are known but the controls of mineralization are not. Mineralization at Arnett consists of quartz-iron oxide (pyrite) veinlets (Au-Fe-S) occurring in a broad halo of potassic and sericitic alteration. Trace elements are not strongly anomalous, however, Bi and Cu have strong correlations with Au while Te, Fe, Ag and W have weaker correlations with Au. Alteration types and geochemical associations suggest high-temperature mineralization, possibly closely related to an intrusion. Airborne magnetics support the presence of a shallow intrusion below the Haidee and Haidee West targets. It is a reasonable conclusion that this intrusion may be genetically related to mineralization and the extensive potassic alteration and hypogene alteration of magnetite to specularite found in the area. These factors, along with the known characteristics of intrusion-related gold mineralization, will guide future exploration activity at Arnett.

## 9.0 Exploration

### 9.1 Beartrack

#### 9.1.1 Structural Mapping

Aside from drilling, Revival's exploration activity on the Beartrack property includes reprocessing historical geophysical data and structural mapping in the North and South pit areas. Structural mapping included time spent with Arnett drill core and in the field at Arnett. Geological consultant Anthony Norman from Melbourne, Australia was contracted to do the structural work in 2018 and spent approximately three weeks on site. Norman's conclusions (Norman, 2018) are presented below:

"Beartrack and Arnett Creek have been subject to a complex deformation and magmatic history. The Yellowjacket Formation was regionally deformed (folded and thrust) and metamorphosed to upper greenschist facies (biotite-garnet-andalusite) during D1. Rapakivi granite intruded the deformed and metamorphosed sequence. Southwest-directed thrusting and mylonitization of granite occurred during D2 northeast-southwest compression. Dextral movement occurred along the Panther Creek Fault during thrusting and mylonitization. 'Bluish' quartz in granite appears to be related to strain during mylonitization. Regional folding and faulting during D1-D2 provided the structural preparation for mineralization."

"Pegmatitic dikes (leucogranite and alaskite) intrude along D2 northwest-trending faults in the Yellowjacket Formation and rapakivi granite. They are related to a magmatic event of unknown absolute age. Pegmatitic dikes are not substantially displaced by movement along the Panther Creek Fault, so it is unlikely that there has been km-scale displacement along the Panther Creek Fault. Stage I quartz-plagioclase-biotite veins were probably coeval with the pegmatite dikes. Samples have been collected to determine if intrusion of pegmatites was accompanied by mineralization."

"At Beartrack, there is a strong lithological control on mineralization. Quartzite is the preferred host. Where granite is in contact with argillaceous metasediments, granite is the preferred host. Mineralization is structurally-controlled, and the weight of evidence points to orogenic-style mineralization; however, it is unclear if there was substantial regional deformation and metamorphism at the time of mineralization, which could supply the fluids and metal budget."

"Mineralization at Beartrack occurred during D3 extension associated with dextral northeast-southwest transpression. Three stages of quartz veins formed during mineralization (Stages IIA to IIC). The earliest veins are polymetallic (Cu-Pb-Zn±Au) sheeted northeast-trending veins. Stage IIB bull quartz+pyrite veins formed discontinuous northeast-plunging shoots within dextral jogs along the Panther Creek Fault. Stage IIC brecciation and grey quartz-arsenopyrite-



gold veins was the main stage of mineralization. High-grade mineralization occurs in the footwall of D2 northwest-trending faults and plunges shallowly northwards. A secondary southerly plunge of mineralization is related to the intersection of bedding with the Panther Creek Fault.”

“It is concluded that there were two mineralization events; an early Mesozoic (?) magmatic event related to potassic alteration in Arnett Creek and the other a structurally controlled extensional event at Beartrack.”

“Brittle D4 southwest-dipping reverse faults cut and displace leucogranitic dikes and mineralized quartz veins. The absolute age of these faults is unknown.”

“Epithermal veins (Stage III) cut the rapakivi granite and appear to cut the Panther Creek Fault. It is not known if Stage III epithermal veins are cut by D4 faults.”

“K-feldspar alteration and gold mineralization at Arnett Creek may be related to the expulsion of fluids from Mesozoic granites, prior to extension-related mineralization at Beartrack. The consequence of this model is that the target zones will be breccias in the carapace of the granites. Drilling beneath shallow dipping zones (e.g. Thompson-Hibbs) will not be productive, as the mineralizing fluids have moved away from these zones and into the roof zones or contact zones. There is a lack of multi-element geochemistry and detailed mapping to determine if Arnett Creek mineralization and potassic alteration is related to a late Tertiary-age intrusion. The distinction between possible Tertiary granite and Ordovician granite at Arnett Creek is not clear.”

### 9.1.2 Reprocessing of Airborne Magnetic Data

In 2018, Revival commissioned a review of historical geophysical data from Beartrack. This data was obtained from Ellis Geophysical Consulting Inc. in Reno, Nevada, who conducted previous work on the Project on behalf of Meridian. This data has been summarized in the History section of this Report.

Airborne magnetics, frequency-domain electromagnetic (FDEM) and VLF data from the historical dataset were reprocessed. Magnetic and FDEM data are useful for geologic mapping and in some instances direct targeting of mineral systems. Magnetic data are useful for geologic mapping because, with only a few exceptions (e.g., pyrrhotite), magnetic data measure variation in magnetite content correlating with variations in the magnetic susceptibility parameter. Thus, variations in rock type and alteration can be identified through the interpretation of magnetic data. Structure, such as faults and folds, can also be identified in magnetic data. Resistivity data, computed from FDEM measured data, can provide insights into lithology, structure, and alteration.

In 2019, Revival completed an airborne magnetic survey over the Arnett property, merged the data with the historical Beartrack airborne magnetic data and reprocessed the entire dataset. The airborne magnetics will be discussed along with the 2019 work in the summary of exploration on the Arnett property.

### 9.1.2.1 1989 Airborne Geophysical Survey

Airborne magnetic, FDEM, and VLF data were collected between June 25 and July 3, 1989 by Aerodat Limited. Details of the survey can be found in de Carle, 1989. The survey totaled approximately 950 line-km and covered approximately 216 km<sup>2</sup> (83 mi<sup>2</sup>). Flight line orientation was 105° and the line spacing was 150 m (490 ft). Tie-line orientation was 15° and tie-line spacing was 400 m (1,300 ft). Helicopter altitude was 60 m (200 ft).

FDEM data was collected using a towed-bird sensor elevation of 30 m (100 ft). Coaxial coils were 935 Hz and 4,600 Hz and coplanar coils were 33 kHz and 4175 Hz.

VLF data were collected using the following frequencies:

- 24.0 kHz – Cutler, Maine
- 21.4 kHz – Annapolis, Maryland
- 24.8 kHz – Jim Creek, Washington

The FDEM resistivity grids contain significant line-levelling errors. Since the original line data is not available, these line-leveling errors were removed through the application of grid decorrugation filters using Fast Fourier Transform methods in the MAGMAP module of Geosoft Montaj software.

For Beartrack, resistivity data computed at 4,175 Hz is deeper than resistivity data computed at 33 kHz, with the maximum depth-of-penetration of helicopter-borne FDEM systems in the order of 100 m (325 ft). Since no coaxial coil data or identified conductors are included in the Revival archive, only resistivity data computed at 33 kHz and 4,175 Hz was incorporated for the Project.

Resistivity lows in the FDEM resistivity data at Beartrack were interpreted to be Tertiary volcanic rocks, although one FDEM resistivity low may represent clay alteration in the rapakivi granite. These units were interpreted to have a much broader areal extent than shown in the geology as mapped and have not yet been fully investigated in the field.

## 9.2 Arnett

### 9.2.1 2019 Airborne Magnetics

On June 11 and 12, 2019, MPX Limited conducted a helicopter-borne magnetic survey at Arnett. Details of the survey are provided in MPX Geophysics (2019) and Beasley (2019). The survey totaled approximately 404 line-km and covered approximately 36 km<sup>2</sup> (14 mi<sup>2</sup>). Flight line orientation was 50° and the line spacing was 100 m (325 ft). Tie-line orientation was 140° and tie-line spacing was 1,000 m (3,280 ft). Helicopter altitude was 60 m (200 ft) and the towed-bird magnetometer altitude was 30 m (100 ft).

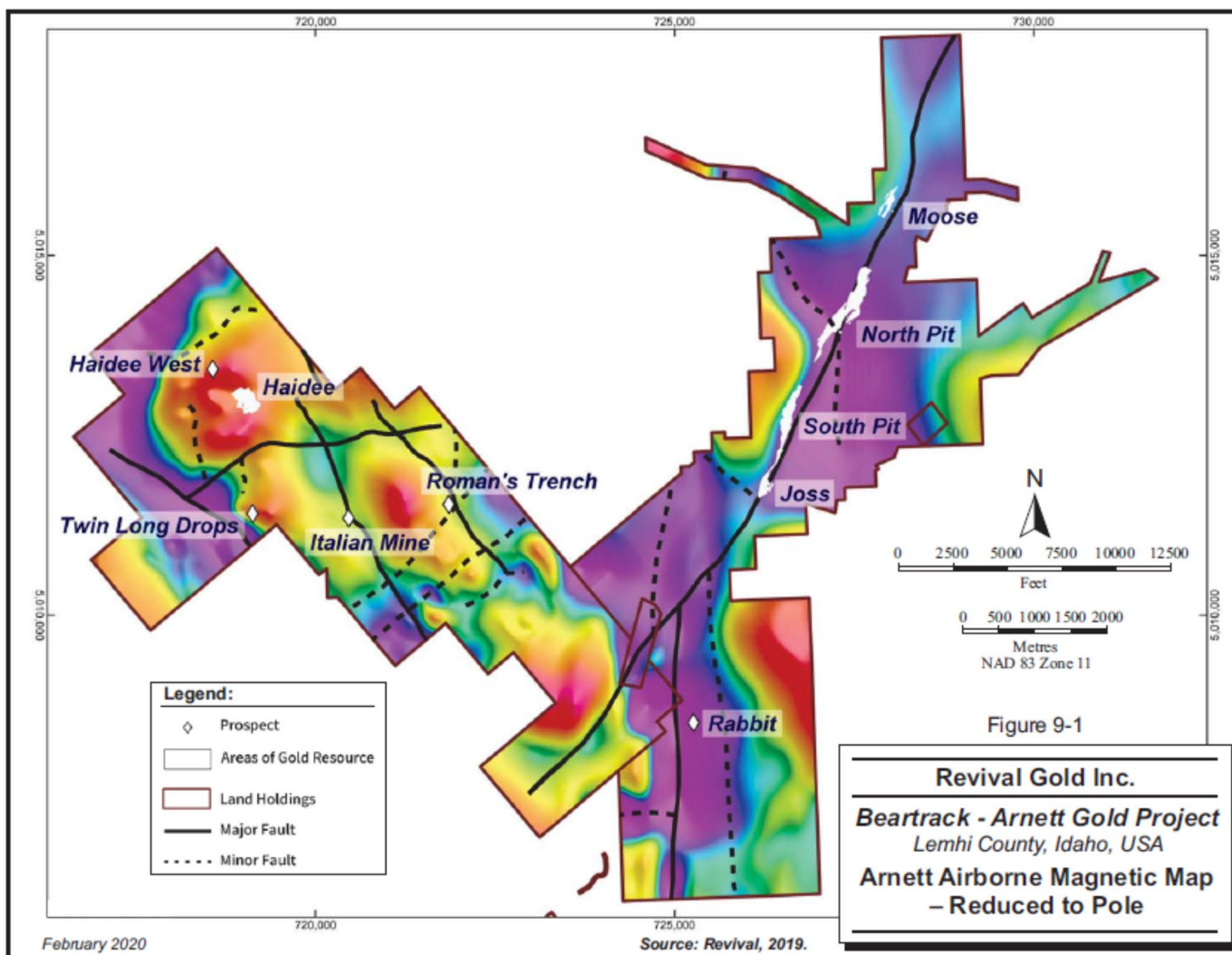
Magnetic data from the Arnett and historical Beartrack magnetic surveys were processed in a consistent manner. Both surveys required micro-leveling to remove line-to-line and crossline striping. Micro-leveling was performed on grid data through the application of de-corrugation filters that combine Butterworth and Directional Cosine filters with specified parameters. The micro-leveling operation was performed using Fast Fourier Transform methods in the MAGMAP module of Geosoft Montaj software.

The standard suite of magnetic data and map products in the deliverables are the following:

- Total Magnetic Intensity (TMI) – base-station corrected measured data.
- International Geomagnetic Reference Field (IGRF) – regional magnetic field.
- Residual Magnetic Intensity (RMI) – TMI-IGRF data.
- Reduced-to-Pole (RTP) – RTP of RMI data.
- Reduced-to-Pole Vertical Derivative (RTP\_dz) – vertical derivative of RTP data.
- Reduced-to-Pole Tilt Derivative (RTP\_dt) – tilt derivative of RTP data.

Lithologic units at the surface within the project areas possess low to very low magnetic susceptibilities, making them effectively magnetically transparent. As interpreted, the prominent magnetic highs are due to buried magnetic intrusions. The geophysics interpretation considers features evident in the various geophysical datasets to create the lithology, structure, and alteration interpretation. Cenozoic surficial deposits were excluded from the interpretation. In addition, the gold mineralization associated with the PCSZ is not directly detectable with the airborne geophysical data; hence the merged Beartrack-Arnett dataset interpretation is oriented toward geology rather than direct targeting.

Faults and buried intrusions were identified from the magnetic data (Figure 9-1). The PCSZ and the Coiner Fault have strong associated magnetic lows as do several other faults. In addition, several buried intrusions have been identified, chiefly beneath the Haidee and Haidee West target areas, between Roman's Trench and the Italian mine, and near the intersection of the two claim blocks.



**Figure 9-1: Arnett Airborne Magnetic Map – Reduced to Pole**

Four observations are directly relevant from an exploration point of view:

- The PCSZ does not extend a significant distance to the southwest beyond the intersection between the PCSZ and the Coiner Fault;
- The PCSZ is a deep-seated structure, extending to the depth modelled;
- There is a buried intrusion beneath the Haidee and Haidee West areas, and;
- The magnetic low along the Coiner Fault south of the confluence of Arnett Creek with Napias Creek, which is similar to that along the mineralized section of the PCSZ, and the buried intrusion beneath the Haidee and Haidee West areas represent exploration targets.

In addition to the 2D interpretation, a 3D magnetic susceptibility model was computed for a portion of the merged dataset. This 3D magnetic susceptibility model was computed using MAG3D, a program developed by the University of British Columbia Geophysical Inversion Facility (UBC-GIF). The 3D model shows that the intrusion beneath the Haidee area is approximately 300 m (1,000 ft) below the surface and that the magnetic low associated with the PCSZ extends to the depth of the model, or approximately 1,800 m (5,900 ft) below the surface.

### 9.2.2 Geologic Mapping

In order to better understand the geology of the Arnett property, in 2019 Revival undertook a geologic mapping program over much of Arnett. Due to early snow fall, geologic mapping was primarily limited to the area north of Arnett Creek.

The intention of the geologic mapping was to understand structure and alteration across Arnett as well as to define the limits of Cenozoic post-mineral cover. Mapping was done at a scale of 1:10,000. One observation of particular relevance for exploration is the wide-spread nature of float of the Yellowjacket Formation, which is thought to be from Tertiary epiclastic rocks. The lack of exposure on the property led to the decision to conduct soil sampling using a partial leach.

### 9.2.3 Soil Sampling

Revival's 2019 soil sample program began with an orientation survey consisting of 23 soil samples extending from an area thought to be covered by post-mineral cover into an area of residual soils. The concept was to submit the samples to ALS Global in Elko, Nevada and see how the results compared across soil types. Samples were analyzed by aqua regia digestion with super trace ICP-MS analysis (code ME-MS41LTM) and their IonicLeach™, which is a static sodium cyanide leach using the chelating agents ammonium chloride, citric acid and EDTA with the leachant buffered at an alkaline pH of 8.5 (code ME-MS23TM). Although both methods

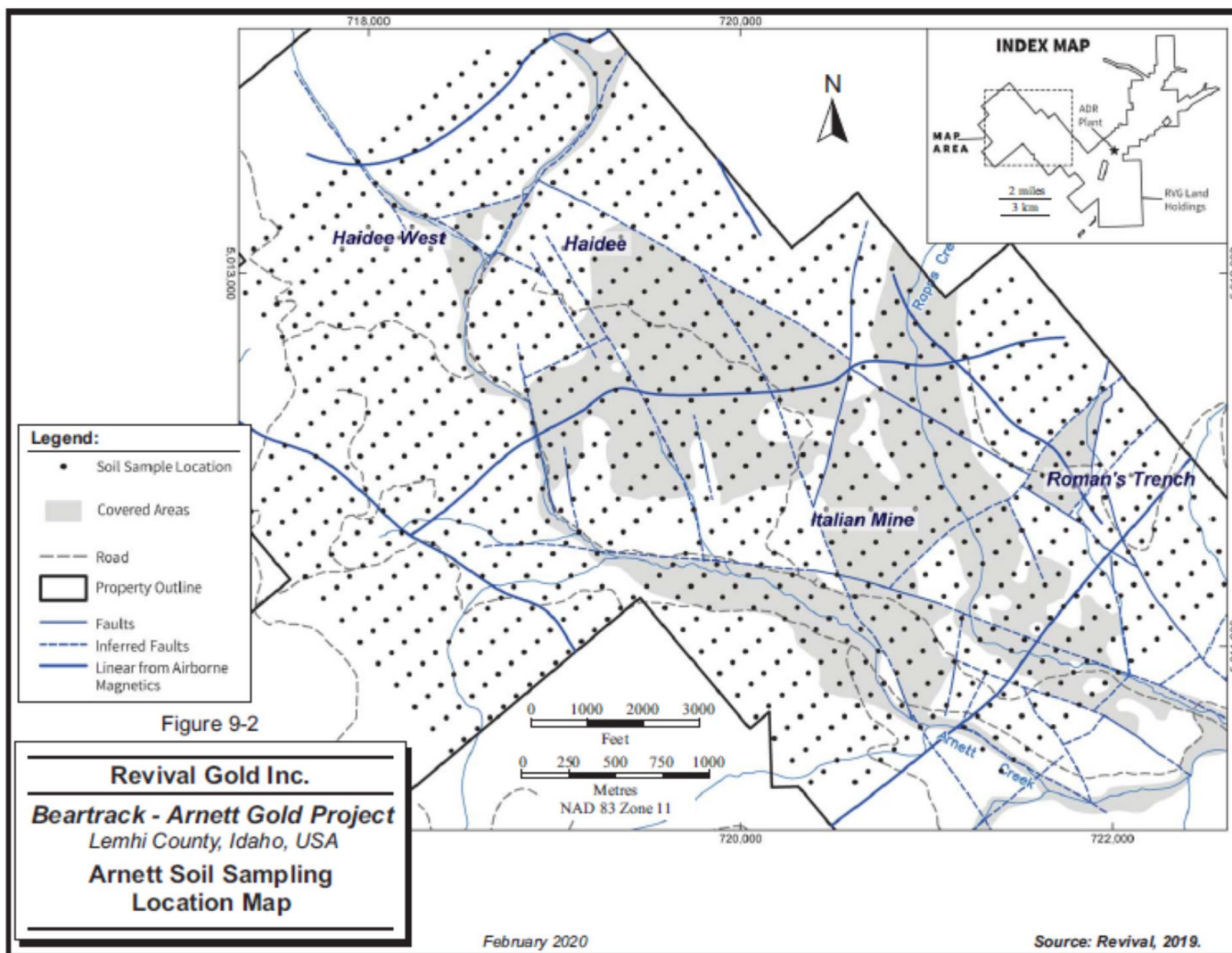
yielded potentially useable results, the samples analyzed by the IonicLeach™ were slightly better, so this method was selected for the full soil sampling program.

The full soil sampling program consisted of 971 samples collected on a 150 m by 100 m (490 ft by 325 ft) grid over 12 km<sup>2</sup> (4.6 mi<sup>2</sup>) (Figure 9-2). Samples were collected from the A horizon immediately below the layer of organic material and submitted to ALS Global in Elko, Nevada for IonicLeach™, to enable identification of subtle anomalies under post-mineral cover. Duplicates and standards were inserted into the sample stream for quality assurance/quality control purposes, but the standards did not prove to be useful due to the partial leach method. Duplicate samples adequately reflected the values of the original sample.

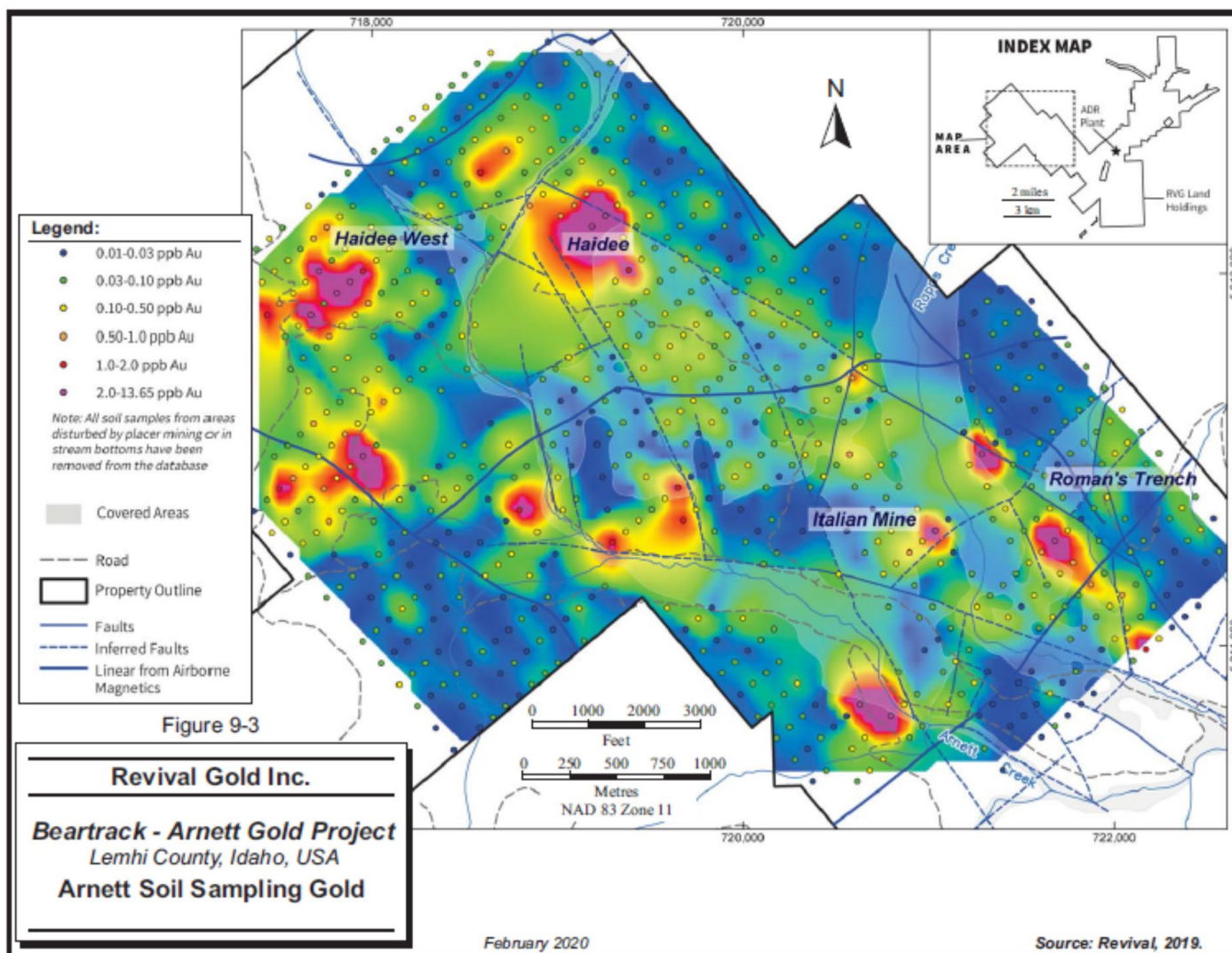
For data processing, samples were divided into four populations based on the nature of the soils that were sampled: residual soils developed over bedrock, soils developed over Tertiary epiclastic rocks, soils disturbed by historical mining activity and soils in active stream bottoms. Each area could potentially yield different mean and anomalous values.

As expected, areas disturbed by historical mining activity and active stream bottoms yielded the highest values. Samples in those areas were removed from the data for processing so as not to unduly influence statistics. With the removal of the samples in areas of disturbed or transported soils, several gold anomalies emerge (Figure 9-3).

Strong anomalies are present immediately northeast of the known Haidee resource in an area thought to be covered by Tertiary epiclastic rocks, in the Roman's Trench area, in the Twin Long Drops area south of Haidee and, west and southwest of the Haidee area just below the ridge. At least two subtle, northwest-trending anomalies occur to the south and southeast of Haidee in the covered area known as the Midlands. Several of the anomalies are located in close proximity to the intersections of mapped structures or structures inferred from airborne magnetics. These anomalies will be examined on the ground in the coming field season and explored as appropriate.



**Figure 9-2: Arnett Soil Sampling Location Map**



**Figure 9-3: Arnett Soil Sampling Gold**



## 9.3 Exploration Potential

### 9.3.1 Beartrack

In addition to the areas described above, there are other known targets on the Beartrack property: Joss, Moose, the areas between Ward's Gulch and the South Pit, and between the South Pit and Joss, the PCSZ-Coiner Fault intersection and Rabbit. Only the Moose and Joss areas have been tested by drilling and, as such, represents the best opportunities to expand resources in the near term. The areas between Ward's Gulch and the South Pit, and between the South Pit and Joss areas have very limited drilling, and the Rabbit target is a conceptual exploration target developed around the projected intersection of the PCSZ and the Coiner Fault.

#### 9.3.1.1 Joss

Potential exists to expand the Mineral Resource in the Joss area at depth and along strike in both directions. Hole BT18-220D was drilled approximately 250 m (820 ft) south of Joss and intersected 1.79 g/t Au over a 38.8 m (127 ft) drilled width from 457 m to 496 m (1,500 ft to 1,627 ft) down hole. This interval included 8.84 g/t Au over a 3.0 m (10 ft) drilled width from 471 m to 474 m (1,545 ft to 1,555 ft) down hole. Mineralization encountered in hole BT18-220D is thought to be hosted by the same structure as the mineralization at Joss.

#### 9.3.1.2 Ward's Gulch to South Pit and South Pit to Joss

Only shallow drilling has taken place between Ward's Gulch and the South Pit. This is understandable since Meridian was focused on near-surface, oxidized mineralization. Although the results of the shallow drilling were not positive, no drilling has taken place at depth. Given the depth of mineralization in both Ward's Gulch and the South Pit, this represents an interesting exploration target.

Little drilling has taken place between the South Pit and Joss, however, much of drilling that has taken place in that area has intersected the mineralized PCSZ. This area also represents a compelling exploration target.

#### 9.3.1.3 Moose Area

The Moose area is located north of the North Pit in the Moose Creek drainage. The Allen target is 1,100 m (3,600 ft) in length, 15 m to 120 m (50 ft to 390 ft) wide and extends to depths of at least 150 m (490 ft). Gold mineralization occurs primarily in the rapakivi granite as a series of quartz-pyrite-arsenopyrite stockwork veinlets. To the north end of the deposit, the

mineralization diverges from the PCSZ-Yellowjacket contact, and is completely hosted by the quartz monzonite. Due to extensive glaciation, only 5 m to 20 m (16 ft to 65 ft) of oxide mineralization has been preserved in the Moose area. RC drill hole AC-024 encountered a 65.5 m (215 ft) drilled thickness of sulphide mineralization from 108.2 m to 173.7 m (355 ft to 570 ft) averaging 2.19 g/t Au as determined by fire assay, indicating the potential of mineralization at depth.

#### **9.3.1.4 Rabbit Target**

The Rabbit area is located south of the Joss area near the projected intersection of the PCSZ and the Coiner Fault. The intersection of the two structures is the primary target, however, targets also exist along strike on both structures for approximately 400 m (1,300 ft) along the Coiner Fault and 330 m (1,080 ft) along the extension of the PCSZ. The Rabbit target is conceptual in nature, supported by reprocessed airborne magnetic data from Meridian.

RPA recommends testing exploration targets in the Rabbit area south of Leesburg. Drilling in this area will be contingent on the approval of Revival's Plan by the USFS.

#### **9.3.1.5 Deep Sulphide Potential**

Sulphide mineralization has been drill tested at depth beneath South Pit, the Ward's Gulch area at the south end of the North Pit, and in the Joss area. This mineralization has been tested on a limited basis, however, given the nature of lode or shear zone-hosted gold deposits, there is no indication that gold mineralization does not extend to depth beneath the other deposits also.

Deep sulphide mineralization is similar in nature to the shallower sulphide mineralization encountered below oxidized mineralization in the North and South pit areas. Table 9-1 shows some of the higher-grade sulphide intersections encountered by Meridian and Revival. RPA notes that, as is the case with near-surface oxide mineralization, most of these intersections are surrounded by broader intersections of low-grade mineralization. It is clear that higher-grades are present within the Beartrack system but, due to the wide-spaced nature of deep drilling at Beartrack, these intervals are isolated.

It should be noted however, that Revival's two offset holes around the high-grade intersection in hole BT12-175D did not duplicate the high-grades encountered (holes BT17-194DB and BT17-199D were drilled as offsets to hole BT12-175D). The structure was intersected as expected but the high grades were not duplicated. Nonetheless, given the nature of these intersections and the known continuity of lode or shear zone-hosted gold deposits to depth, additional drilling to test these areas is warranted.

**Table 9-1: Selected Deep Sulphide Intersections – Beartrack (Revival Gold Inc. – Beartrack – Arnett Gold Project)  
(Source: Revival, 2019)**

Area	Hole Number	From (m)	To (m)	Drilled Width (m)	Au Grade (g/t)	Drill Type	Easting	Northing	Elevation	Azimuth	Dip	Assay Type
Ward's Gulch Area	BT12-175D	503.99	513.74	9.75	70.9	DD	117,540.70	122,805.80	7,182.90	121.4	-61	Fire Assay
	BT12-184D	440.13	445.47	6.25	3.52	DD	118,366.60	121,010.90	7,104.50	302.1	-54	Fire Assay
	DD-131 including	133.5 137.16	159.11 151.18	25.6 13.72	7.62 12.84	DD DD	117,747.80	122,077.50	7,133.50	119	-60	Fire Assay
	BT12-176D	308.21	313.03	4.82	9.38	DD	116,148.80	116,287.40	6,758.00	301.9	-55	Fire Assay
South Pit	BT12-179AD	671.17	677.88	6.71	5.45	DD	115,441.40	118,603.50	7,052.10	124.3	-68	Fire Assay
	BT19-219D	574.3	575.5	1.2	9.17	DD						
	DD-162	184.4	188.98	4.57	5.24	DD	114,410.90	114,818.30	6,600.00	115	-60	Fire Assay
	BT12-186D including	358.9 366.98	370.03 368.96	12.8 2.29	3.91 5.57	DD DD	114,339.30	115,384.20	6,642.10	119.6	-65	Fire Assay
Joss Area	BT18-220D	471.22	474.27	3.05	8.84	DD	115,166.16	113,434.50	6,639.38	297.4	-49	Fire Assay
	BT19-224D including	235.95 237.2	258.17 248.29	22.22 11.09	4.43 5.77	DD DD	114,274.33	114,971.25	6,611.30	115.3	-57	Fire Assay
	BT19-225D	347.29	351.74	4.45	4.24	DD	114,272.14	114,973.24	6,611.44	119.3	-64	Fire Assay

Note:

1. Original drill data is in Imperial units, which were converted to metric units for this Report.
2. Detail explanation on the sample preparation, analysis and laboratory used for the reported results can be found in Section 11 of this report.

## 9.3.2 Arnett

In addition to the areas described above, there are several other known targets on the Arnett property. Much of the exploration potential lies in areas that are covered by younger sediments and/or dense forest and this cover has acted as an impediment to exploration and potential discovery. Two broad target areas are each known to host several gold prospects; the Northern Contact Zone and the Arnett Creek Lineament (Figure 7-3). Although the exact nature of these zones, or lineaments, is unknown, known mineralized prospects align along them. Targets within these two linear features are described in general below and in detail in reports by AGR (1991, 1993, 1995).

### 9.3.2.1 The Northern Contact Zone

The Northern Contact Zone is generally located south of the northern contact between the Arnett Pluton and the older metasedimentary rocks of the Belt Supergroup. The potential target area has a strike length, east-west dimension, of approximately three kilometres. The area extends from the Haidee West through the Haidee, Midlands, North Italian, and Roman's Trench areas.

Outside the Haidee and Haidee West areas, the most interesting target in this trend is Roman's Trench. At Roman's Trench mineralization appears to follow a west-northwest-trending structure (or structures) for approximately 1,500 m (4,920 ft). Although controls on mineralization are not well understood, several structural elements intersect in this area (Figure 7-3) including northwest-, northeast- and north-south-trending structures. In 1990, eight RC drill holes targeted the Roman's Trench. The best intersection from the eight holes was 16.8 m (55 ft) averaging 2.23 g/t Au in hole ACR90-134. Revival has collected numerous anomalous rock samples from dumps and has mapped potassic alteration in the area.

### 9.3.2.2 The Arnett Creek Lineament

The Arnett Creek Lineament is a loosely defined zone that follows Arnett Creek for approximately five kilometres. The presence of gold mineralization has been established from the Porcupine area in the west through the Twin Long Drops, South Arnett Creek, and Thompson-Hibbs areas to the Italian mine, Musgrove Bar, and the Stuckey workings in the east. Unfortunately, since the Arnett Creek Lineament forms a topographic low, there is little exposure along this trend. Numerous placer gold occurrences are found along this trend including those at Shenon Gulch, Porcupine, and Musgrove Bar. These placers appear to be related to a terrace of Tertiary epiplastic rocks on the south side of Arnett Creek.

The style of mineralization in the Arnett Creek Lineament is slightly different from that in the Northern Contact Zone. Although mineralization tends to be higher-grade, at least from dump

samples, the alteration is more clearly fracture controlled. Secondary, grey potassium feldspar is common as is the oxidation of magnetite to specularite. At the Italian mine and Thompson-Hibbs, mineralization is hosted by the alkali granite of the Arnett Pluton.

## **9.4 Beartrack Arnett 2020 to 2021 Exploration Program**

Revival's 2020 to 2021 exploration program consists of approximately 83 line-kilometers of Induced Polarization-Resistivity ("IP-RES"), geologic mapping and sampling. Information pertaining to the 2020 drilling programs at Beartrack and Arnett can be found in Section 10 of this report.

### **9.4.1 Geophysics**

Approximately 83 line-kilometers of IP-RES was completed in late 2020 across both the Beartrack and Arnett project areas. At Arnett, 65 line-kilometers of gradient-array IP-RES was completed over the core of the Arnett property, including the Haidee, Italian mine, Little Chief mine, Roman's Trench and Gulch areas. The intention of the Arnett gradient-array IP-RES program is to clarify geologic relationships and aid in drill hole targeting.

At Beartrack, approximately 13 line-kilometers of gradient-array IP-RES was completed across the southern end of the Joss area and five line-kilometers of dipole-dipole IP-RES over a magnetic low in the Rabbit area identified during the reprocessing of historical aeromagnetic data. The intention of the Beartrack IP-RES program is to clarify geologic relationships and aid in drill hole targeting.

Processing, evaluation and interpretation of the results of the IP\_RES surveys are currently in progress.

### **9.4.2 Geologic Mapping**

Geologic mapping and sampling will be completed in the Arnett area. The 2019 mapping program was terminated prematurely due to the early arrival of winter weather and the 2020-2021 program will be a continuation of that effort.

### **9.4.3 Structural Study**

Revival will initiate a structural study of the controls on higher-grade mineralization at Beartrack. The program is intended to develop a structural model that will allow targeting of higher-grade intersections along the Panther Creek Shear Zone for future drilling.

## 10.0 Drilling

### 10.1 Introduction

Reverse circulation drilling (RC) and diamond drilling (DD) on the Project is the principal method of exploration. As of the effective date of this Report, Revival and its predecessors have completed 1,253 holes, 951 RC and 302 DD, totalling 188,127 m (617,212 ft) drilled. From 2017 to the effective date of this Report, Revival has completed a total of 97 DD holes (58 – Arnett, 39 - Beartrack) totalling 23,728 m (77,849 ft) of drilling. Of the 97 DD holes drilled by Revival, 37 (7-Beartrack, 30-Arnett) totaling 7,103 m (23,304 ft) were drilled in 2020 after the effective date of the resource estimate and will be in the next resource estimate.

Between 2017 and November 17, 2020, Revival completed 39 DD holes totalling 14,041 m (46,067 ft) at Beartrack. Revival's drilling programs for Beartrack focused on increasing the resources at the Beartrack deposit and testing the sulphide mineralization along strike and at depth. The programs were targeted to confirm historical drill data and to expand known areas of mineralization.

Between 2018 and November 17, 2020, Revival completed 58 DD holes totalling 9,687 m (31,782 ft) at Arnett. Revival's drilling programs in the Haidee area focused on confirming the presence of mineralization and expanded the mineralized footprint to the northeast and southwest.

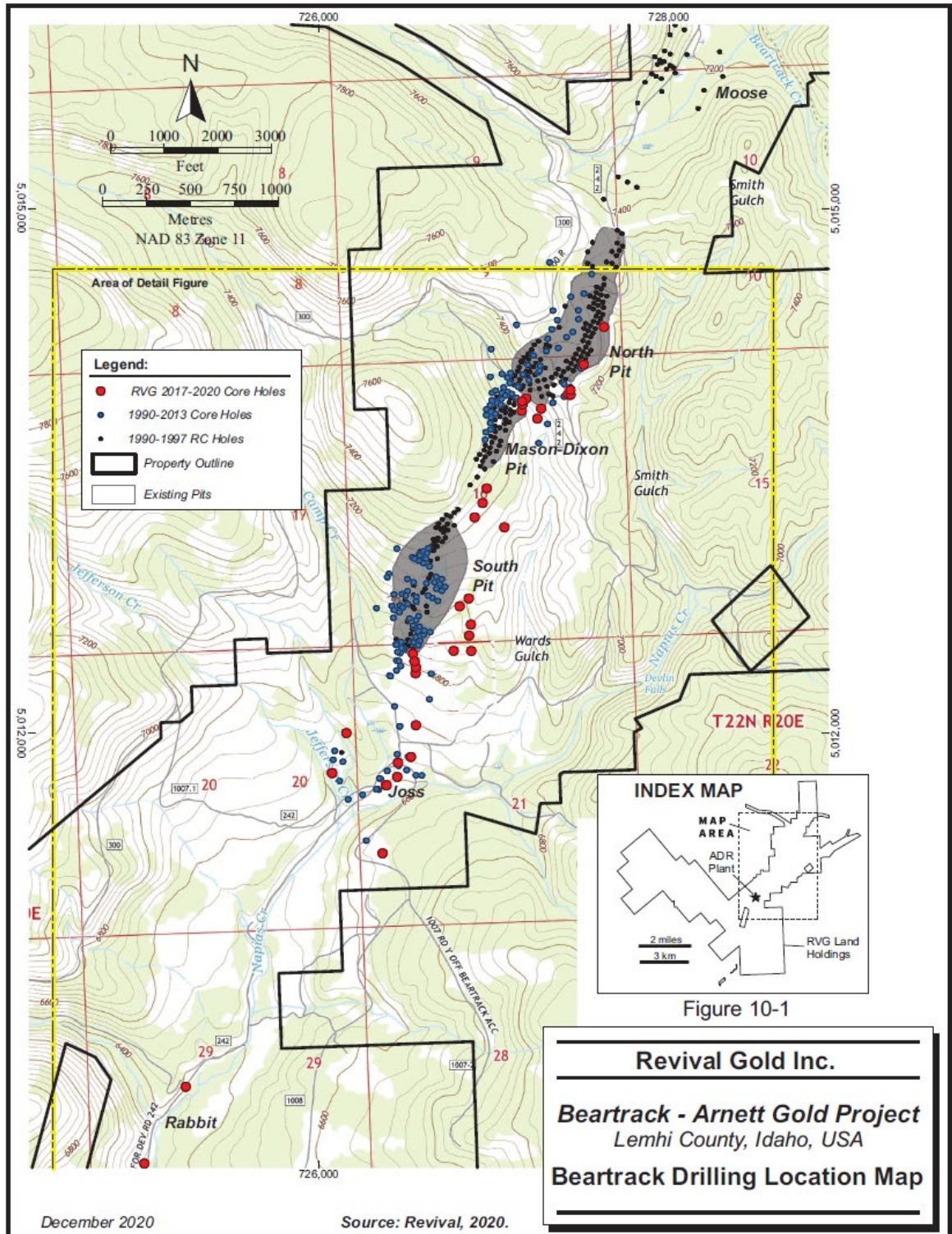
Drilling completed in the Project area is summarized in Table 10-1. Locations of drill collars for the 2017 to 2020 Revival programs are shown in Figure 10-1 and Figure 10-2. Drilling can generally be conducted from late March to early October. RPA notes noted that the drill data presented has been converted from its original Imperial units to metric units for the purposes of this Report.

**Table 10-1: Drilling Programs (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Deposit	Year	Company	Drilling Type	Number of Holes	Metres Drilled (m)
Beartrack	1987	Canyon	RC	9	692
	1988	Meridian	DD	10	1,420
			RC	123	17,166
	1989	Meridian	DD	43	4,600
			RC	298	43,783
	1990	Meridian	DD	65	12,510

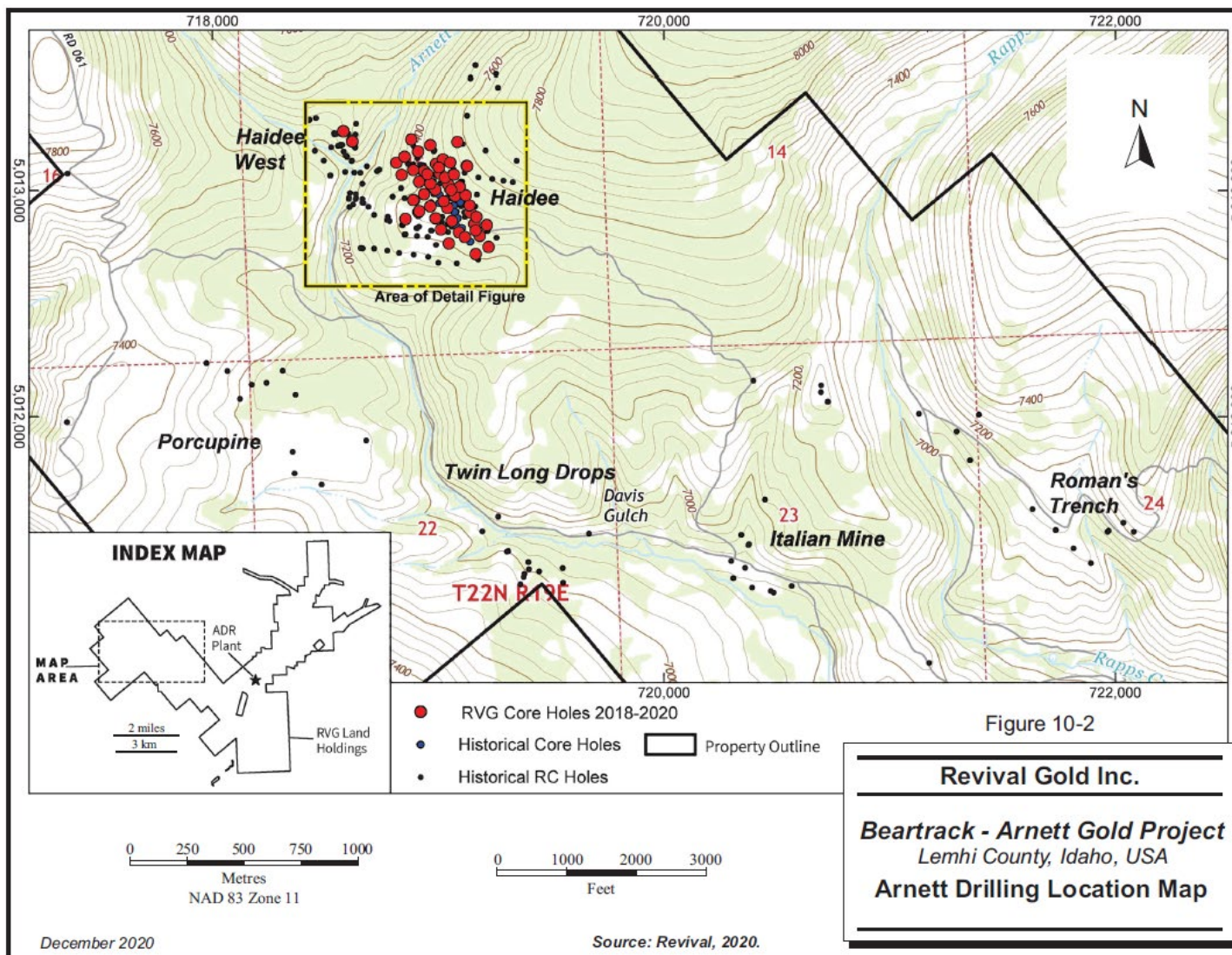
Deposit	Year	Company	Drilling Type	Number of Holes	Metres Drilled (m)
			RC	149	18,803
	1991	Meridian	RC	17	2,123
	1992	Meridian	DD	6	390
			RC	13	1,652
	1995	Meridian	RC	29	3,463
	1996	Meridian	DD	27	5,068
			RC	87	9,281
	1997	Meridian	DD	22	4,195
			RC	3	579
	2012	Yamana	DD	14	6,726
	2013	Yamana	DD	7	4,032
	2017	Revival	DD	13	3,007
	2018	Revival	DD	16	7,627
	2019	Revival	DD	3	1,232
	2020*	Revival	DD	7	2,174
<b>Beartrack Total</b>				<b>961</b>	<b>150,524</b>
Arnett	1990	Meridian	RC	170	19,440
	1991	Meridian	RC	1	30
	1992	Meridian	RC	29	3,011
	1993	Meridian	RC	17	3,171
	1995	Meridian	RC	6	925
	1997	Meridian	DD	11	1,337
	2018	Revival	DD	6	932
	2019	Revival	DD	22	3,826
	2020*	Revival	DD	30	4,929
<b>Arnett Creek Total</b>				<b>292</b>	<b>37,602</b>
<b>Grand Total</b>				<b>1,253</b>	<b>188,127</b>

Note: \*QP has not reviewed these holes.



**Figure 10-1: Beartrack Drilling Location Map**





**Figure 10-2: Arnett Drilling Location Map**

## 10.2 Beartrack

### 10.2.1 Drill Methods and Programs

Drilling completed prior to Revival's acquisition of the Project is also discussed in Section 6 History.

#### 10.2.1.1 1987 Drill Program Canyon Resources Corporation

Drilling began on the Beartrack property in 1987 when Canyon completed nine RC drill holes totalling 692 m (2,270 ft) in the North deposit. None of the Canyon drilling data were used to estimate Mineral Resources that are the subject of this Report.

#### 10.2.1.2 1988 to 1997 Drill Program Meridian Minerals Company

Meridian completed 892 drill holes totalling 125,033 m (410,213 ft) on the Beartrack property and 234 drill holes totalling 27,915 m (91,585 ft) on the Arnett property. Historical drilling is described in more detail in Section 6 of this Report. The drilling completed by Meridian at Beartrack eventually led to a production decision, resulting in much of the shallow drilling performed by Meridian being mined out.

##### ***Meridian Study of Drilling Sampling Methods***

In 1990 Meridian began a comparative study of sampling methods for RC and DD (Meridian Gold, 1990). Two sampling methods for RC drilling were examined and compared to results from core holes.

##### ***Reverse Circulation Drilling***

When RC drilling above the water table under dry conditions, the samples were discharged from the sample return hose and retained into a cyclone designed to slow down the rapidly moving mixture of air, rock chips, and fines (dust). The sample was retained in the cyclone until the drilled interval was complete and then passed through a dry splitter and reduced into assay and metallurgical splits. Some loss of fines occurred during the process as unrecovered dust, however, the volume by weight was considered to be small and not significant.

When RC drilling under wet conditions, a sample slurry composed of air, water, rock chips, and suspended fines exited the cyclone continuously into one of two types of wet splitters: a cone splitter or a rotating vane splitter. For the 1990 Meridian study, the sample obtained from the wet splitter was further divided into two equal splits using a 'Y' splitter. One split, called a

bucket sample, captured 100% of the sample slurry in as many five-gallon buckets as necessary to capture the entire portion of the sample split for each 1.5 m (5 ft) interval. The number of buckets used ranged from 0.5 to 31 buckets. The slurry was flocculated in the buckets, the clear liquid decanted, and the solid portion of all samples combined into one bucket.

The second split, referred to as the pan sample, was collected in a steel pan capable of holding approximately two gallons of sample slurry. If the sample volume exceeded the volume of the steel pan, the slurry was allowed to overflow the pan. Two samples, one for assay and one for metallurgical testing, were taken from the pan and placed into sample bags.

### ***Meridian Core Sampling Methods***

All core holes recovered HQ-diameter core measuring 63.5 mm (2.5 in.) in diameter. Core recoveries up to the time the sampling study report was written in 1990 averaged over 84% with the poorest recovery in hydrothermal breccia, bull quartz, and fault zones. All core samples were split longitudinally into two halves using a hydraulic core splitter, with one half (approximately 50% by volume) of the core placed in a sample sack for assay and the remaining half returned to the core box.

### ***Conclusions of the 1990 Meridian Sampling Study***

Meridian concluded that:

- Core and dry RC drilling samples obtained from above the water table produced similar results and provided valid samples of the mineralization.
- Core and careful RC bucket sampling (with 100% sample collection and use of a flocculent to retain fines) produced similar results and provided valid samples of the mineralization.
- Pan sampling of RC samples with water overflow resulted in nominal to significant (up to 300%) upgrading of RC assays when compared to core. This is thought to be due to the loss of altered wall rock resulting in a concentration of gold-bearing vein fragments.
- Although RC bucket sampling provided an indicator of mineralization in areas of high groundwater flow, core provided the most representative grade.

RPA validated the assays from RC versus core holes in the South and North Pits and concludes that the results of the Meridian study are accurate. As a result of this study, over 61,600 m (202,100 ft) of RC drilling results were eliminated from resource/reserve model estimation. The majority of this drilling took place between 1987 and 1989.

Additional insight resulting from the sampling study was also gained regarding the statistical behavior of the deposit. Despite samples of the mineralization providing assays with a high degree of precision and accuracy, as well as low nugget values, the deposit displays significant

degrees of gold grade variability, particularly over the short distances. This is demonstrated by the high variance experienced in twin hole comparisons and it can be interpreted as an indication of steeply dipping mineralization controls. Meridian believed that the frequency of these controls, and the overall structural/mineralized system, resulted in a deposit that is well-behaved over large areas (greater than the average drill hole spacing), but correlations over short distances are difficult. Historical mining supports the interpretation of the homogenous nature of mineralization on a deposit scale.

### **10.2.1.3 2017 to 2019 Drill Program Revival Gold Inc.**

In 2017 and 2019 drilling was conducted by Timberline Drilling Inc. (Timberline), located in Elko, Nevada, and in 2018, drilling was conducted by Titan Drilling (Titan) from Elko, Nevada (Figure 10-3).

All holes were completed with an HQT (Triple Tube-61.1 mm) drill string, which was reduced to NQT (45.1 mm) due to difficult drilling conditions in a few instances. Holes BT19-223D through BT19-225D were collared with a PQ (85 mm) drill string to allow for drilling through a thick sequence of Tertiary epiclastic rocks. (For reference, PQ core diameter is 85 mm (3.3 in.), HQT core diameter is 61.1 mm (2.4 in.) and NQT core diameter is 45.1 mm (1.8 in.)). In addition, holes BT17-194D and BT17-197D were abandoned due to unacceptable hole deviation. Those holes were not sampled, however, the unmineralized core obtained from these holes was used as blank material for the 2017 QAQC program. Drilling was generally conducted with a 1.5 m (5 ft) core barrel to enhance recovery.

Revival's drilling programs focused on increasing the resources at Beartrack and testing the sulphide mineralization at depth. Many of the drill holes completed during this time confirmed mineralization from Meridian's drill programs, however, no twin holes were completed by Revival.

#### ***2017 Drilling***

In 2017, Revival completed 13 drill holes totalling 3,007 m (9,867 ft). Drilling was focused in the South Pit and the Ward's Gulch area of the North deposit to expand resources and support updating resource estimations. All holes drilled as part of Revival's 2017 drilling program encountered mineralization. Details on the drilling results used in this resource estimation can be found in Section 14 of this report and are shown in Figures 14.7, 14.19, 14.21, 14.33 and Figure 14.34.

### **2018 to 2019 Drilling**

Between 2018 and 2019, Revival completed 19 drill holes totalling 8,860 m (29,067 ft) (Table 10-2 and Figure 10-3) to expand resources and support updating resource estimations. All holes drilled as part of Revival's 2018 and 2019 drilling programs encountered mineralization. Drilling beneath the North Pit encountered mineralized structures and confirmed mineralization below the current pit.

Although mineralization is known from historical drilling to extend at least 600 m (1,950 ft) below the surface in the South Pit area, drilling beneath the South Pit was planned with the intention of extending the block model at depth. Holes were drilled on a spacing of approximately 60 m (195 ft). All holes drilled beneath the South Pit encountered mineralization confirming continuity of mineralization below the 2018 block model.

The Joss area was an important focus for drilling in both 2018 and 2019. Several holes had been drilled in the area by Meridian, however, the volume of drilling was insufficient for the development of a resource. All holes drilled in the Joss area encountered one or more zones of mineralization, within the PCSZ or to the east of the PCSZ. Mineralization has yet to be encountered west of the PCSZ as the west side of the PCSZ is now a graben or half-graben filled with Tertiary epiclastic rocks. Previous drilling has intercepted gold mineralization west of the PCSZ in the South Pit area leading to speculation that gold mineralization beneath the Tertiary epiclastic rocks may also be present west of the PCSZ in the Joss area.

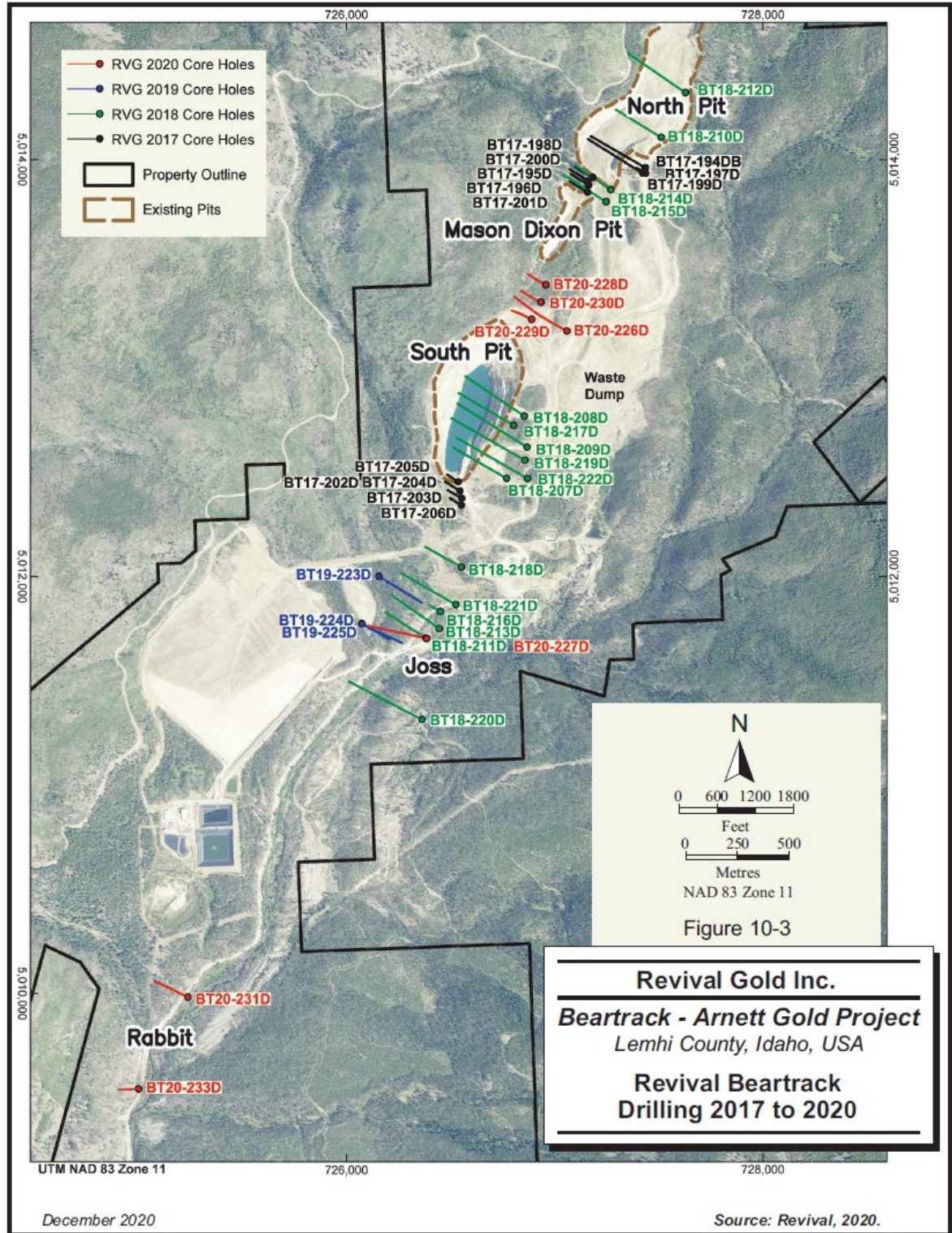


Figure 10-3: Revival Beartrack Drilling 2017 to 2020

**Table 10-2: Results from Beartrack 2018 to 2019 Drilling Programs (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
BT17-194D	Ward's Gulch	303	-57	Abandoned at approximately 15 m				
BT17-194BD including	Ward's Gulch	302	-57	263.5	278.9	15.4	8	2.58
				263.5	270.5	7	4	4.59
				247.5	249.6	2.1	1	4.48
				455.1	471.5	16.4	9	1.21
				496.8	500.5	3.7	2	2.15
including				498	499.3	1.3	0.7	4.1
BT17-195D <sup>2</sup> including including including	Ward's Gulch	303	-58	43.9	51.8	7.9	4	1.55
				74.2	139.3	65.1	34	1.94
				74.2	77.6	3.4	2	4.31
				86.9	107.3	20.4	11	3.21
				116.4	127.1	10.7	6	2.2
BT17-196D <sup>3</sup> including including	Ward's Gulch	303	-62	78.3	138.7	60.4	28	1.734
				105.8	113.4	7.6	3	5.07
				125	126.5	1.5	0.7	76.3
				147.8	157	9.2	4	1.56
BT17-197D	Ward's Gulch	302	-58	Abandoned at approximately 97 m.				
BT17-198D including including	Ward's Gulch	301	-66	104.8	107.9	3.1	1	3.25
				115.8	130.4	14.6	6	1.15
				144.5	181.7	37.2	15	1.39
				144.5	151.5	7	3	2.45
				214.9	218.5	3.6	1	4.6
				217.3	218.5	1.2	0.5	9.96
BT17-199D <sup>5</sup>	Ward's Gulch	302	-59	514.5	530.1	15.6	8	1.35
				536.6	539.2	2.6	1	2.19
				561.1	567.8	6.7	3	1.42
BT17-200D <sup>6</sup>	Ward's Gulch	304	-51	18.3	57.9	39.6	25	1.5
				99.1	128.3	29.2	18	1.73
				137.4	143	5.6	3	1.06

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
BT17-201D including	Ward's Gulch	302	-60	56.3	60.7	4.4	2	3.01
				98.6	166.1	67.5	34	3.51
				113.7	117	3.3	1	23.13
BT17-202D <sup>7</sup>	South Pit	303	-68	101.8	148.4	46.6	17	1.29
BT17-203D <sup>8</sup> including	South Pit	300	-64	91.6	146.3	54.7	24	1.99
				132.6	144.6	12	5	4.15
BT17-204D	South Pit	303	-50	67.4	96.8	29.4	29	2.84
BT17-205D <sup>9</sup>	South Pit	303	-69	53.6	105.5	51.9	18	2.76
BT17-206D including	South Pit	303	-73	152.9	162	9.1	3	1.11
				174.3	186.5	12.2	4	1.66
				184.4	185.3	0.9	0.3	10.98
BT18-207D	South Pit	300	-49	392.9	411.2	18.3	10	1.38
BT18-208D <sup>10</sup>	South Pit	304	-51	383.7	488.9	105.2	62	1.38
				497.4	510.5	13.1	8	2.03
BT18-209D including	South Pit	302	-52	527.9	597.4	69.5	36	1.89
				556	580.7	24.7	15	2.48
BT18-210D	North Pit	301.5	-53	161.8	168.7	6.9	4	1.93
				284.4	289	4.6	3	2.88
BT18-212D <sup>11</sup>	North Pit	304.3	-46	99	123.4	24.4	16	0.92
BT18-211D <sup>12</sup>	Joss	302.6	-53	102.7	106.7	4	2	3.57
				188.5	202.4	13.9	8	2.66
				217.9	222.1	4.2	2	5.37
				228	243.2	15.2	9	2.16
				250.9	258.5	7.6	4	1.45
				272.2	293.5	21.3	13	1.16
314.9	342	27.1	16	1.67				
BT18-214D <sup>13</sup>	Ward's Gulch	305	-57	219.5	242.8	23.3	12	1.24
				258.2	280.7	22.5	12	1.74
				295.7	316.1	20.4	10	0.73
				326.7	346.6	19.8	10	1.8



Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
BT18-213D <sup>14</sup>	Joss	305	-60	257.3	261.5	4.2	2	1.87
				349.6	352.7	3.1	1	1.24
				451.1	500.5	49.4	24	1.74
				504.7	511.1	6.4	3	4.23
				531.3	548.9	17.6	9	2.03
BT18-215D	Ward's Gulch	302	-51	129.5	134.1	4.6	3	2.17
				241.1	246.4	5.3	3	0.96
				264.9	298.4	33.5	21	0.72
BT18-216D	Joss			Abandoned at approximately 95 m.				
BT18-217D <sup>15</sup>	South Pit	300	-57	279.1	285	5.9	3	1.04
				358.1	473.1	115	58	1.88
				483.7	489.5	5.8	3	2.06
BT18-218D	South Pit-Joss	300	-57	273.3	280.7	7.4	4	2.85
				293.8	297.6	3.8	2	1.14
BT18-219D <sup>16</sup> including  including	South Pit	300	-49	490	542.5	52.5	33	2.15
				535.2	536.4	1.2	1	15.9
				546.5	549.6	3.1	2	2.68
				556.3	575.6	19.3	12	1.52
				574.3	575.5	1.2	1	9.17
BT18-220D including	South of Joss	297	-49	457.5	496.3	38.8	25	1.79
				471.2	474.3	3	2	8.84
BT18-221D <sup>17</sup> including	Joss	300	-50	377.6	385.9	8.2	5	6.65
				383.7	385.9	2.1	1	20.1
				393.5	396.2	2.7	1	2.97
BT18-222D	South Pit	300	-50	626.2	642.5	16.3	9	1.79
BT19-223D including	Joss	121	-63	339.2	353	13.7	6	3.44
				342.3	345.3	3	2	5.04
BT19-224D <sup>18</sup> including including	Joss	115	-57	236	306.2	70.3	34	2.35
				237.2	258.2	21	10	4.55
				237.2	241.7	4.5	2	6.72
				316.4	340.8	24.4	12	1.47

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
				366.7	372.1	5.5	3	2.61
BT19-225D <sup>19</sup>	Joss	119	-64	285.4	351.7	66.3	26	1.7
including				288.4	290.2	1.8	1	4.45
including				347.3	351.7	4.4	2	4.24

Notes:

- True width estimates are based on a vertically dipping mineral zone. Drill holes typically steepen during drilling so the inclination of the drill hole at depth may not be the same as the inclination in the mineralized zone.
- Recovery for the interval 88.7 m to 93.6 m was 37.5%.
- For the interval calculation, the value for the 76.3 g/t Au sample was cut to 7.3 g/t Au, the next highest value in the interval.
- Recovery for the interval 80.6 m to 80.9 m was 0%.
- Recovery for the interval 536.6 m to 536.9 m was 30%.
- Recoveries for the intervals 104.3 m to 105.3 m and 107.0 m to 107.6 m were 45% and 44% respectively
- Recoveries for the intervals 124.5 m to 125.6 m, 126.0 m to 126.5 m and 131.1 m to 131.7 m were 25%, 19% and 17% respectively.
- Recovery for the intervals 135.9 m to 136.6 m and 136.9 m to 137.5 m was 0%. These intervals were included at 0 g/t Au. Recovery for the intervals 139.0 m to 139.6 m and 143.1 m and 143.7 m was 40%.
- Recovery for the interval 57.0 m to 62.5 m was 35.6%. Four intervals ranging in width from 0.1 m to 0.9 m were included at 0 g/t Au
- Recoveries for the intervals 407.4 m to 408.1 m, 414.4 m to 414.8 m and 415.4 m to 416.5 m were 28%, 0% and 40% respectively. The intervals with 28% and 0% recovery were included at zero grade. Additionally, the intervals 482.2 m to 482.5 m and 484.5 m to 485.2 m were considered to be material that had caved into the hole and were not sampled. Those intervals were included at zero grade.
- Recoveries for the intervals 111.1 m to 112.6 m and 120.4 m to 121.9 m were 50%, 44% and 40% respectively.
- Recovery for the interval 316.8 m to 317.3 was 47%.
- Recoveries for the intervals 227.7 m to 228.4 m and 228.4 m to 230.7 m were 48% and 0% respectively. The interval 0% recovery was included at zero grade.
- Recoveries for the intervals 506.0 m to 507.5 m, 508.9 m to 509.6 m and 510.5 m to 511.2 m were 44%, 0% and 50%. The interval with 0% recovery was included at zero grade.
- Recoveries for the intervals 358.4 m to 359.4 m and 366.2 m to 366.5 m were 23% and 50% respectively. Recovery for the intervals 364.2 m to 364.7 m and 365.2 m to 365.9 m was 0%. The intervals with 0% recovery were included at zero grade.
- Recovery for the intervals 507.5 m to 509.0 m was 0%. This interval was included at zero grade.
- Recoveries for the intervals 393.5 m to 395.0 m and 395.9 m to 396.2 m were 30% and 20% respectively. The intervals immediately below the upper interval and immediately above the lower interval had recoveries of 0%.
- Recovery for the interval 353.1 m to 353.2 m was 33%.
- Recovery for the interval 286.2 m to 287.1 m was 33%.

### 10.2.2 Drill Hole Surveying

The trajectory of all drill holes is determined during drilling using a Reflex multi-shot instrument and corrected for magnetic declination (13°E).

The collar locations of drill holes are spotted and surveyed using differential GPS using Local Mine reference datum. The drill holes have a naming convention with the prefix BT denoting Beartrack followed by two digits representing the year and the number of the drill hole. In general, most of the drilling was completed in both northwest and southeast directions with drill holes spaced approximately 15 m to 50 m (50 ft to 160 ft) apart based on directional drilling orientation.

Holes are plugged according to Idaho State regulations however, collars are not marked in the field as all pads are reclaimed after being surveyed, according to the current Beartrack Plan.

### 10.2.3 Drill Core Recovery

Overall, core recovery averaged 92% for the three-year period but isolated intervals of poor, or no, core recovery occurred, particularly in the PCSZ. A detailed discussion of core recovery as it pertains to mineralization is presented in the 2018 Mineral Resource Estimate Report (Lechner, et. al., 2018). In general, higher gold grades are associated with the PCSZ, as well as the contact between the Yellowjacket Formation and PCSZ, and the that of the rapakivi granite and PCSZ. These areas are known to be composed of more broken rock and have less gold recoveries (89% recovery for grades higher than 1.0 g/t Au).

Mineralized intervals with poor core recovery (<50% recovery) are noted as footnotes in Table 10-2, which summarizes significant results from the 2017 through 2019 drilling programs. Rock Quality Designation (RQD) is generally good in the rapakivi granite and poor in the PCSZ and Yellowjacket Formation.

RPA identified a number of issues in the drilling results: nuggety system, washing of free gold from fractures during drilling or splitting of the core, flushing of fine material in RC drilling below the water table, and drilling of holes along the mineralized structures. RPA and Revival have taken steps to manage and mitigate these risks for the drill holes for use in a resource estimate. For example, RPA ignored the RC drill holes drilled prior to 1990 from the database used in the estimation. RPA finds that the drilling database, sampling and recovery factors results at Beartrack are suitable to be used to complete a resource estimation.

## 10.3 Arnett

### 10.3.1 Drill Methods and Programs

#### 10.3.1.1 1988 to 1995 Drill Program American Gold Resources Corporation

AGR drilled 220 RC holes on the Arnett property between 1988 and 1995 (Tables 6-4 and 6-5). The first 14 holes were drilled with partner BPMA and the final 207 were drilled with partner Meridian. In addition, two core holes were drilled by BPMA and 11 by Meridian. No data remains from the BPMA holes, so they are not used in the resource that is the subject of this Report. The total amount of historical drilling completed on the Arnett property is 27,959 m (91,729 ft). Historical drilling is described in more detail in Section 6 of this Report.

#### ***Sampling Protocol for Historical Drilling***

Little is known about the AGR sampling protocol for RC drilling however, it is assumed to be similar to that initially employed by Meridian at Beartrack prior to recognition of sampling issues below the water table. Sample intervals were 1.52 m (5 ft).

#### 10.3.1.2 1997 Drill Program Meridian Minerals Company

In 1997, Meridian completed 11 DDH totalling 1,337 m (4,387 ft). All 11 holes were drilled on the Haidee patented claim.

The average sample interval was 1.49 m (4.9 ft) with a minimum sample length of 0.12 m (0.4 ft) and a maximum sample length of 3.68 m (12 ft). Recovery for the 1997 drilling program averaged 91% but intervals of low recovery were present, particularly in fault zones.

#### ***Meridian Twin Core Holes***

Three of the core holes completed by Meridian were drilled as twins of AGR RC holes (Table 6-6). Meridian concluded that there was overall poor to moderate correlation of gold-bearing intersection between RC and core twins and that moderate to occasionally heavy downhole contamination had taken place below the water table.

Meridian found that at times there was reasonable correlation between mineralized intervals as reported in both RC and DD holes, however, at other times intervals reported in RC differed considerably in both grade and thickness, including intervals that were encountered in core that were not identified in RC holes.

The principal reason cited for the lack of correlation was down hole contamination below the water table, but the lack of correlation may partially be due to the inherent variability in the pinch and swell geometry of individual mineralized zones and significant variation in grade over short distances within the mineralized zones (nugget effect). The 1997 Meridian Gold study concluded that additional drilling of mineralized zones should be done with core drilling, but that RC drilling was useful in testing outlying zones (Barbarick, 1997).

### **10.3.1.3 2018 to 2019 Drill Program - Revival Gold Inc.**

Between 2018 and 2019, Revival completed 28 drill holes totalling 4,758 m (15,610 ft) (Figure 10-4) to expand resources and support updating resource estimations. In 2018, drilling was conducted by Titan, while in 2019, drilling was conducted by Timberline. All holes were completed with an HQT drill string. Drilling was generally conducted with a 1.52 m (5 ft) core barrel to enhance recovery.

Drilling in the Haidee area confirmed the presence of mineralization and expanded the mineralized footprint to the northeast and southwest. Drilling in the Haidee West generally encountered mineralization in association with unoxidized pyrite. Based on the 2019 drilling, mineralization remains open to the northwest, southeast and down-dip. Mineralized intersections northeast of the Haidee resource also suggest that mineralization may be open in this direction as well.

The distribution of mineralization at Arnett is irregular with narrow, high-grade intervals among broader intervals of lower-grade mineralization (Table 10-3). The higher-grades are caused by native gold occurring in oxidized pyrite grains and are variable in nature.

**Table 10-3: Results from Arnett 2018 to 2019 Drilling Programs (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
AC18-12D including including	Haidee	63	-56	32.6	88.5	55.9		1.05
				69.2	88.5	19.4		2.37
				84.4	88.5	4.1		9.19
AC18-13D including including	Haidee	68	-57	21.9	67.4	45.4		0.79
				41.8	65.7	23.9		1
				56.4	65.7	9.3		1.76
				95.1	114.9	19.8		0.39
AC18-14D including including including	Haidee	67	-58	25	89	64		1.03
				25	28.3	3.4		4.92
				73.2	83.9	10.8		5.33
				79.7	81.3	1.6		15.9
				137.2	154.2	17.1		0.42
AC18-15D	Haidee	63	-58	81.7	86.3	4.6		1.59
AC18-16D <sup>2</sup> including  including	Haidee			15.3	30.6	15.3		0.64
				23.3	23.7	0.4		15.35
				72.5	94.6	22.1		0.48
				86.3	86.9	0.6		5.03
				112.9	124.8	11.9		0.66
AC18-17D  including including  including including	Haidee	65	-55	1.5	9.1	7.6		0.38
				42.2	48.2	5.9		0.96
				57.3	70.1	12.8		2.37
				68	70.1	2.1		10.17
				69.3	70.1	0.8		21
				80.2	148.1	68		0.81
				138.1	143.6	5.5		3.53
				138.1	139.6	1.5		10.75
AC19-18D	Haidee	64	-50	46	50.9	4.9		1.48
AC19-19D <sup>3</sup>	Haidee			52.7	64.4	11.7		1.84
				89.7	150.3	60.5		0.99

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
including				95.3 97.9	112.2 101	16.9 3.2		2.42 7.05
AC19-20D including	Haidee	60	-59	7.2 32.6	60.1 34	52.8 1.4		0.4 8.34
AC19-21D	Haidee	63	-50	4.6 102.5	70.9 115.9	66.3 13.4		0.88 0.79
AC19-22D including	Haidee	63	-76	26.8 33	37.5 37.5	10.7 4.4		0.39 0.66
AC19-23D  including including	Haidee	65	-76	69.5 102.6 102.6 127.2	78.2 133.5 116.7 133.5	8.7 30.9 14.1 6.3		0.54 1.14 1.74 1.63
AC19-24D	Haidee	68	-82	41.9	45	3.1		2.37
AC19-25D including	Haidee	62	-60	26.3 26.3	55.8 34.8	29.5 8.4		0.49 0.87
AC19-26D	Haidee	62	-60	112	117.5	5.5		1.94
AC19-27D  including	Haidee	63	-61	81.7 118.4 122.8	98.5 138.4 124.4	16.8 20 1.5		0.44 1.95 20.4
AC19-28D <sup>4</sup>	Haidee	64	-61	4 48.2 116.7	22.3 71 140.9	18.3 22.9 24.2		0.44 0.34 0.34
AC19-29D	Haidee	65	-61	5.5 95.4 115.2	17.7 106.7 145.4	12.2 11.3 30.2		0.3 0.72 0.64
AC19-30D	Haidee	272	-50	114.7 144.8	128.4 160.6	13.7 15.8		0.36 0.42
AC19-31D including	Haidee West	240	-45	53.6 59.7	64.9 64.9	11.3 5.2		0.68 1.39
AC19-32D including	Haidee West	235	-64	90.2 101.2	114.6 105.1	24.4 3.9		0.98 3.35

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width (m)	Est. True Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
AC19-33D including	Haidee West	239	-46	93.3	106.4	13.1		1.58
				96.9	99.2	2.3		6.06
AC19-34D	Haidee West	197	-51	No significant results				
AC19-35D	Haidee West	233	-64	No significant results				
AC19-36D including	Haidee	60	-54	84.4	98	13.6		0.86
				93.6	98	4.4		1.7
AC19-37D <sup>5</sup> including	Haidee	64	-76	45	52	7.1		2.8
				48.1	52	4		4.43
				59.4	79.7	20.3		0.3
AC19-38D	Haidee	67	-75	16.7	27.4	10.7		0.56
				43.2	45.9	2.7		2.34
				76.7	85.7	9.1		0.28
				98	103.5	5.5		1.17
AC19-39D including	Haidee	67	-52	64.9	103.2	38.3		0.43
				96	103.2	7.2		0.95

Notes:

1. True width at Haidee is estimated to be approximately equivalent to drilled width. True width at Haidee West is estimated to be approximately half of the drilled width. Numbers may not add up due to rounding.
2. Recovery for the interval 122.8 m to 124.4 m is 40%.
3. Recovery for the interval 143.7 m to 127.4 m is 46%.
4. Recovery for the interval 13.1 m to 14.6 m is 40%
5. Recoveries for the intervals 49.6 m to 51.1 m and 78.6 m to 79.7 m is 41% and 31% respectively



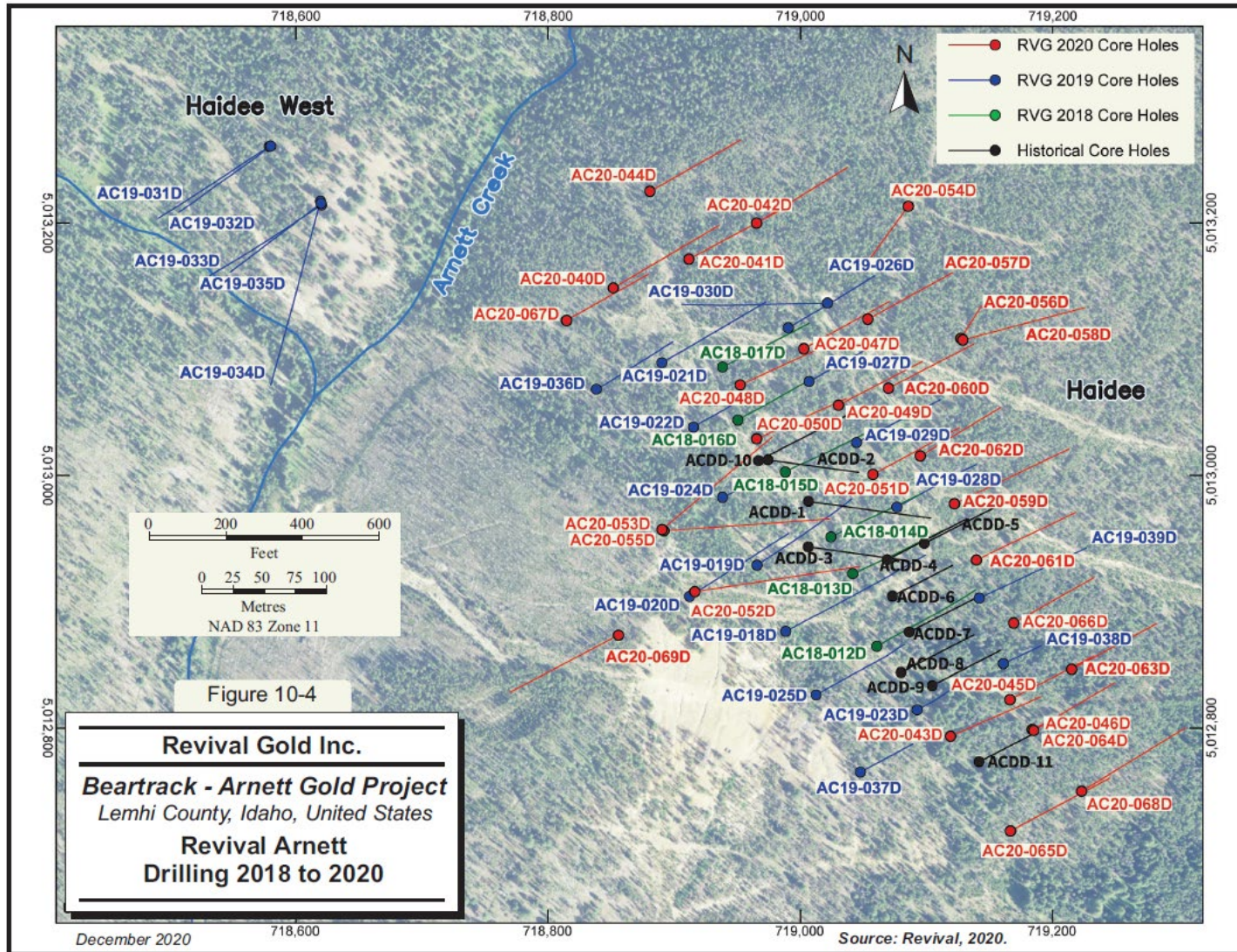


Figure 10-4: Revival Arnett Drilling 2018 to 2020

### 10.3.2 Drill Hole Surveying

The trajectory of all drill holes is determined during drilling using a Reflex multi-shot instrument and corrected for magnetic declination (13°E).

Collar locations of drill holes are spotted and surveyed using differential GPS using the Idaho State Plane Central NAD27 reference datum. The drill holes have a naming convention with the prefix AC denoting Arnett followed by two digits representing the year and the number of the drill hole. In general, most of the drilling was completed in both northwest and southeast directions with drill holes spaced approximately 15 m to 50 m (50 ft to 160 ft) apart based on directional drilling orientation.

Holes are plugged according to Idaho State regulations; however, collars are not marked in the field as all pads are reclaimed after being surveyed, according to the current Arnett Plan.

### 10.3.3 Drill Core Recovery

Overall, core recovery through the mineralized intervals averaged 92% for the two-year period, however, isolated intervals of poor, or no, core recovery occurred, primarily in fault zones. Intervals with poor core recovery are noted as footnotes in Table 10-3, which summarizes significant results from the 2018 and 2019 drilling programs. RQD, is moderate except in fault zones, where it often becomes poor.

RPA finds that the drilling, sampling and recovery factors results at Arnett are suitable to be used to complete a resource estimation.

## 10.4 2020 to 2021 Ongoing Drilling

Since August 4, 2020 Revival has completed 37 drill holes (7-Beartrack, 30-Arnett) totalling 7,103 m (23,304 ft) of a planned 10,000 m program to expand resources and support updating resource estimations. Core holes at Arnett are in the Haidee area and are intended to expand the resource, upgrade Inferred resource to Indicated resource or provide geotechnical information. At Beartrack, drilling is focused on exploration targets between the North and South pits, in the Rabbit area south of the Beartrack mine and as follow-up of several unexplained, higher-grade intersections in the Joss area.

All core drilling are completed using a split inner sleeve (or triple tube) in order to enhance core recovery. Core collected during the 2020-2021 drilling program will be HQT (also known as HQ3) unless drilling conditions require a reduction in the diameter of the drill core to NQT. The diameter of HQT core is 61.1 mm (2.406 in.) and the core diameter of NQT is 45.2 mm

(1.775 in.). The orientation of all drill core from the 2020 drilling program is for the purpose of clarifying the orientations of features such as mineralization, faults and sedimentary bedding.

In press releases dated October 15, 2020, Revival reported that seven of 30 exploration drill holes from the Haidee target area at Arnett intersected near-surface leachable mineralization along the northwestern and southeastern strike extension of the Haidee deposit. Results indicate that the structures that control mineralization are continuous along strike and have extended known mineralization beyond the current resource estimate approximately 100 meters to the northwest and 50 meters to the southeast (Revival Gold Inc., 2020a).

In a press release dated November 12, 2020 Revival reported the results from an additional five holes at Arnett. The holes were designed as infill core holes to confirm projections of resource blocks from the 2020 Mineral Resource estimate (see Technical Report on the Beartrack-Arnett Gold Project, Lemhi County, Idaho, USA dated February 21<sup>st</sup>, 2020) and to upgrade resources from the Inferred category to the Indicated category. All five holes intersected near-surface leachable mineralization and mineralized intervals generally aligns with projections of the block model from adjacent drill holes or cross-sections (Revival Gold Inc., 2020b).

Highlights reported by Revival from the Arnett 2020 drilling are shown in Table 10-4:

**Table 10-4: Results from Arnett 2020 Drilling Program<sup>11</sup> (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
AC20-040D <sup>2</sup>	Haidee	61.5	-60	84.7	94.8	10.1	0.2
				135.9	138.8	2.9	0.61
AC20-041D <sup>3</sup>	Haidee	64	-57.4	33.8	42.2	8.4	0.19
				91.3	101.2	9.9	0.3
AC20-042D Incl.	Haidee	60.6	-60.5	80.9	121.9	41	0.38
				106.5	112	5.5	1.22
				135.6	138.4	2.7	0.5
AC20-043D <sup>4</sup> Incl. Incl.	Haidee	68.6	-62	134.7	157.6	22.9	0.63
				144.4	154.1	9.7	1.56
				151.5	152.7	1.2	5.39
AC20-044D	Haidee	62.6	-59.4	10.4	24.1	13.8	0.18
				39.4	44.3	4.9	0.44
AC20-045D	Haidee	64.8	-61	51.8	53.9	2.1	0.5
AC20-046D <sup>5,6</sup>	Haidee	61.6	-60.8	30.6	38.6	8	0.3

Hole Number	Area	Azimuth (°)	Dip (°)	From (m)	To (m)	Drilled Width <sup>1</sup> (m)	Fire Assay Gold Grade (g/t)
				56.5	57.9	1.4	3.95
				111.4	112	0.6	5.17
				128.6	129.5	0.9	7.6
AC20-047D <sup>7</sup>	Haidee	63.4	-60.7	8.3	12.8	4.5	0.29
				90.5	97.2	6.7	0.39
				144.2	149.7	5.5	1.18
Incl.				148.4	149.7	1.2	2.88
AC20-048D <sup>8</sup>	Haidee	67.4	-61.7	86.6	114.9	28.3	0.93
Incl.				107.3	110.9	3.6	5.34
Incl.				107.3	108.2	0.9	14.15
				152.4	162.8	10.4	0.3
AC20-050D <sup>9</sup>	Haidee	67.9	-61.1	9.8	44.3	34.5	0.55
Incl.				9.8	10.2	0.4	12.4
				24.4	28	3.7	1.95
Incl.				26.5	28	1.4	3.48
				62.2	96.6	34.4	0.5
Incl.				65.1	65.4	0.3	11.05
				107.3	141.7	34.4	0.41
Incl.				130.5	137.2	6.7	1.12
Incl.				132.3	133.7	1.4	3.84
				152.6	160.9	8.4	0.89
AC20-051D	Haidee	63.7	-59.5	9.8	25	15.2	0.8
Incl.				17.2	23.5	6.2	1.48
				40.3	47.5	7.3	0.19
				95.9	108.4	12.6	0.36
AC20-053D <sup>10</sup>	Haidee	52.1	-44.3	32.2	34.9	2.7	0.5
				46.3	84.4	38.1	0.41
Incl.				72.2	84.4	12.2	0.86
Incl.				76.2	77.6	1.4	3.47

<sup>1</sup> True width estimated to be approximately equivalent to drilled width. Numbers may not add up due to rounding.

<sup>2</sup> Core recovery for the interval 138.4 meters to 138.8 meters was 36%.

<sup>3</sup> Core recovery for the interval 35.6 meters to 36.3 meters was 33%.

<sup>4</sup> Core recovery for the interval 149.7 meters to 150.0 meters was 40%.

<sup>5</sup> Core recovery for the upper 30 meters of hole AC20-046D was poor so this portion of the hole was not sampled. The upper 30 meters were redrilled as hole AC20-064D. Results are pending.

- <sup>6</sup> Core recovery for the interval 30.5 meters to 35.5 meters was 40%.
- <sup>7</sup> Core recovery for the intervals 92.4 meters to 93.9 meters and 148.4 meters to 149.7 meters was 48% and 30% respectively.
- <sup>8</sup> Core recovery for the interval 88.1 meters to 88.4 meters was 33%.
- <sup>9</sup> Core recovery for intervals with recovery below 50% was as follows: 8.1 meters to 8.4 meters – 50%; 8.4 meters to 9.0 meters – 25%; 10.4 meters to 10.5 meters – 40%; 78.2 meters to 79.9 meters – 13%; 79.9 meters to 80.2 meters – 50%, and; 121.0 meters to 121.3 meters – 40%. The interval from 78.2 m to 79.9 meters was included at 0 g/t Au.
- <sup>10</sup> Average core recovery for the interval was 69%. Recovery for individual intervals was as follows: 46.3 meters to 47.9 meters – 46%; 48.6 meters to 49.4 meters – 24%; 54.0 meters to 55.5 meters – 28%; 55.5 meters to 56.1 meters – 0%; 79.1 meters to 80.6 meters – 10%; 80.6 meters to 81.2 meters – 36%, and; 82.4 meters to 82.9 meters. Due to little or no recovery, the intervals from 55.5 meters to 56.1 meters and 79.2 meters to 80.6 meters were included at 0 g/t Au.
- <sup>11</sup> None of the 2020 drilling has been used in this resource estimate.

With the completion of drilling at Haidee the two rigs were moved to Beartrack. One rig will drill at the new Rabbit target area approximately 3 km south of the current resource at Beartrack and the second rig will pursue potential extensions of mineralization between the North and South Pits at Beartrack. A third drill rig was mobilized to Beartrack on September 23, 2020 and has completed an initial 470 m exploration drill hole between the North and South Pits. Partial results from this hole, BT20-226D in the November 12, 2020 press release, indicate that the hole intersected weak gold mineralization in the Panther Creek Shear Zone (PCSZ) with the best interval being 0.36 g/t gold over a drilled width of 6.1 m at approximately 370 m down hole. Complete results are pending. Four follow-up holes are planned for this area and drill pad preparation is underway. The third rig is currently drilling in the Joss area at the south end of the current Beartrack resource.

RPA has not reviewed or evaluated the 2020 Beartrack and Arnett drilling results and none of the 2020 drilling has been used in this resource estimate. Final assay results from Beartrack and Haidee are currently in progress and will be released as the results become available. It is anticipated that results of the 2020 drilling program will then be used to update the resource estimates later in 2021. Drilling is currently suspended for winter and will resume in Spring 2021.

## **11.0 Sample Preparation, Analyses and Security**

### **11.1 Revival Drill Core Handling and Logging Procedures**

Drill core was placed in core boxes at the drill site by Timberline or Titan personnel. Core was cleaned, core boxes marked with the hole number and length, and core blocks were placed in the boxes at the end of each core retrieval run. Core boxes were kept under the control and supervision of the drill crew on the drill site until they were transported to the locked and secured Beartrack core logging facility by Timberline or Titan personnel at the end of each drill shift. On occasion, core was picked up at the drill rig by Revival personnel.

At the logging facility, core was placed on the logging tables and reassembled to the extent possible, with the geology logged in detail by Revival geologists. Core recovery and RQD were measured and recorded at this time. Geologists marked intervals to be sampled and inserted standard reference materials, blanks, and duplicate samples into the sample stream. After logging and the insertion of control samples, the core was moved to the core splitting area where it was photographed prior to being split.

In 2017, core was logged on paper logging forms and the relevant data on sample intervals, assays, recovery and RQD was entered into an Excel spreadsheet for analysis. In 2018, core was logged into a logging form created in Excel for this purpose. Assay data was entered directly from spreadsheets provided by the laboratory, reducing the potential for data entry errors, and data was more easily extracted. In 2019, core was logged directly into a GeoSequel database. Assay data was imported directly into the database from spreadsheets provided by the laboratory, further reducing the potential for data entry errors. Data is also managed more easily using the GeoSequel database. All drill hole data is on file in Revival's Salmon office.

### **11.2 Sample Methods**

Core was split using a hydraulic core splitter. The decision to split, rather than saw the core, was based on the friable nature of the rock in the PCSZ. Core was split and placed in plastic sample bags along with individually numbered sample tags and sealed with a zip tie. Bags were placed on the floor in numerical order and inventoried prior to being placed in sacks and sealed for transport. Samples were stored in the secure core logging facility at the Beartrack mine site until they were transported directly to the ALS Minerals sample preparation laboratory in Elko, Nevada.

## 11.3 Sample Security

Samples were transported from the drill rig to the core storage facilities at the Beartrack mine site by the drilling contractor, where the geological staff logged and sampled the core. Samples were stored in the secure core logging facility at the Beartrack mine site until they were transported directly to the ALS Minerals sample preparation laboratory in Elko, Nevada.

The analytical laboratory stored all pulps and coarse rejects for 45 days and then transported them back to the Beartrack mine site where all samples are stored in the core storage facility for the life of the Project.

## 11.4 Bulk Density

### 11.4.1.1 Beartrack

Historical bulk density values were initially based on drill core determinations and were later modified by Meridian as mining progressed. Meridian determined that there was a basic distinction in the density of each rock type based on whether the rock was mineralized. Based on historical production data, Meridian determined that the mineralized host rocks (i.e., quartzite, quartz monzonite intrusive, and the PCSZ) ranged between 5% and 7% lighter than unmineralized material. Revival geologists believe that this is due to gold mineralization being associated with sericitic alteration.

Bulk density is used globally to convert volume to tonnage and, in some cases, to weight block grade estimates.

In 2019, Revival submitted 16 bulk density samples to verify previously reported historical density of the specific lithologies in the Beartrack area. Samples were first weighed as received and then submerged in de-ionized water and reweighed. The samples were then dried until a constant weight was obtained. The sample was then coated with an impermeable layer of wax and weighed again while submersed in de-ionized water. Weights were entered into a database and the bulk density of each sample was calculated. Specific gravity (SG) is calculated as:  $\text{weight in air} / (\text{weight in air} - \text{weight in water})$ . Under normal atmospheric conditions, SG (a unitless ratio) is equivalent to density in  $\text{t/m}^3$ .

Results ranged from  $2.28 \text{ t/m}^3$  to  $2.91 \text{ t/m}^3$  as shown in Table 11-1. For the Yellowjacket Formation, densities from the Joss and Ward's Gulch areas were found to be higher than previously reported from both the North Pit and South Pit areas. Revival geologists consider the higher values to be related to either an increase in sulphide concentration at depth and/or reduction in the amount of sericitic alteration associated with the gold mineralization, or a possible facies change in the Yellowjacket Formation. Further density analysis is required to confirm accurate density values in the North Pit and South Pit areas.

In RPA's opinion, due to the small number of recent density measurements in the North Pit and South Pit areas, historical density values in these areas should continue to be used, with more recent density measurements being applied to the Joss area. Table 11-2 summarizes the bulk density values ( $\text{t/m}^3$ ) used for Beartrack.

RPA recommends re-evaluating the historical density values currently being applied within the Yellowjacket Formation. Recent density measurements from the Joss and Ward's Gulch areas indicate higher density values within the Yellowjacket Formation than previously employed. RPA recommends obtaining more bulk density determinations from representative rock types at different depths.

#### 11.4.1.2 Arnett

Bulk density for Arnett is determined by specific gravity (SG) measurements on drill core using a similar procedure to that at Beartrack.

A total of 45 bulk density measurements have been collected on drill core samples from the main mineralized zones to represent local major lithologic units, mineralization styles, and alteration types. Samples were collected on full core which had been retained in the core box, and SG has been converted to equivalent tonnage factor where the relationship between SG and tonnage factor is represented by the following formula:

$$\text{Tonnage factor} = (\text{SG} * 62.427962)/2000$$

Density values range from  $1.87 \text{ t/m}^3$  to  $2.64 \text{ t/m}^3$  with an average density of  $2.35 \text{ t/m}^3$ . This is slightly low for granitic rocks, however, the difference may be caused by hydrothermal alteration. Table 11-3 presents an example of the density data collected at Arnett.



**Table 11-1: Beartrack Density Log Database (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

BH ID	Sample ID	From (ft)	To (ft)	Length (ft)	Depth (ft)	Litho Code	Description	kg	t/m <sup>3</sup>	ft <sup>3</sup> /ton	tons/ft <sup>3</sup>
BT17-201D	BT17-201D 426.4	426.4	426.9	0.5	426	50	Wards Gr	0.58	2.28	14.05	0.0712
BT18-215D	BT18-215D 809.7	809.7	810.2	0.5	810	50	Wards Gr	0.62	2.55	12.56	0.0796
BT12-178D	BT12-178D 1505.5	1,505.5	1,505.9	0.4	1,506	60	Wards Qtzite	0.32	2.75	11.65	0.0858
BT12-178D	BT12-178D 1602.5	1,602.5	1,602.9	0.4	1,603	60	Wards Qtzite	0.32	2.60	12.32	0.0812
BT12-186D	BT12-186D 1238.5	1,238.5	1239	0.5	1,239	60	Joss Qtzite	0.62	2.87	11.16	0.0896
BT18-211D	BT18-211D 203	203.0	203.5	0.5	203	60	Joss Qtzite	0.36	2.76	11.61	0.0862
BT18-211D	BT18-211D 775.3	775.3	775.8	0.5	775	60	Joss Qtzite	0.40	2.72	11.78	0.0849
BT18-213D	BT18-213D 1567.2	1,567.2	1,567.6	0.4	1,567	60	Joss Qtzite	0.60	2.80	11.44	0.0874
BT18-218D	BT18-218D 935	935.0	935.5	0.5	935	60	Joss Gr	0.42	2.86	11.20	0.0893
BT18-220D	BT18-220D 1528.5	1,528.5	1,529	0.5	1,529	60	Joss	0.36	2.62	12.23	0.0818
BT18-220D	BT18-220D 1606	1,606.0	1,606.4	0.4	1,606	60	Joss	0.38	2.82	11.36	0.0880
BT18-221D	BT18-221D 1246	1,246.0	1,246.5	0.5	1,245	60	Joss Gr	0.76	2.63	12.18	0.0821
BT19-223D	BT19-223D 1121.5	1,121.5	1,122	0.5	1,122	60	Joss Gr	0.70	2.91	11.01	0.0908
BT19-224D	BT19-224D 1052	1,052.0	1,052.5	0.5	1,052	60	Joss Qtzite	0.54	2.67	12.00	0.0833
BT19-225D	BT19-225D 1030	1,030.0	1,030.5	0.5	1,030	60	Joss Gr	0.48	2.63	12.18	0.0821
BT18-218D	BT18-218D 746	746.0	746.5	0.5	746		Joss Gr	0.76	2.66	12.04	0.0830

Note.

1. Gr – granite
2. Qtzite - quartzite

**Table 11-2: Beartrack Density by Lithology (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Lithology	Litho Block Code	Block Grade (g/t) with Corresponding Density Value (t/m <sup>3</sup> )	
		<0.17	≥0.17
Glacial Till/Overburden	10	2.00	2.00
PCSZ	30	2.63	2.46
Dikes	40	2.45	2.34
Quartz Monzonite	50	2.45	2.34
Yellowjacket Formation	60	2.63	2.46
Backfill	70	2.00	2.00
Waste/Defaults	-99	2.46	2.46
Joss Yellowjacket Formation	60	2.75	2.75

**Table 11-3: Arnett Density Log Database (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

BH ID	Sample ID	From (ft)	To (ft)	Length (ft)	Depth (ft)	Litho Code	Description	kg	t/m <sup>3</sup>	ft <sup>3</sup> /ton	tons/ft <sup>3</sup>
AC19-018D	AC19-018D 396.7-397.1	396.7	397.1	0.4	397	50	Haidee Gr	0.42	2.47	12.97	0.0771
AC19-018D	AC19-018D 526.0-526.6	526.0	526.6	0.6	526	50	Haidee Gr	0.58	2.31	13.87	0.0721
AC19-019D	AC19-019D 337.5-338.0	337.5	338.0	0.5	338	50	Haidee Gr	0.40	2.23	14.37	0.0696
AC19-019D	AC19-019D 561.9-562.3	561.9	562.3	0.4	562	50	Haidee Gr	0.56	2.46	13.02	0.0768
AC19-020D	AC19-020D 195.7-196.2	195.7	196.2	0.5	196	50	Haidee Gr	0.54	2.64	12.14	0.0824
AC19-020D	AC19-020D 424.0-424.5	424.0	424.5	0.5	424	50	Haidee Gr	0.58	2.32	13.81	0.0724
AC19-021D	AC19-021D 162.5-162.9	162.5	162.9	0.4	163	50	Haidee Gr	0.50	2.30	13.93	0.0718
AC19-021D	AC19-021D 365.2-365.9	365.2	365.9	0.7	366	50	Haidee Gr	0.74	2.38	13.46	0.0743
AC19-022D	AC19-022D 110.4-110.9	110.4	110.9	0.5	111	50	Haidee Gr	0.52	2.38	13.46	0.0743
AC19-022D	AC19-022D 415.7-416.0	415.7	416.0	0.3	416	50	Haidee Gr	0.38	2.17	14.76	0.0677
AC19-023D	AC19-023D 245.8-246.3	245.8	246.3	0.5	246	50	Haidee Gr	0.46	2.09	15.33	0.0652
AC19-023D	AC19-023D 343.2-343.6	343.2	343.6	0.4	343	50	Haidee Gr	0.38	1.87	17.13	0.0584
AC19-024D	AC19-024D 152.4-152.8	152.4	152.8	0.4	153	50	Haidee Gr	0.48	2.38	13.46	0.0743
AC19-024D	AC19-024D 335.3-335.8	335.3	335.8	0.5	336	50	Haidee Gr	0.60	2.44	13.13	0.0762
AC19-025D	AC19-025D 182.4-183.0	182.4	183.0	0.6	183	50	Haidee Gr	0.76	2.43	13.18	0.0758
AC19-025D	AC19-025D 435.4-435.7	435.4	435.7	0.3	436	50	Haidee Gr	0.52	2.40	13.35	0.0749
AC19-026D	AC19-026D 186.9-187.3	186.9	187.3	0.4	187	50	Haidee Gr	0.52	2.39	13.40	0.0746
AC19-026D	AC19-026D 487.3-487.8	487.3	487.8	0.5	488	50	Haidee Gr	0.50	2.38	13.46	0.0743
AC19-027D	AC19-027D 137.5-138.0	137.5	138.0	0.5	138	50	Haidee Gr	0.60	2.44	13.13	0.0762
AC19-027D	AC19-027D 436.1-436.5	436.1	436.5	0.4	436	50	Haidee Gr	0.52	2.42	13.24	0.0755
AC19-028D	AC19-028D 67.5-68.0	67.5	68.0	0.5	67.8	50	Haidee Gr	0.52	2.40	13.35	0.0749

BH ID	Sample ID	From (ft)	To (ft)	Length (ft)	Depth (ft)	Litho Code	Description	kg	t/m <sup>3</sup>	ft <sup>3</sup> /ton	tons/ft <sup>3</sup>
AC19-028D	AC19-028D 446.2-446.6	446.2	446.6	0.4	446	50	Haidee Gr	0.42	2.37	13.52	0.0740
AC19-029D	AC19-029D 52.5-53.0	52.5	53.0	0.5	52.8	50	Haidee Gr	0.52	2.25	14.24	0.0702
AC19-029D	AC19-029D 356.4-357.0	356.4	357.0	0.6	357	50	Haidee Gr	0.60	2.17	14.76	0.0677
AC19-030D	AC19-030D 120.5-121.0	120.5	121.0	0.5	121	50	Haidee Gr	0.56	2.38	13.46	0.0743
AC19-030D	AC19-030D 366.0-366.5	366.0	366.5	0.5	366	50	Haidee Gr	0.50	2.32	13.81	0.0724
AC19-031D	AC19-031D 202.7-203.1	202.7	203.1	0.4	203	50	Haidee West Gr	0.50	2.36	13.57	0.0737
AC19-031D	AC19-031D 448.4-448.8	448.4	448.8	0.4	449	50	Haidee West Gr	0.42	2.38	13.46	0.0743
AC19-032D	AC19-032D 143.0-143.5	143.0	143.5	0.5	143	50	Haidee West Gr	0.42	2.35	13.63	0.0734
AC19-032D	AC19-032D 451.0-451.6	451.0	451.6	0.6	451	50	Haidee West Gr	0.62	2.27	14.11	0.0709
AC19-033D	AC19-033D 139.0-139.5	139.0	139.5	0.5	139	50	Haidee West Gr	0.60	2.35	13.63	0.0734
AC19-033D	AC19-033D 434.0-434.5	434.0	434.5	0.5	434	50	Haidee West Gr	0.62	2.36	13.57	0.0737
AC19-034D	AC19-034D 84.2-84.7	84.2	84.7	0.5	84.5	50	Haidee West Gr	0.54	2.49	12.87	0.0777
AC19-034D	AC19-034D 685.1-685.5	685.1	685.5	0.4	685	50	Haidee West Gr	0.52	2.39	13.40	0.0746
AC19-035D	AC19-035D 158.0-158.5	158.0	158.5	0.5	158	50	Haidee West Gr	0.50	2.47	12.97	0.0771
AC19-035D	AC19-035D 595.4-595.8	595.4	595.8	0.4	596	50	Haidee West Gr	0.42	2.34	13.69	0.0730
AC19-036D	AC19-036D 167.3-167.8	167.3	167.8	0.5	168	50	Haidee Gr	0.64	2.46	13.02	0.0768
AC19-036D	AC19-036D 511.1-511.5	511.1	511.5	0.4	511	50	Haidee Gr	0.46	2.34	13.69	0.0730
AC19-037D	AC19-037D 130.5-130.9	130.5	130.9	0.4	131	50	Haidee Gr	0.48	2.36	13.57	0.0737
AC19-037D	AC19-037D 491.0-491.3	491.0	491.3	0.3	491	50	Haidee Gr	0.40	2.22	14.43	0.0693
AC19-038D	AC19-038D 197.8-198.3	197.8	198.3	0.5	198	50	Haidee Gr	0.46	2.31	13.87	0.0721
AC19-038D	AC19-038D 251.6-252.0	251.6	252.0	0.4	252	50	Haidee Gr	0.44	2.32	13.81	0.0724
<b>Average</b>									<b>2.35</b>	<b>13.63</b>	<b>0.0734</b>

## 11.5 Analytical and Test Laboratories

Revival used ALS Minerals for a primary analytical laboratory during the 2017, 2018, and 2019 drilling campaigns. ALS Minerals is an internationally known, independent, accredited testing laboratory and conforms to the requirements of ISO/IEC 17025:2005 and the conditions for accreditation established by Standards Council of Canada. ALS Minerals is independent of Revival and RPA.

## 11.6 Sample Preparation and Analyses

### 11.6.1 Sample Preparation

Sampling was conducted by Revival geologists and technicians as described above. After pulps were prepared by ALS Minerals in Elko, Nevada, they were sent by the laboratory personnel to ALS Minerals in Reno, Nevada for gold fire assay or cyanide leach analysis and ALS Minerals in Vancouver, British Columbia for multi-element geochemistry.

Sample preparation procedures for fire assay and cyanide leach samples are as follows:

- Samples logged in the tracking system (LOG-22) and weighed (WEI- 21).
- Entire sample crushed to >70% - 6 mm (CRU-21).
- Fine crushing to -70% < 2 mm (CRU-31).
- Sample split with riffle splitter (SPL-21).
- Split pulverized to 85% < 75 µm (PUL-31).

Sample preparation procedures for fire assay and multi-element geochemistry are as follows:

- Samples logged in the tracking system (LOG-22) and weighed (WEI-21).
- Entire sample crushed to >70% - 19mm (CRU-22c).
- Fine crushing to -70% < 2 mm (CRU-31).
- Sample split with riffle splitter (SPL-21).
- Split pulverized to 85% < 75 µm (PUL-31).

### 11.6.2 Geochemical Analyses and Assay

All samples were analyzed by fire assay (gold) or cyanide leach by ALS Minerals in Reno, Nevada or Tucson, Arizona. Multi-element geochemistry analyses were conducted by ALS Minerals in Vancouver, British Columbia.

Analytical methods used for fire assay and cyanide leach are as follows:

- Au by cyanide leach and atomic absorption spectroscopy (AAS) (Au-AA13).

- Ore grade Au 30 g fire assay with AA finish (Au-AA25)

Analytical methods used for fire assay and multi-element geochemistry are as follows:

- Ore grade Au 30 g fire assay with AA finish (Au-AA25)
- Ore grade Ag – four-acid (Ag-OG62)
- 48 element four acid inductively coupled plasma mass spectrometry (ICP-MS) (ME-MS61)
- Ore grade elements - four acid (ME-OG62)

## 11.7 Quality Assurance and Quality Control

Quality assurance (QA) is necessary to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical methods used. Quality control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the samples. In general, QA/QC programs are designed to prevent or detect contamination and allow analytical precision and accuracy to be quantified. In addition, a QA/QC program can disclose the overall sampling and assaying variability of the sampling method itself.

The assay performance of the primary laboratories used by Revival was assessed by a review of results from the insertion of certified reference material (CRM) standards. The CRM is a sample of known value that is used to assess laboratory performance. A second type of CRM is employed to help identify any contamination issues that may occur at the preparation stage of the assay procedure. This barren CRM, or blank, is devoid of significant mineralization and is likewise inserted into the sample stream at a prescribed rate.

Assay precision is assessed by reprocessing duplicate samples from designated stages of the analytical process from the primary stage of sample splitting, through sample preparation stages of crushing/splitting, pulverizing/splitting, and assaying. Assay precision is also assessed using the CRM assay data by computing the mean and standard deviation (SD) of the assay dataset and comparing each individual assay against thresholds derived from these calculations.

Revival employed a standard quality QA/QC program during its 2017-2019 drilling programs which consisted of regularly inserting control samples into the sample stream. QA/QC samples employed in the Revival program consisted of CRMs, blanks, and duplicate samples

## 11.7.1 Insertion Rate

### 11.7.1.1 Beartrack

In 2017, a total of 159 QA/QC samples, or approximately 12% of the total of 1,292 regular samples submitted, were analyzed. QA/QC samples employed in the Revival program consisted of standards, core blanks, and duplicate samples. Revival also submitted 98 sample pulps to a second accredited laboratory for analysis. Table 11-4 summarizes the type and number of control samples used for Revival's 2017 drilling program.

**Table 11-4: 2017 Revival QA/QC Samples Insertion Rate -Beartrack (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Sample Type	Number	Insertion Rate
Regular Samples	1,292	n/a
Blanks	60	1 per 22
Standards	53	1 per 24
Duplicates	46	1 per 28
Check Assays	97	1 per 13

In 2018, a total of 541 QA/QC samples, or nearly 14% of the total of 4,461 samples submitted, were analyzed. Revival also submitted 329 sample pulps from the 2018 drilling program to a second accredited laboratory for analysis. Table 11-5 summarizes the types and numbers of control samples used for Revival's 2018 drilling program.

**Table 11-5: 2018 Revival QA/QC Samples Insertion Rate -Beartrack (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Sample Type	Number	Insertion Rate
Regular Samples	3,920	n/a
Blanks	221	1 per 18
Standards	216	1 per 18
Duplicates	104	1 per 38
Check Assays	329	1 per 12

In 2019, a total of 41 QA/QC samples, or nearly 13% of the total of 326 samples submitted, were analyzed. Check assays for 2019 drill programs were in progress but have not been

provided to RPA by the effective date of this report for review. Table 11-6 summarizes the type and number of control samples used for Revival's 2018 drilling program.

**Table 11-6: 2019 Revival QA/QC Samples Insertion Rate -Beartrack (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Sample Type	Number	Insertion Rate
Regular Samples	285	n/a
Blanks	14	1 per 15
Standards	19	1 per 20
Duplicates	8	1 per 36
Check Assays	n/a	n/a

### 11.7.1.2 Arnett

In 2018, a total of 93 QA/QC samples, or nearly 14% of the total of 770 samples submitted, were analyzed. QA/QC samples employed in the Revival program consisted of standards, blanks, and duplicate samples. Revival also submitted 73 sample pulps to a second accredited laboratory for analysis. Table 11-7 summarizes the type and number of control samples used for Revival's 2018 drilling program.

**Table 11-7: 2018 Revival QA/QC Samples Insertion Rate -Arnett (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Sample Type	Number	Insertion Rate
Regular Samples	677	n/a
Blanks	41	1 per 19
Standards	36	1 per 17
Duplicates	16	1 per 42
Check Assays	73	1 per 9

In 2019, a total of 370 QA/QC samples, or nearly 13% of the total of 2,959 samples submitted, were analyzed. QA/QC samples employed in the Revival program consisted of standards, core blanks, and duplicate samples. Check assays for 2019 drill programs were in progress but have not been provided to RPA by the effective date of this report for review. Table 11-8 summarizes the type and number of control samples used for Revival's 2018 drilling program.



**Table 11-8: 2019 Revival QA/QC Samples Insertion Rate – Arnett (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Sample Type	Number	Insertion Rate
Regular Samples	2,589	n/a
Blanks	136	1 per 15
Standards	172	1 per 19
Duplicates	62	1 per 42
Check Assays	n/a	n/a

### 11.7.2 Certified Standard Reference Material (CRM)

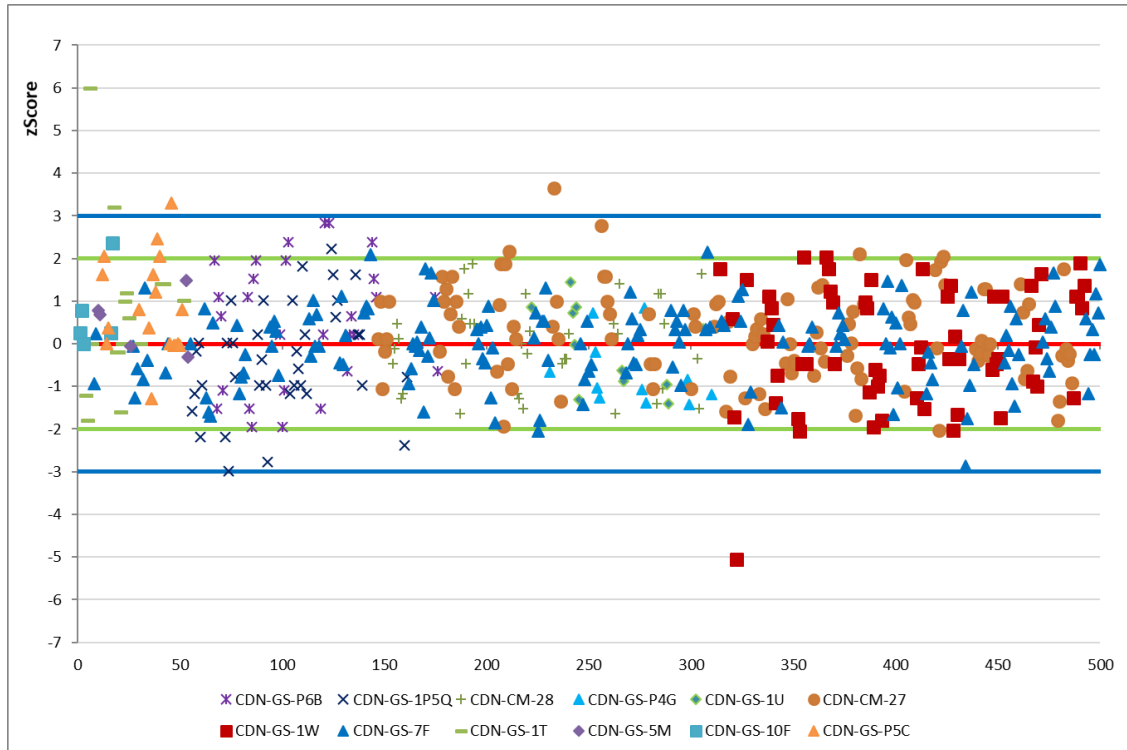
Revival purchased standards from well-known Canadian distributors CDN Resources Labs (CDN) in Vancouver, British Columbia and Analytical Solutions Ltd (ASL) in Toronto, Ontario. CDN prepares its own standards in-house while ASL acts as the North American vendor for standards prepared by Ore Research & Exploration Pty Ltd (OREAS) located in Melbourne, Australia. All standards came in 100 g sealed envelopes. Standards prepared by both laboratories are widely employed in the industry.

Standards were chosen with gold grades near the projected resource cut-off grade, the projected resource average grade, and the projected resource high-grade and are summarized in Table 11-9. About half of the standards used for the 2017 drilling campaign had expected gold grades near the possible resource cut-off grade and the other half represent high-grade standards. In 2018, standards CDN-GS-P6F and CDN-GS-1P5Q yielded unreliable results and were replaced about halfway through the 2018 drilling program with standards CDN-CM-27 and CDN-GS-28. Standards were considered to have failed if two consecutive samples exceeded the mean plus two SDs or one sample exceeded the mean plus three SDs.

When standards fall out of tolerance, the laboratory is contacted and asked to rerun five samples above and below the failed standard (or blank). If the rerun standard falls within tolerance and the other rerun samples do not show significant variation, the standard is considered to have passed and the original values are retained in the database. If the rerun standard does not pass, while the other rerun samples do not show significant variation, the original values are retained in the database. If the rerun standard does not fall within tolerance and the other rerun samples show significant variation, then the batch is rerun. This later case did not occur in either 2018 or 2019. Figure 11-1 shows the Zscore performance of the CRMs used by Revival for the 2017, 2018 and 2019 drilling programs.

**Table 11-9: Revival Certified Reference Material – Arnett (Revival Gold Inc. – Beartrack -Arnett Gold Project)**

Year	Lab	Standard Name	Element	Units	Detection Limit	CDN Best Value/ Average	CDN Std Dev	Mean+ 2SD	Mean- 2SD	Mean+ 3SD	Mean- 3SD	Relative Std Dev
2017	CDN	OREAS 250	Au	g/t	0.500	0.309	0.013	0.335	0.283	0.348	0.270	4.207
2018	CDN	CDN-GS-P4G	Au	g/t	0.010	0.468	0.026	0.520	0.416	0.546	0.390	5.556
2017	CDN	CDN-GS-P5C	Au	g/t	0.500	0.571	0.024	0.619	0.523	0.643	0.499	4.203
2018	CDN	CDN-GS-P6F	Au	g/t	0.010	0.625	0.023	0.671	0.579	0.694	0.556	3.680
2018	CDN	CDN-GS-P6B	Au	g/t	0.010	0.625	0.023	0.671	0.579	0.694	0.556	3.680
2018, 2019	CDN	CDN-CM-27	Au	g/t	0.010	0.636	0.034	0.704	0.568	0.738	0.534	5.346
2018	CDN	CDN-GS-1U	Au	g/t	0.010	0.968	0.043	1.054	0.882	1.097	0.839	4.442
2018, 2019	CDN	CDN-GS-1W	Au	g/t	0.010	1.063	0.038	1.139	0.987	1.177	0.949	3.575
2017	CDN	CDN-GS-1T	Au	g/t	0.500	1.080	0.050	1.180	0.980	1.230	0.930	4.630
2018	CDN	CDN-GS-1P5Q	Au	g/t	0.010	1.329	0.050	1.429	1.229	1.479	1.179	3.762
2018	CDN	CDN-CM-28	Au	g/t	0.010	1.380	0.085	1.550	1.210	1.635	1.125	6.159
2017	CDN	CDN-GS-5M	Au	g/t	0.050	3.910	0.015	3.940	3.880	3.955	3.865	0.384
2017, 2018, 2019	CDN	CDN-GS-7F	Au	g/t	0.010	6.900	0.205	7.310	6.490	7.515	6.285	2.971
2017	CDN	CDN-GS-10F	Au	g/t	0.500	10.300	0.190	10.680	9.920	10.870	9.730	1.845



**Figure 11-1: Arnett CRM ZScores Over Time for the 2017 to 2019 Period**

The assay results were plotted for the 500 submissions for gold on histogram plots and inspected to evaluate the ALS Minerals precision performance. The best recommended value (RBV) and SD for each CRM were provided by ALS Minerals. An individual test result was considered as out-of-specification (OOS) if it exceeded three times the SD ( $\pm 3SD$ ) of the RBV. Two consecutive results greater than twice the SD ( $\pm 2SD$ ) were also considered as failures. It was noted that some of the standard shipments did not have sufficient mass for analysis. These were classified as NSS (not enough sample) and were not taken into account in this analysis. The remaining results plotted within an acceptable range of accuracy.

The mean and SD values were calculated for each CRM from the collective assay results. The individual samples were then compared to these mean and SD values for each CRM. Any individual assay outside of 2SD from the mean of the collective assays was considered to be OOS. The results showed 30 accuracy faults of  $\pm 2SD$  and 22 faults of  $\pm 3SD$  for gold. Of the total 52 accuracy faults, only two failed upon reassaying. Such precision failures do not adversely affect overall confidence in the assays but may indicate potential variability inherent in assay procedures or lack of homogeneity in CRM.

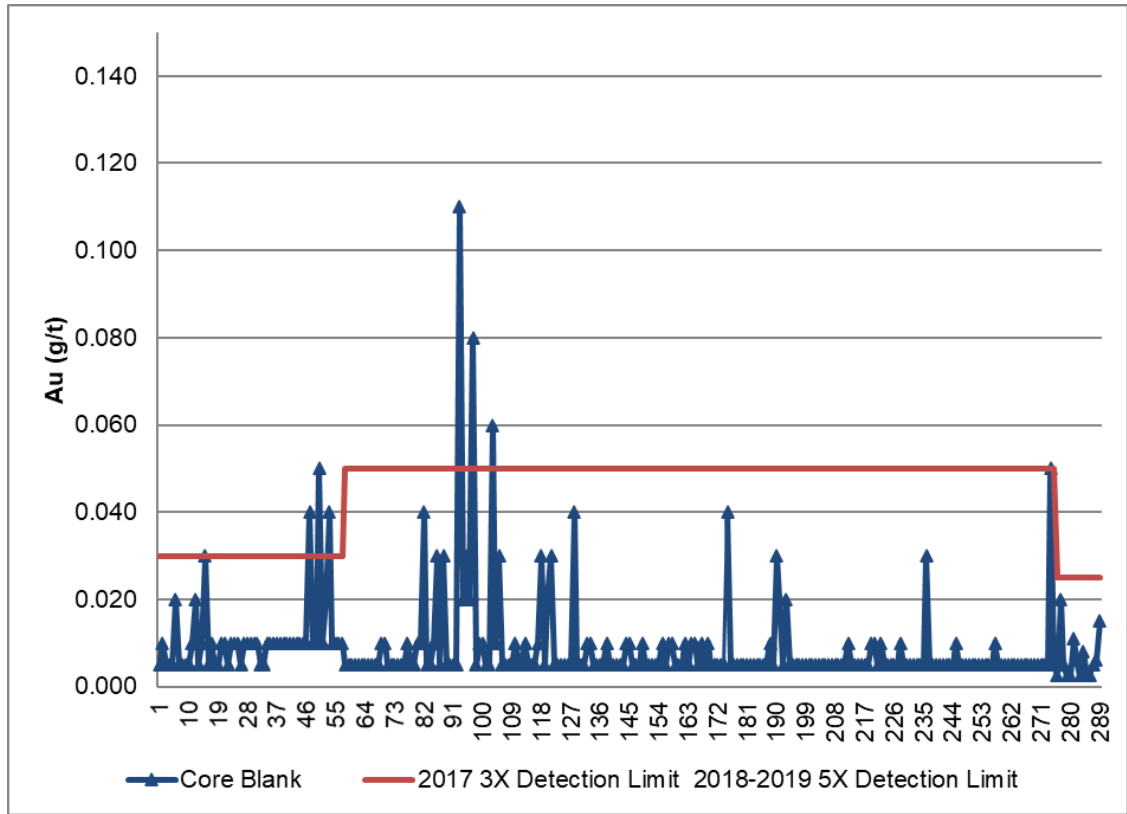
RPA considers that there is a good correlation between the CRMs used and the average economic metal concentration in the drill samples. RPA is of the opinion that the results of the

CRM samples from 2017 to 2019 support the use of samples assayed at the ASL laboratory during this period in Mineral Resource estimation.

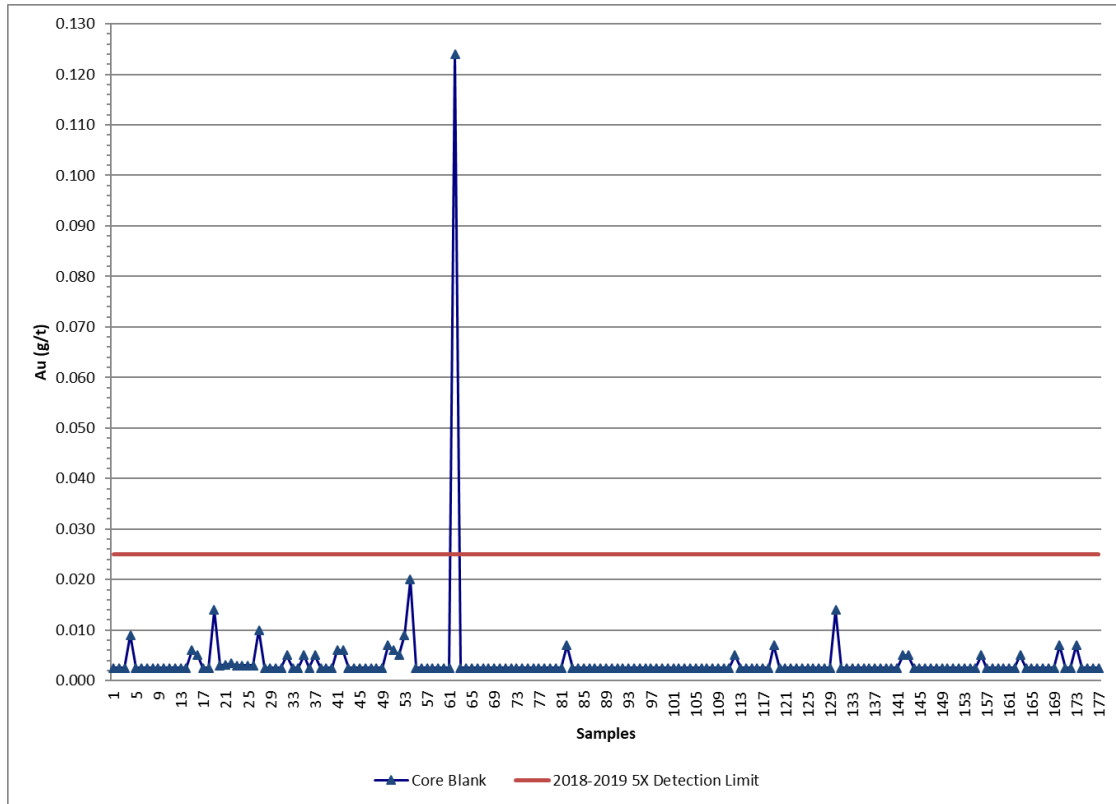
### 11.7.3 Blanks

In addition to standards of known value, blanks were inserted into the sample stream. From 2017 through early 2019, blanks were taken from barren core in the upper portion of holes that were abandoned due to hole deviation early in the 2017 drilling program. In mid-2019, blank material was obtained from crushed river rock obtained locally in Salmon. Several failure results may indicate a potential cross-contamination issue between samples during the preparation phase of the assay procedure. Blanks were considered to have failed if they exceeded five times the detection limit (DL) of 0.005 ppm Au, and if greater than 5% of the samples exceeded 5DL, the laboratory was notified. The procedures state that a process investigation, reassaying, and assay validation may be required to determine the cause of the failures.

Examples of a plot used to evaluate assay performance through the insertion of blank material is illustrated in Figure 11-2 and Figure 11-3. As seen in Figure 11-2, for 2017 Revival used a failure rate of 3DL which produced more than desired failures of the blanks. In 2018, Revival used 5DL for the same material and same analytical methods for analysis. Starting in 2019, Revival changed analytical techniques from AA25 to AA23 to obtain better reproducibility in blank analysis, which changed the DL to 0.005 g/t Au and used 5DL for the failure threshold.



**Figure 11-2: Beartrack Gold Blank Control Chart for the 2018 to 2019 Period**



**Figure 11-3: Arnett Gold Blank Control Chart for the 2018 to 2019 Period**

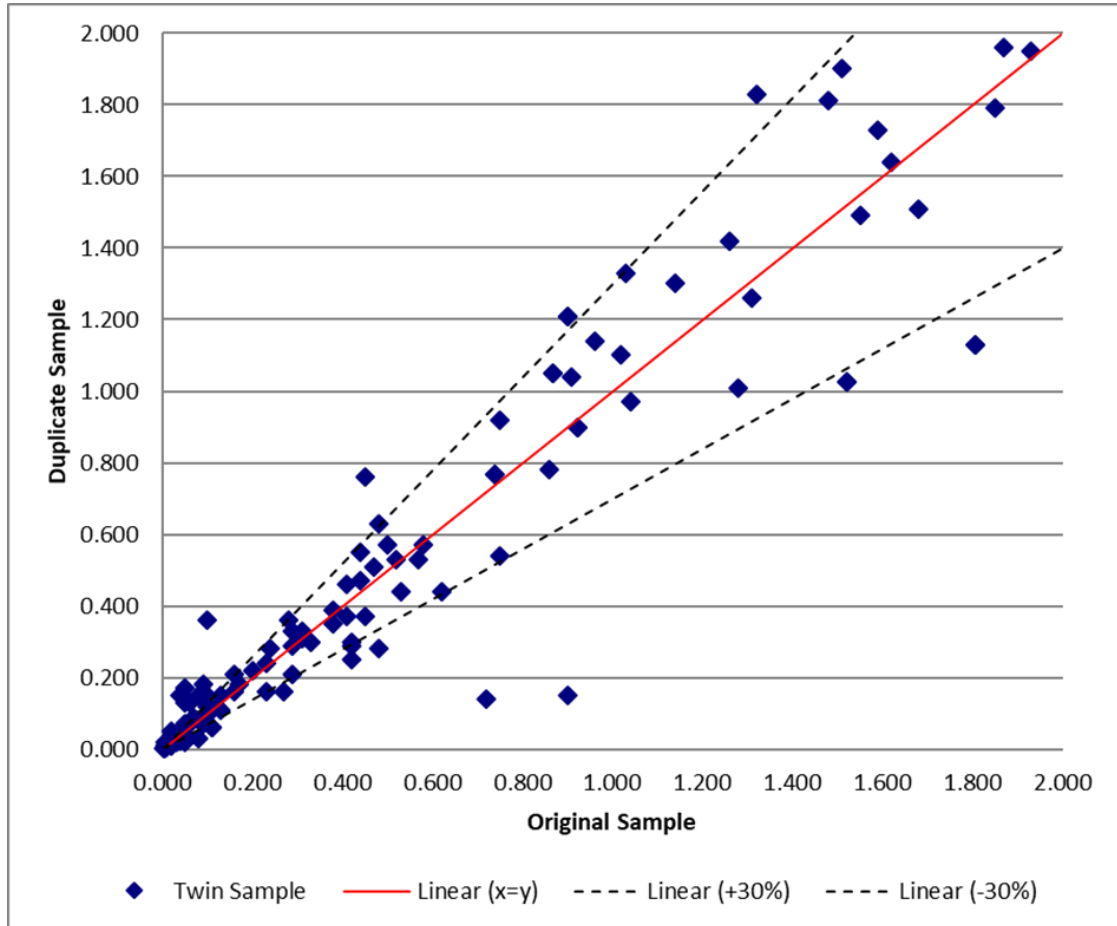
The plotted analyses indicate that of a total of 466 gold results returned by ALS Minerals for both Beartrack and Arnett, seven results (1.7%) were OOS. In RPA’s opinion, the small number of failures shows acceptable levels of cross-contamination between samples.

### 11.7.4 Duplicate Samples

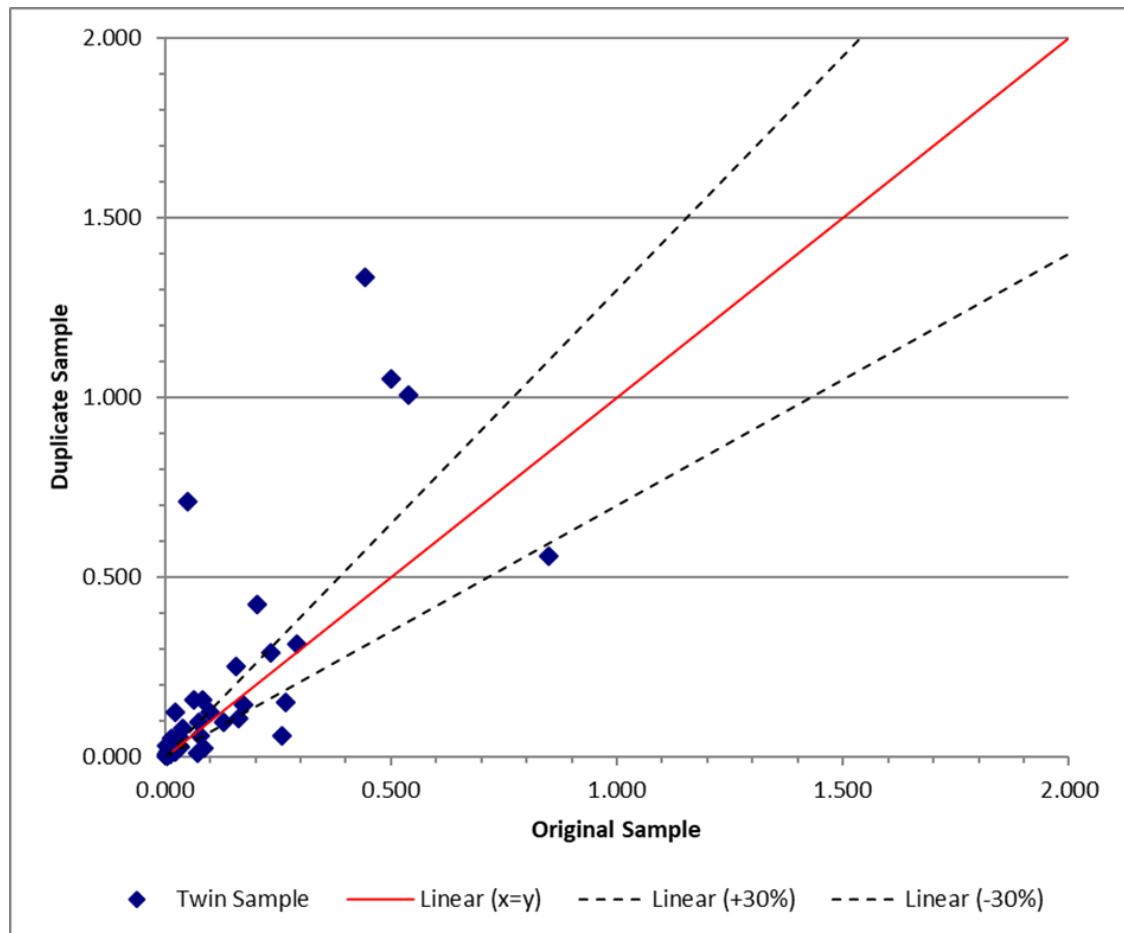
Routine analyses were performed on field duplicates, i.e., a second longitudinal split of the sample half-core to yield two quarter-core samples. The purpose of this is to measure the precision of the entire sampling and analysis procedure as well as providing a measure of the inherent variability and heterogeneity of the mineralized bodies (nugget effect). Duplicates were the last samples submitted in each batch of samples from a given drill hole in order to make it less obvious to the laboratory which sample was being duplicated.

The original and field duplicate gold results were plotted on scatter diagrams and inspected for evidence of bias. The original and duplicate results showed good agreement and plotted within an acceptable range with a slight bias toward a higher-grade in the duplicate assay. In RPA’s opinion, there is no significant grade bias in the duplicate gold results.

Examples of a scatterplot used in the analysis are shown in Figure 11-4 for Beartrack and Figure 11-5 for Arnett.



**Figure 11-4: Beartrack Gold Duplicate Control Chart for the 2018 to 2019 Period**



**Figure 11-5: Arnett Gold Duplicate Control Chart for the 2018 to 2019 Period**

### 11.7.5 Secondary Laboratory Pulp Check Assays

As part of the QA/QC program, sample pulps were submitted to a second laboratory, Skyline Assayers & Laboratories (Skyline) in Tucson, Arizona. Skyline is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. Sample preparation and analytical methods for fire assay and multi-element geochemistry are as follows:

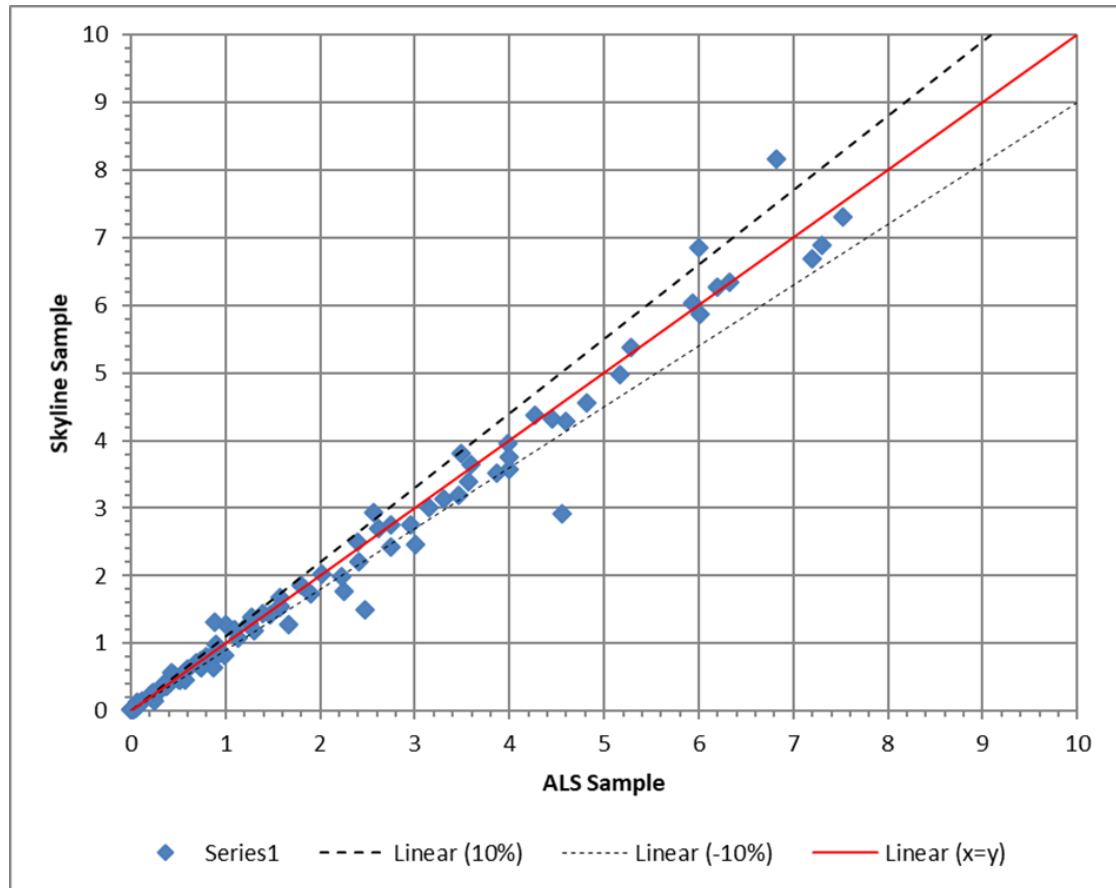
- Blending of pulp (SP-16)
- Fire assay with AA finish (FA-01)
- Au fire assay with gravimetric finish for over-limit results (FA-02)

For Beartrack, approximately 97 sample pulps from the 2017 drilling program and 329 sample pulps from the 2018 drilling program were submitted to Skyline for check assay purposes. Samples from the 2019 drilling program will be submitted for check assays in early 2020.



Figure 11-6 is a scatterplot that compares the original ALS Minerals assay (X-axis) with the Skyline assay (Y-axis) and shows that there is a reasonable comparison between the two laboratories.

For Arnett, a total of 73 ALS Minerals pulps from 2018 were sent to American Assay Laboratories (AAL) in Reno, Nevada for check assay purposes. Due to inadequate homogenization of sample pulps, the data from AAL was discarded as not representative and pulps were resubmitted to Skyline for check assay purposes.



**Figure 11-6: Check Laboratory Assay Plot – Beartrack**

### 11.7.6 Historical Sample Analysis and QA/QC

Historical information from Meridian on sampling and QA/QC for Beartrack was reviewed and summarized in Lechner and Karklin (2018). Information from that report is summarized below for completeness.

### 11.7.6.1 2000 Meridian Sampling

Little information was recovered from the acquired Meridian drill hole database regarding detailed sampling protocols that were used for the 1990 to 2000 drill campaigns. Most of the original assay certificates for that drilling data (1990 to 2000) were recovered. Those records were found in the original drill hole folders that contain the geologic logs, assay certificates, and where applicable, downhole survey results. Meridian used several commercial assay laboratories with the majority of samples assayed by Chemex Labs (later known as ALS Chemex and ALS Minerals).

The commercial laboratory certificates contain QA/QC results for standards and blanks that the laboratories routinely inserted for their internal purposes. It is not known if Meridian routinely submitted standards, blanks, or duplicates with its regular sample shipments. It appears that Meridian did submit some field duplicates and did send some pulps from its primary laboratory to various secondary laboratories for check assay purposes.

In the absence of available QA/QC results associated with the 1990-2000 Meridian drill hole data, Lechner and Karklin (2018) made various comparisons of that data with 2012-2013 Meridian and 2017 Revival drill hole data, all of which was backed by QA/QC results. Based on these comparisons, Lechner and Karklin (2018) concluded that sample preparation, security, and analytical procedures for the 1990-2000 Meridian drill hole data were adequate. This opinion was based on the similarity in gold grade distributions between the 1990-2000 Meridian data and spatially paired more recent drilling data, as well as excellent LOM production reconciliation that Meridian experienced while the Beartrack mine was in operation.

### 11.7.6.2 2012 to 2013 Meridian Sampling

Meridian submitted samples from its 2012 and 2013 drilling programs to ALS Minerals in Elko, Nevada for preparation and ALS Minerals in North Vancouver, British Columbia for analysis.

At ALS Minerals, Elko, Nevada, the samples were subjected to standard sample preparation (PREP-31), which includes the following methods.

- Samples were logged in the tracking system (LOG-22) and weighed (WEI- 21).
- After weighing, the entire portion of each rock sample was subjected to preliminary coarse crushing (CRU-21) followed by fine crushing to better than 70% passing a 2 mm (Tyler 9 mesh) screen (CRU-31).
- A split of up to 1,000 g was taken using a riffle splitter (SPL-21) and then pulverized in a grinding mill with a low-chrome steel bowl to better than 85% passing a 75 µm (Tyler 200 mesh) screen (PUL-31). Compressed air was used to clean the equipment between samples. Barren material was crushed between sample batches to clean the equipment.

ALS Minerals, Elko, Nevada then forwarded the sample pulps to the North Vancouver ALS Minerals laboratory for analysis. Pulps were analyzed for gold by conventional fire assay and AA analysis using a 30 g charge (Au-AA25), followed by four-acid digestion and inductively coupled plasma atomic emission spectroscopy (ICP-AES) (ME-ICP61) analysis for 33 elements.

Results of the QA/QC program have been well documented by Revival. The QA/QC program used meets industry standard with a generally acceptable rate of insertion for blank samples, CRMs, and pulp duplicates.

The results of the pulp duplicate assays showed reasonable reproducibility with no significant grade biases. The insertion of CRMs showed that laboratory results from ALS Chemex were acceptable with respect to precision and accuracy. The results from the insertion of blanks and sterile samples are also generally acceptable

RPA has reviewed the documentation provided by Revival in addition to the audit of the QA/QC data. In RPA's opinion, the QA/QC program as designed and implemented at Beartrack and Arnett is adequate and the assay results within the database are suitable for use in a Mineral Resource estimate.

RPA recommends including LECO analyses as part of the assaying suite to fully understand the Sulphide Sulphur content of mill material at Beartrack in future analysis.

## 12.0 Data Verification

RPA carried out a program of validating the assay tables in the drill hole databases by means of spot checking a selection of drill holes completed that intersected the mineralized wireframe domains and were relevant to the current Mineral Resource estimate. DD core was examined by visually comparing geological entries in the drill logs and assays to the core. Assay tables of the digital database were checked against the assays presented in the original laboratory certificates for analyses completed from 1990 to 2019 for Beartrack and from 2017 to 2019 for Arnett. Additional checks included a comparison of the drill hole collar locations with the digital models of the topographic surfaces and excavation models as well as a visual inspection of the downhole survey information. The standard Vulcan validation checking routines for overlapping samples and duplicate records were also carried out.

RPA is of the opinion that data collection and entry, and database verification procedures for Beartrack-Arnett comply with industry standards and the data is adequate for the purposes of Mineral Resource estimation.

RPA recommends that drilling depths employ metric rather than imperial units as all other relevant information such as assays and specific gravity (density) are reported in metric units. The cost for this recommendation is incremental and should not be significant.

RPA further recommends updating/converting drilling and geologic records at Beartrack from Local Mine coordinates to Idaho State Plane coordinates currently employed at Arnett. RPA further recommends that both areas as well as property boundaries be converted into WGS 84 UTM coordinate system. This would allow for integrating both individual databases into one synchronized database and more easily managed system.

## 12.1 Wood Data Verification

### 12.1.1 Metallurgical

The metallurgical interpretation relies mostly on historical test work on material from Beartrack and Arnett. The procedures detailed in these reports comply with industry standards for such investigations.

### 12.1.2 Geotechnical

Wood completed a visual inspection of the existing highwalls at the Beartrack north and south pits. The highwalls appeared to be performing well; consequently, the design wall angles for the pits were adopted for the PEA.

For Arnett, Wood:

- Reviewed existing RQD core logging data
- Sited two additional geotechnical holes in the proposed NE highwall
- Logged the two geotechnical holes
- Completed a scoping level rock mass characterization based on the available information that supports the design wall angles for the Arnett pit within the PEA.

## 12.2 Database Validation

RPA performed the following digital queries:

- Header table: searched for incorrect or duplicate collar coordinates and duplicate hole IDs.
- Survey table: searched for duplicate entries, survey points past the specified maximum depth in the collar table, and abnormal dips and azimuths.
- Core recovery table: searched for core recoveries greater than 100% or less than 80%, overlapping intervals, missing collar data, negative lengths, and data points past the specified maximum depth in the collar table.
- Lithology: searched for duplicate entries, intervals past the specified maximum depth in the collar table, overlapping intervals, negative lengths, missing collar data, missing intervals, and incorrect logging codes.
- Geochemical and assay table: searched for duplicate entries, sample intervals past the specified maximum depth, negative lengths, overlapping intervals, sampling lengths exceeding tolerance levels, missing collar data, missing intervals, and duplicated sample IDs.
- Conducted a thorough review of the electronic database by comparing assay certificates for selected drill holes against the electronic database. Fire assay gold, and AuCN were compared.
- The data were imported into a Vulcan and Leapfrog database(s).
  - The 2019 Vulcan database utilized a similar design as the comma delimited files supplied by Revival.
  - Quality control and validation completed in Vulcan and Leapfrog.

Validation files, quality control files (i.e., duplicates, blanks, and standards), third party metallurgical work, and an internal check list (i.e., survey datum, equipment used, estimation parameters, etc.) are all available in the provided Vulcan workspace.

## 12.2.1 Reverse Circulation Versus Diamond Drilling

### 12.2.1.1 Beartrack

Previous reviews of the pre-1990 RC drilling at Beartrack demonstrated that the gold grade for those samples was biased high. This issue was recognized by Meridian's technical staff and, in response, they changed sampling procedures to better handle wet samples. Findings of the study as reported by Revival and contained within the 2018 Technical Report on Beartrack (Lechner and Karklin, 2018) concluded that all pre-1990 RC data representing 430 holes totalling 61,641 m (202,235 ft) of drilling should be excluded from Mineral Resource estimation. No data verification procedures were applied for those drill holes.

RPA recommends confirming historical RC drilling results in the Moose area north of the North Pit.

### 12.2.1.2 Arnett

In 1997, Meridian completed a three-hole DD core versus RC study to evaluate the validity of using RC results in a resource estimation. Findings of the study concluded that there was overall poor to moderate correlation of gold-bearing intersection between RC and core twins and that moderate to heavy downhole contamination had taken place below the water table.

As part of the updated resource estimate, RPA revisited comparing RC drill holes against all available DD holes to see if there were any significant biases between the two sample types. RPA conducted a series of tests, including evaluation of the twin holes used in the 1997 Meridian study, assessment of log probability and QQ plots of DD vs. RC holes, and running resource estimates using both RC and DD holes together and separately. RPA findings agree with previously reported results that concluded:

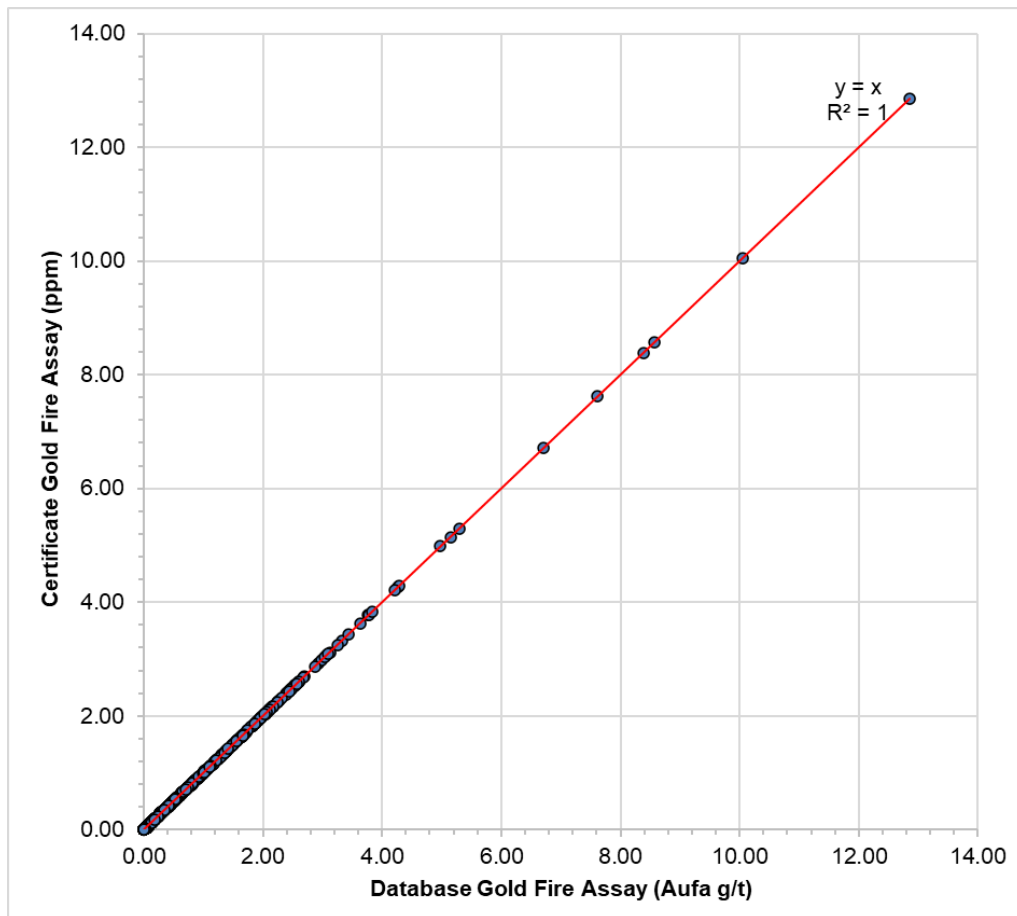
- There is reasonable correlation between mineralized intervals in both RC and DD holes above the water table and provide valid samples of the mineralization.
- The deposit does not behave well over short distances, displaying significant degrees of gold grade variability. This is demonstrated by considerable differences in both grade and thickness between the two sample types below the water table, including intervals that were encountered in RC holes that were not identified in DD holes. This response is strongly apparent in the Haidee West drilling.
- Correlation of the data is difficult and is not limited to one drilling campaign or sampling protocol.

Based on these findings, RPA determined that although RC drilling was useful in helping identify mineralized trends and constructing mineralized wireframes, all RC data representing 223 holes totalling 26,578 m (87,198 ft) should be excluded from the final Mineral Resource estimate.

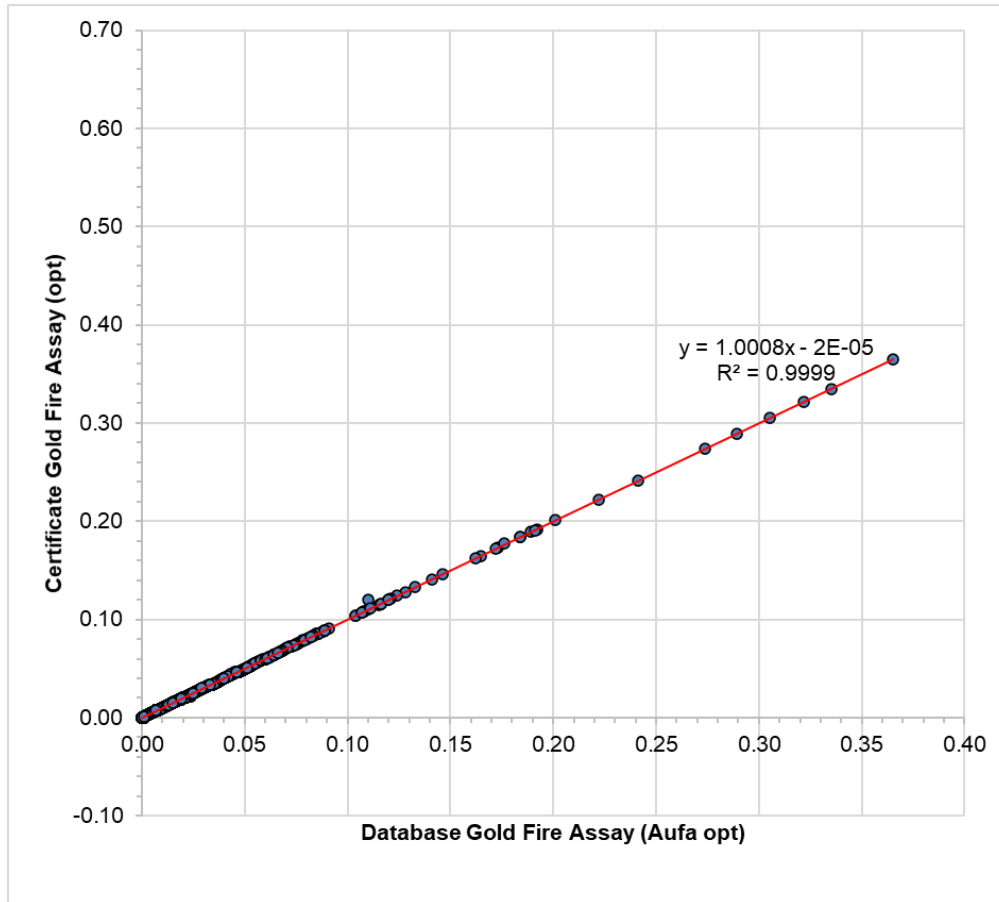
## 12.3 Independent Verification of Assay Table

### 12.3.1 Beartrack

RPA conducted checks on assays within the database against corresponding laboratory assay certificates in search of any errors occurring during data transfer and importation. For 2012-2019 DD holes, 891 samples in the database were checked against their batch certificates with no errors found. For historical data, RPA checked 1,053 fire assays and 630 cyanide soluble assays within the mineralized wireframes and found minimal discrepancies. An investigation found that most differences can be attributed to rounding of assays in the lowest grades contributing to an overall lower mean average than reported in laboratory certificates. In RPA's opinion, this indicates that the integrity of the database is sufficient for an accurate resource estimate. Figure 12-1 to Figure 12-3 illustrate the consistency between the Beartrack database and original laboratory certificates.

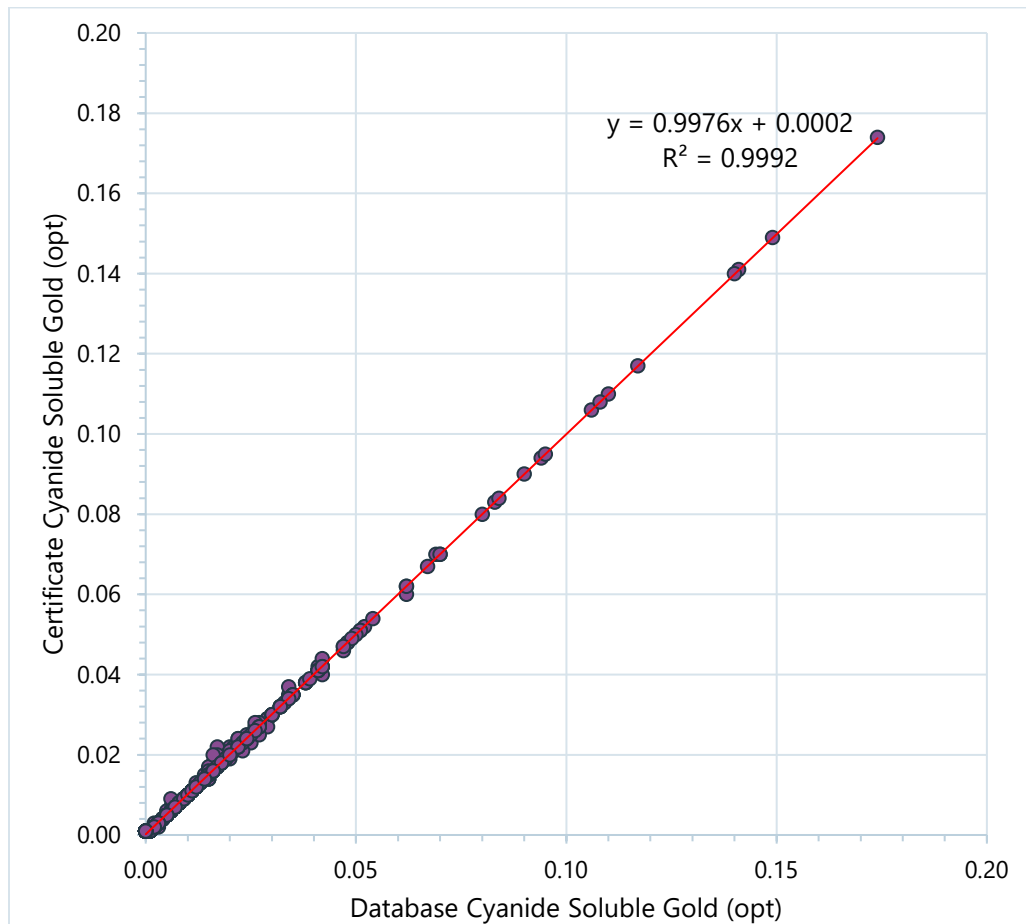


**Figure 12-1: Beartrack 2012 to 2019 DD Database Versus Laboratory Certificates – Au Fire Assay**



**Figure 12-2: Beartrack Historical Database Versus Laboratory Certificates – Au Fire Assay**

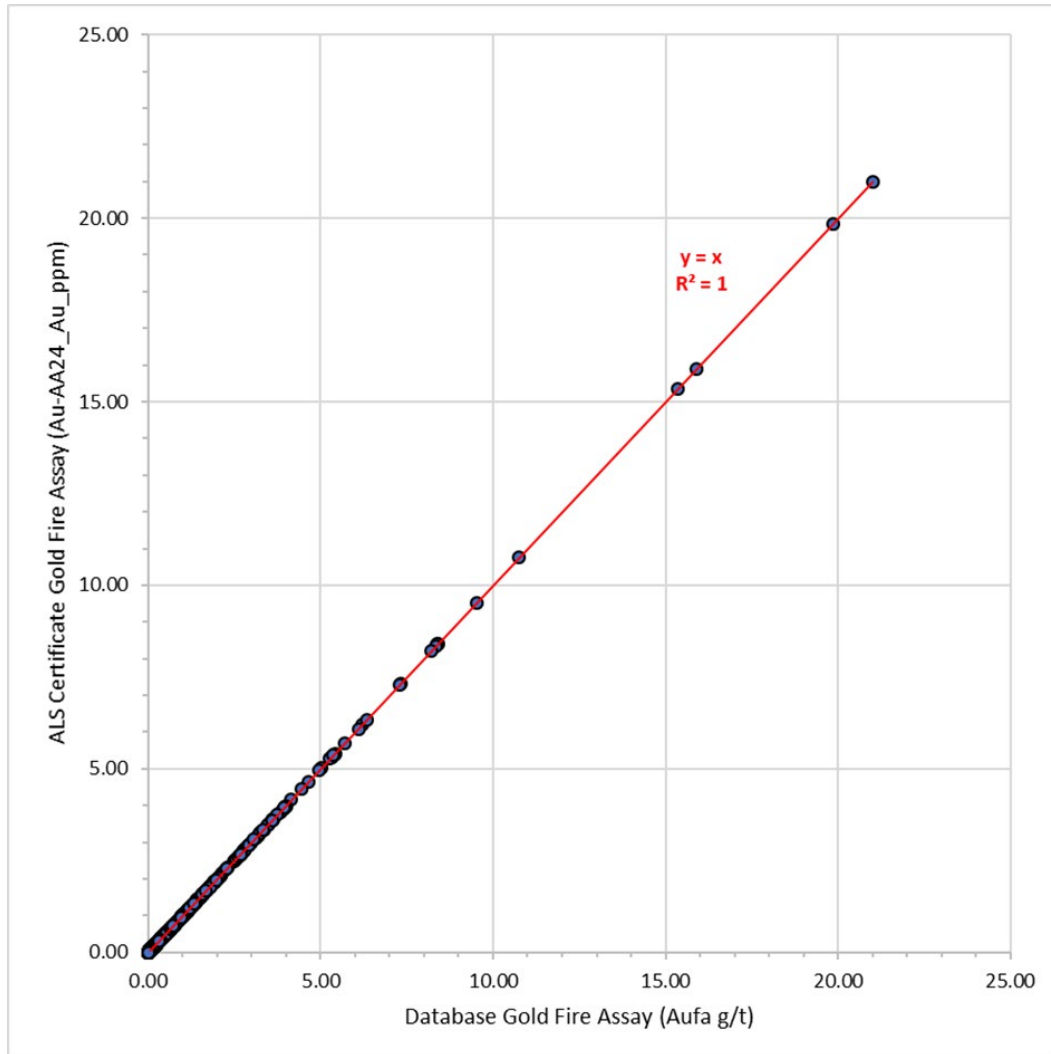




**Figure 12-3: Beartrack Historical Database Versus Laboratory Certificates – Au Cyanide Soluble Assay**

### 12.3.2 Arnett

RPA conducted checks on assays within the database against corresponding laboratory assay certificates in search of any errors occurring during data transfer and importation. For 2018-2019 DD holes, 3,535 samples in the database were checked against their batch certificates with no errors found. In RPA's opinion, this indicates that the integrity of the database is sufficient for an accurate resource estimate. Figure 12-4 illustrates the consistency between the Arnett database and original laboratory certificates.



**Figure 12-4: Arnett Database Versus Laboratory Certificates – Au Fire Assay**

## 13.0 Mineral Processing and Metallurgical Testing

### 13.1 Historical Test Work Summary

Meridian operated Beartrack successfully as a heap leach operation from 1994 to 2002. The metallurgical testing of Beartrack samples started in 1989, with Hazen Research Inc. (Hazen) (1989) completing two phases of metallurgical testing in 1989 and 1990. Testing was conducted using samples hosted by quartzite and quartz monzonite that was subdivided into oxide, mixed, or sulphide categories. In 1990, Coastech Research investigated the economic feasibility of bio-oxidation as a peroxidation method for sulphide material. The results indicated that after bio-oxidation, gold recovery for whole mineralized samples ranged from 72% to 90% and recovery for concentrate samples ranged from 92% to 97%. Without pre-oxidation, the cyanide leach recovery was approximately 60% for the two samples tested.

American Gold Resources (AGR) performed metallurgical testing using samples from Arnett starting in 1990. The tests included cold cyanide leach tests on RC drill chips, bottle roll tests (BRT) and column tests using material from a trench and RC chips. Meridian also tested samples in 1996. In 1991, column tests were conducted by Kappes Cassiday & Associates (KCA) (1991) along with BRTs, AuCN, and fire assays.

In 2018, RPA was selected by Revival to complete an updated Mineral Resource estimate for the Beartrack deposit and a Mineral Resource estimate for the Arnett deposit. Under RPA, SGS Canada, Inc. was chosen to complete a metallurgical testing program for mill/oxidation option in their Burnaby, British Columbia, Canada laboratory. The SGS metallurgical test program used six samples to complete the testing. The sample lithologies were quartz monzonite (Yqm, logging code 50), transition and sulphide, dikes (siliceous breccia (bx), logging code 30), and Yellowjacket quartzite (Yy, logging code 60). Mineralogy, flowsheet development, and flowsheet amenability testing were conducted using the samples.

The mineralogy indicated that gold was found to occur in two phases (i.e., native gold and petzite – a gold-silver telluride mineral). SGS deduced that there is little relation between the gold grade of each composite and sulphide abundance, with sulphide-rich composites having higher gold grades coupled with lower gold grain counts. This indicates a strong possibility of solid-solution gold within the sulphides. RPA concluded that the only feasible methods to recover gold that is present as a solid solution is by using the pre-oxidation processes such as pressure oxidation (POX), bio-oxidation, or roasting. Although POX was recommended by RPA (Mathisen, Rodney, Altman, 2020), it was not investigated by Wood during the completion of the PEA.

In 2019, RPA was retained by Revival to complete an updated mineral resource estimate for the Beartrack and Arnett deposit (Mathisen, Rodney, Altman, 2020). RPA selected samples based

on the material and grade distributions in the Beartrack resource. Tests were conducted to confirm 2018 testing and improve the flotation test results. The main reason for the 2019 test program was to estimate the results that would be achieved with mixtures of the oxide, transition and sulphide mineralization. SGS (2020) also completed BRTs using five coarse reject samples from Arnett.

RPA concluded for Beartrack that processing transition and sulphide material on a heap leach pad poses operational and environmental challenges that may not be discernable based on purely economic analyses. Two potential options exist for the treatment of available sulphide and oxide material; it can be leached, as was done historically by Meridian, or it can be processed in the mill. RPA also concluded for Arnett that the material is highly amenable to gold recovery by cyanide leaching. Since most of the tests for Arnett were performed at smaller particle sizes than anticipated for a heap leach operation, RPA estimated the gold extraction to be approximately 75%. However, since it was the first mineral resource estimate for Arnett, there was insufficient information available at the time the samples were selected to determine whether they were representative of the deposit.

## **13.2 Beartrack Deposit**

### **13.2.1 Heap Leach Related Test Work**

The Beartrack deposit has two major oxide material types which are QTZ-quartzite and QTZ-monzonite. The sulphide zone does have a component of oxide, transition and sulphide, with the addition of breccia. Three main lithologies, breccia, quartz monzonite, and quartzite, make up approximately 96% of the Beartrack deposit.

In 1990, bottle rolls leach tests were performed by Hazen Research on several portions of the mineralized material classified in oxide-transition and sulphides. The results for each material type are shown in Table 13-1 through to Table 13-4. The results confirm that the QTZ-quartzite oxide has approximately 76% of gold recovery based on AuFA feed. The transition is 57%, while the sulphides has a 28% gold recovery. The QTZ-monzonite rock type has a high oxide recovery of approximately 88%, however, the sulphide recovery is much lower at approximately 5%.

**Table 13-1: Summary of QTZ-Quartzite Bottle Roll Test Results (Source: Hazen Research Inc., 1989)**

Grind Passing				% Gold Dissolution Hours			NaCN Consumed, lb/ton Hours			Final Tailings	Calc'd Feed
Comp.	Test	ISOM	270 M	24	48	72	24	48	72	Oz Au/ton	Oz Au/ton
<b>QTZ-01</b>	1900-198	56	39	61.7	67.9	65.4	1.65	2.96	4.87	0.028	0.081
	1906-64	59	35	78.8	80.0	78.8	1.98	3.53	4.68	0.017	0.083
<b>02</b>	1906-65	92	55	77.1	78.3	83.1	1.80	3.27	4.29	0.014	0.083
	1900-199	70	39	69.4	72.2	72.2	1.45	3.01	4.75	0.010	0.036
	1906-66	90	43	73.2	70.7	78.0	1.61	3.00	3.92	0.009	0.041
	1906-67	99	60	73.7	76.3	73.7	1.71	3.26	4.27	0.010	0.038
<b>03C</b>	1906-68	98	63	76.7	78.3	86.7	2.01	3.66	4.75	0.008	0.060
	1906-69	100	76	86.0	84.2	87.7	2.06	3.53	4.58	0.007	0.057
<b>04C</b>	1906-74	79	44	69.3	66.7	69.3	1.57	3.06	4.48	0.023	0.075
	1906-75	98	62	69.7	69.7	71.1	2.13	3.45	4.89	0.022	0.076
<b>M I</b>	1900-197	63	39	47.9	49.3	47.9	1.52	3.46	5.88	0.037	0.071
	1906-62	80	41	57.7	57.7	60.6	2.05	3.97	4.93	0.028	0.071
	1906-63	97	60	65.7	61.4	64.3	2.19	3.71	5.02	0.025	0.070
<b>M2C</b>	1906-76	85	46	56.1	57.9	56.1	2.86	4.31	5.83	0.047	0.107
	1906-77	99	63	55.5	55.5	58.2	2.82	4.30	5.97	0.046	0.110
<b>SI</b>	1900-200	57	33	13.3	13.9	14.6	1.99	3.58	5.21	0.135	0.158
	1906-70	74	38	20.5	21.8	22.4	2.31	4.04	5.84	0.121	0.156
	1906-71	95	56	22.6	22.6	21.9	2.50	4.66	6.14	0.121	0.155
<b>S2</b>	1906-72	92	51	35.1	35.1	38.6	1.98	3.66	4.94	0.035	0.057
	1906-73	99	67	32.8	36.1	44.3	2.02	3.55	4.65	0.034	0.061
<b>SSC</b>	1906-78	85	48	26.5	32.7	26.5	1.80	3.18	4.56	0.036	0.040
	1906-79	99	66	27.1	29.2	27.1	1.95	3.42	4.86	0.035	0.048

**Table 13-2: Gold Recovery, QTZ-Quartzite Bottle Roll Test Results**

	Samples										Average
Oxide (%)	65	79	83	72	78	74	87	88	69	71	<b>76.7</b>
Transition (%)	48	61	64	56	58	-	-	-	-	-	<b>57</b>
Sulphide (%)	15	22	22	39	44	27	27	-	-	-	<b>28</b>

**Table 13-3: QTZ-Monzonite Bottle Roll Test Results (Source: Hazen Research, 1989)**

Comp.	Test	Grind Passing		% Gold Dissolution Hours			NaCN consumed, lb/ton Hours			Final Tailings	Cal'd Feed
		150 M	270 M	24	48	72	24	48	72	Oz Au/ton	Oz Au/ton
QM PQI	1906-143	42	36	97.4	97.4	89.5	3.61	5.93	7.43	0.004	0.038
	-146	76	55	94.7	94.7	86.8	3.71	5.07	5.96	0.005	0.038
	-147	90	64	87.5	87.5	85.0	4.05	5.24	5.81	0.006	0.040
02	-145	42	31	93.8	95.8	87.5	3.89	6.64	8.00	0.006	0.048
	-150	72	45	98.5	93.5	87.0	3.50	5.42	6.14	0.006	0.046
	-151			93.6	93.6	87.2	3.91	5.45	6.25	0.006	0.047
S1	-144	50	41	4.7	4.7	4.7	2.67	5.41	6.51	0.041	0.043
	-148	79	55	6.1	6.1	6.1	2.38	3.68	5.09	0.046	0.049
	-149	94	65	8.2	8.2	8.2	2.48	3.99	5.17	0.045	0.049
S2	-235			2.8	2.8	2.8	1.36	3.90	5.77	0.035	0.036
	-227	75	48	8.3	5.6	8.3	0.92	3.04	3.16	0.033	0.036
	-228	91	60	2.8	2.8	2.8	1.53	2.62	3.50	0.035	0.036
S3	-236			5.1	5.1	2.6	1.35	3.59	5.31	0.038	0.039
	-229	89	51	4.8	4.8	4.8	0.99	2.09	3.35	0.040	0.042
	-230	91	60	4.7	4.7	4.7	1.23	2.52	3.82	0.041	0.043

**Table 13-4: Gold Recovery, QTZ-Monzonite Bottle Roll Test Results**

	Samples										Average
Oxide (%)	90	87	88	88	87	87	-	-	-	-	<b>88</b>
Sulphide (%)	5	6	8	3	8	3	3	5	5	-	<b>5</b>

In 1997, Beartrack performed column test work on the Beartrack oxide material as summarized below in Table 13-5. The results show that 85% of the soluble gold can be leached in 36 days, increasing to 90% recovery with longer leach times.

**Table 13-5: Historical Column Test Work by Beartrack (1997)**

	AA (oz/ton)	AA (g/t)	FA (oz/ton)	FA (g/t)	% Leachable	Rec, AA (%)	Rec, FA (%)	Rec, % of Leachable	Calc, Solution (g/t)	NaCN (lb/ton)	NaCN (kg/t)
<b>QTZ</b>	0.019	0.65	0.023	0.79	83	76	58	92.00	87	0.53	0.27
<b>QTZ- Monzonite</b>	0.065	2.23	0.066	2.26	98	90	88	91.38	89	0.60	0.30
<b>Panther zone</b>	0.036	1.23	0.056	1.92	64	89	74	138.44	91	0.53	0.27
					36 days	<b>85%</b>					
					Long Term	<b>90%</b>					

In 2019, SGS did test work on the mill feed material with a composition as shown in Table 13-6 and Table 13-7. The Total Organic Carbon is not zero as what would have been expected. Organic carbon is the main source of carbon, indicating a very low level of carbonates. The mineralized material has not shown preg-robbing properties.

**Table 13-6: Beartrack "Mill Feed" Metallurgical Sample Oxidation Level Proportions (Source: SGS, 2020)**

Composite Samples	Oxide (%)	Transition (%)	Sulphide (%)	Proportion in Deposit (%)
Breccia (Code 30)	23.4	24.8	51.9	12.0
Quartz Monzonite (Code 50)	23.9	5.5	70.7	44.5
Quartzite (Code 60)	40.0	8.8	51.2	40.0

Note: Totals may not equal 100% due to rounding

**Table 13-7: Beartrack “Mill Feed” Metallurgical Sample Assays (Source: SGS, 2020)**

Composite Samples	AuCN (g/t)	AuFA (g/t)	As (ppm)	ST (%)	S <sup>=</sup> (%)	Te (ppm)	CT (%)	TOC (%)	TIC (%)
Breccia	0.44	1.11	1481	1.02	0.99	0.36	0.05	<0.05	0.03
Quartz Monzonite	0.28	0.63	645	1.25	1.25	0.06	0.18	0.17	<0.01
Quartzite	0.45	1.11	2549	0.76	0.70	<0.05	0.33	0.32	0.02
Master Composite	0.38	0.91	1633	1.04	1.06	0.14	0.22	0.21	0.01

Notes:

1. CT – Total Carbon
2. TOC – Total Organic Carbon
3. TIC – Total Inorganic Carbon
4. ST – Total Sulfur
5. S<sup>=</sup> - Sulfide Sulfur

The oxide/transition/sulphide split of the Master Composite shown in Table 13-8 illustrates that the composition of the mill feed contains an appreciable amount of oxide (31%) and a relatively small amount of transitional material (9%).

**Table 13-8: Calculated Composition of the Mill Feed Composite**

Mill Feed Composition					
	Oxide (%)	Transition (%)	Sulphide (%)	% In Deposit	% In Composite
Breccia	23.4	24.8	51.9	12.0	12.4
QTZ-mon	23.9	5.5	70.7	44.5	46.1
QTZ	40.0	8.8	51.2	40.0	41.5
<b>Composite</b>	<b>31</b>	<b>9</b>	<b>60</b>		

The test work was oriented towards a flotation-POX-leach flowsheet; however, SGS conducted a feed leach test on each sample (Table 13-9). The results show low recovery as expected. However, it is possible to verify whether recovery could have been predicted from the column tests performed on individual oxide/transition/sulphide material by Hazen Research. Table 13-10 shows a calculated recovery of 38.8% closely predicts the actual recovery of 38.1%. This comparison provides confidence that the recovery of each material remains relatively constant even when they are mixed.



**Table 13-9: Bottle Roll Test Results (SGS, 2020)**

	Au Head Grade (cal'd) (g/t Au)	Au Head Grade (assay) (g/t Au)	K80 (µm)	Au Residue Grade (g/t)	NaCN Consumption (kg/t)	Lime Consumption (kg/t)	Au Extraction Calculated (%)	Au Extraction Estimated (%)
CN-MC-BF1	6.19	5.57	78	4.57	1.63	2.54	26.2	18.1
CN-MC-BF2	7.93	5.57	32	4.11	2.46	3.08	48.2	26.3
CN-MC-BF3	5.22	5.57	13	3.13	3.88	4.63	40.0	43.8

**Table 13-10: Calculation of Recovery using Hazen Research's Data**

Hazen Research, BRT Recoveries						SGS BRT Recoveries		
	% In composite	Oxide (%)	Transition (%)	Sulphide (%)	Calculated Recovery, Soluble Gold (%)	AA (g/t Au)	FA (g/t Au)	Recovery, Soluble Gold (%)
Breccia	12.4	76.6	57.4	27.9	46.7	0.44	1.11	40
QTZ-mon	46.1	87.6	46.3	5.0	27.0	0.28	0.63	44
QTZ	41.5	76.6	57.4	27.9	50.0	0.45	1.11	41
<b>Composite</b>		78.8	50.5	16.7	<b>38.8</b>	<b>38.1</b>		

### 13.2.2 Historical Production

Historical production data reports show that the oxide material processed in the first two years of the heap leach, reached 90% of soluble gold recovery. It is normal to never achieve 100% of the soluble gold as predicted recovery is determined using -200 mesh samples while heap leach operations are at -50.8 mm (-2 in.).

Historical production records (Table 13-11) show that recovery dropped significantly in 1999, likely due to the introduction of transition material as observed from the ratio of AuCN vs AuFA during that year ( $0.033/0.053 = 62\%$ ).

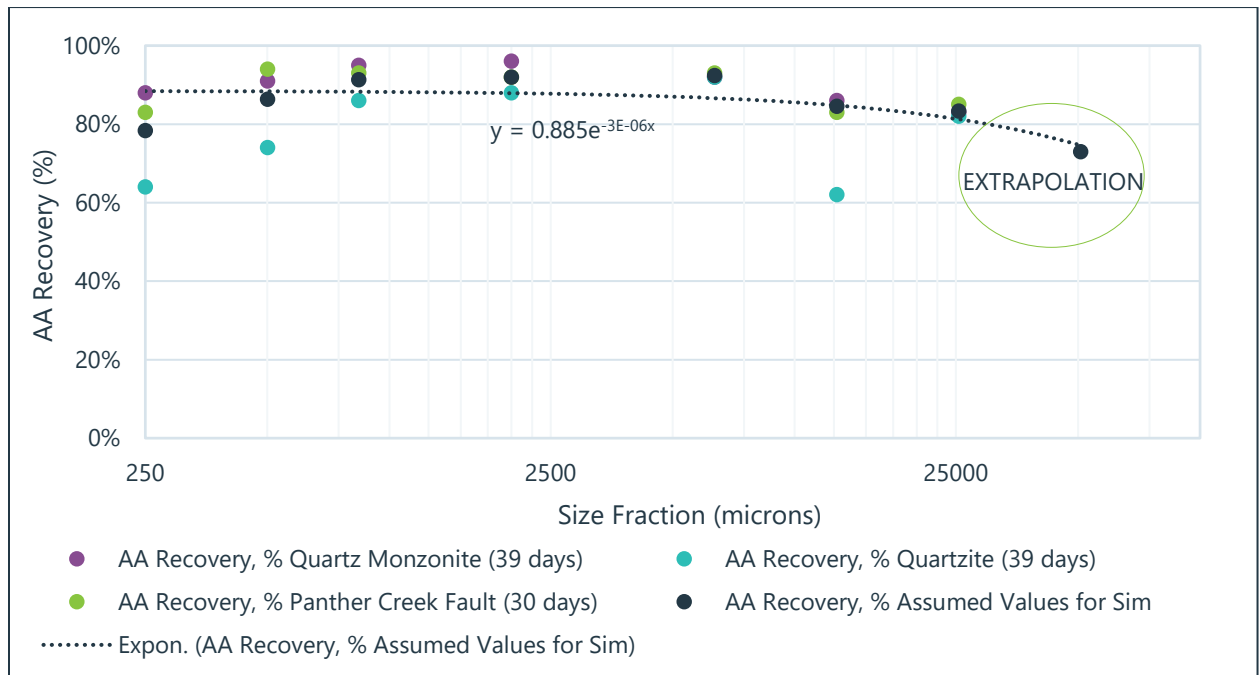
**Table 13-11: Historical Production (Source: Revival, unpublished)**

Year	Total Material Mined						Crusher Actuals			Leach Pad Inventory		
	Waste (tonnes)	Ore (tonnes)	AuCN (g/t)	CN (oz)	AuFA (g/t)	AuFA (oz)	Tonnes	AuCN (g/t)	AuCN (oz)	AuCN Ounces on pad	Ounces Poured (oz)	Cum Recovery % AuCN
1994	879,898	734,798	1.25	29,556			734,798	1.25	29,556	20,158	0	0.0
1995	3,445,817	3,539,338	1.16	132,397			3,765,880	1.18	142,336	141,544	39,180	22.8
1996	3,826,840	4,129,870	0.90	119,569	0.96	127,662	3,904,474	0.89	112,073	113,818	108,708	52.1
1997	4,287,616	3,982,818	0.85	108,789	1.06	135,610	3,750,997	0.83	100,071	104,143	112,655	67.8
1998	7,168,618	4,023,435	0.82	106,106	1.04	134,923	4,236,025	0.76	103,085	105,632	105,039	75.0
1999	3,492,392	4,661,803	1.13	169,173	1.81	271,915	4,887,316	1.03	161,719	170,615	137,207	77.5
2000	354,480	807,767	1.04	26,887	2.10	54,480	935,877	0.93	28,020	43,855	72,137	84.9
2001											18,338	87.6
2002											8,678	88.9
2003-2014											7,199	90.0
<b>Totals</b>	<b>23,455,661</b>	<b>21,879,830</b>	<b>0.98</b>	<b>692,476</b>	<b>Incomplete</b>	<b>Incomplete</b>	<b>22,215,366</b>	<b>0.95</b>	<b>676,861</b>	<b>699,765</b>	<b>609,141</b>	<b>90.0</b>

### 13.2.3 Determination of P80

Based on the 1997 column test work, an AA recovery (%) graph was constructed (Figure 13-1) illustrating the relationship of the weighted average recovery (%) for particle sizes of 25.4 mm (25400 microns / 1 in.) and 50.8 mm (50800 microns / 2 in.).

As no test work has been conducted on the particle size of 50.8 mm (2 in.), an extrapolation of the AA recovery curve is made resulting in an AA recovery (%) of 73%.



**Figure 13-1: Beartrack Recovery by Size Fraction/Class**

Using the Bruno software, the particle size distribution of the product is obtained for P80's of 25.4 mm (1 in.) and 50.8 mm (2 in.). The weighted recovery (%) for each size fraction is calculated using the line of best equation shown in Figure 13-1 resulting in the following:

- Weighted recovery, P80 of 25.4 mm (1 in.) – 84.8%
- Weight recovery, P80 of 50.8 mm (2 in.) – 81.6%

The weighted recoveries between particle sizes P80 25.4 mm (1 in.) and 50.8 mm (2 in.) have a recovery gap. It was determined that 56% of the material is coarser than 25.4 mm (1 in.), which leads to a lower recovery in the 50.8 mm (2 in.) particle size.

Based on this extrapolation of historical information, mineralized material at Beartrack was able to reach the set recoveries used in this study with a crush size of 50.8 mm (2 in.). Further test

work on both the Beartrack and Arnett mineralized material at 50.8 mm (2 in.) is recommended to quantitatively define if this is maintained going forward.

### 13.2.4 Milling Related Test Work

SGS was retained in 2019 to conduct metallurgical testing to improve the recovery of the highly sulphidic Beartrack material. More specifically, the objective of the test program was to conduct flotation tests at various grind sizes and subject the rougher flotation concentrate to intensive leaching or pressure oxidation (POX) followed by leaching to estimate the total gold recovery that can be anticipated in a commercial processing plant.

One hundred and thirty-nine Beartrack core sample intervals were crushed and blended into three composites based on lithology: Breccia (BC30 1.11 g/t (0.03 oz/ton) Au), Quartz Monzonite (QM50, 0.63 g/t (0.018 oz/ton) Au), and Quartzite (QZ60, 1.1 g/t (0.03 oz/ton) Au). One Master Composite was prepared from the other samples for flowsheet development testing.

The lithology composites (BC30, QM50, QZ60) were prepared by stage-crushing separately to minus 10 mesh then homogenized and rotary split into charges for testing. A split from each lithology composite was taken to create a Master Composite according to the proportions shown in Table 13-12. The Master Composite was then homogenized and split into charges for testing.

**Table 13-12: Master Composite Mix (SGS, 2020)**

Sample ID	SGS Composite ID	Percent	Weight (kg)
Quartzite (Code 60)	QZ60	40%	26.9
Quartz Monzonite (Code 50)	QM50	44.5%	30.0
Breccia (Code 30)	BC30	12.0%	8.1

A 1 kg (2.2 lbs) split from each of the four composites was used for head characterization. A summary of the head assays for the primary elements of interest is presented in Table 13-13.

**Table 13-13: Beartrack Composite Head Assays (SGS, 2020)**

Composite	Analysis								
	Au (CN Sol) (g/t)	Au (FA) (g/t)	As (ppm)	S (%)	S <sup>2-</sup> (%)	Te (ppm)	C (%)	TOC (%)	TIC (%)
BC30	0.44	1.11	1481	1.02	0.99	0.36	0.05	<0.05	0.03
QM50	0.28	0.63	645	1.25	1.25	0.06	0.18	0.17	<0.01
QZ60	0.45	1.11	2549	0.76	0.7	<0.05	0.33	0.32	0.02
MC	0.38	0.91	1633	1.04	1.06	0.14	0.22	0.21	0.01

#### 13.2.4.1 Whole Ore Cyanidation

A whole ore cyanidation test was conducted on the Master Composite to determine gold extraction and leach kinetics using standard laboratory bottle roll test procedures.

The leach residue after 72 hours of leaching contained 0.61 g/t (0.018 oz/ton) Au with a calculated head grade of 0.98 g/t (0.029 oz/ton) Au. The final gold extraction was 38%, in agreement with the assayed ~42% cyanide soluble gold content of the MC (cyanide soluble gold of 0.38 g/t (0.011 oz/ton) Au versus total gold of 0.91 g/t (0.027 oz/ton) Au). This confirms the low recovery by the whole ore cyanidation method.

#### 13.2.4.2 Flotation

A series of six rougher flotation tests was conducted using the Master Composite to investigate the flotation kinetics and to determine the optimal conditions using standard laboratory flotation test procedures, with Potassium Amyl Xanthate (PAX) collector and Methyl Isobutyl Carbinol (MIBC) frother.

The results show that the overall gold recoveries ranged from 85.8% to 88.0% and overall sulphide recoveries ranged from 95.6% to 96.3%. Mass recovery ranged from 13% to 20%. The results indicate that gold is largely associated with pyrite. There was little to no improvement in gold or sulphide recovery as the grind size decreased. The addition of MX 950 as a secondary collector did not improve gold or sulphide recovery. Flotation kinetics was generally quite fast yielding ~80% gold recovery and 94% sulphide recovery during the first 10 minutes of flotation. The final 20 minutes of flotation yielded an additional 6-8% gold recovery but only ~2% sulphide recovery, suggesting that the gold recovered in the final rougher stages could be less associated with pyrite and is likely representative of the leachable portion of the sample.

Three cleaner, three stage flotation tests were conducted using the Master Composite to investigate the effect of regrind size on rougher concentrate upgrading. Where applicable, the

concentrate was reground in a ceramic pebble mill. The results show that the recovery of gold is proportional to the sulphide recovery, therefore upgrading of concentrate at these conditions is not beneficial unless very low mass pulls or high sulphide concentrate is desired. Cleaning was not deemed necessary for the subsequent tests.

A single rougher kinetic test was performed on each of the three lithology composites (BC30, QM50, QZ60) using standard laboratory flotation test procedures that were consistent with those used for the Master Composite Rougher flotation tests. The results show that the flotation kinetics for each composite by mass pull and flotation time were similar. The overall sulphide recovery was also similar for the three lithology composites, in the range 94.4% to 96.7%.

A series of three 10 kg (22 lbs) flotation tests on the Master Composite were performed to generate concentrate for downstream testing. The results indicate gold recoveries from 82.9 to 84.4%, high sulphide recoveries from 95 to 96.3% and mass pulls of 11.5 to 13%. The results are shown in Table 13-14. The results confirm that flotation alone is not sufficient to obtain high recoveries and that flotation tails might have to be leached.

**Table 13-14: Bulk Flotation Concentrate Test Conditions and Results (SGS, 2020)**

Test ID	Ro Tail K <sub>80</sub> (µm)	PAX (g/t)	MIBC (g/t)	Flotation Time (min)	Mass Pull (%)	Au Grade RO Conc. (g/t)	S <sup>2-</sup> Grade RO Conc. (%)	Au Grade RO Tail (g/t)	S <sup>2-</sup> Grade RO Tail (%)	Au Recovery (%)	S <sup>2-</sup> Recovery (%)
MC BF1	149	100	50	30	11.5	5.6	9.3	0.15	0.05	82.9	96
MC BF2	147	100	50	30	12.5	5.3	6.6	0.15	0.05	83.6	95
MC BF3	148	100	50	30	13	5.8	8.6	0.16	0.05	84.4	96.3

### 13.2.4.3 Intensive Cyanidation of Flotation Concentrate

Portions of the bulk rougher concentrate were subjected to bottle rolls tests to determine the effect of grind size on gold leach extraction using the standard bottle roll test procedure.

The results show that while the residue grades decreased with decreasing particle size, the final gold extractions of 26.2% to 48.2% indicated the concentrate is very refractory. This is further evidence that the gold is finely disseminated in sulphide (pyrite) particles.

The direct leaching of sulphide concentrate, even after fine regrinding, is not sufficient to expose the gold encapsulated in the sulphides.

#### 13.2.4.4 Leaching of Flotation Tailings

Since flotation alone is not sufficient to obtain high recoveries, flotation tailings were subjected to leaching.

Seven cyanidation tests were conducted on 1 kg (2.2 lbs) charges of the rougher tailings from flotation of the Master Composite and lithology composites.

The Master Composite tests achieved final leach residue gold grades of 0.03–0.04 g/t (0.0009–0.0012 oz/ton) Au and similar gold extractions of 75–77% (direct assay), suggesting that gold extraction was not influenced by the grind sizes tested (K80 107–147  $\mu\text{m}$  (0.004–0.006 inch)).

The lithology composite tests achieved final leach residue gold grades of 0.02–0.12 g/t (0.0006–0.0035 oz/ton) Au with slightly lower gold extractions than the Master Composite tests.

The results as shown in Table 13-15 indicate that leaching of flotation tails is required to achieve low final tails from flotation.

**Table 13-15: Flotation Tailings Leach Results (SGS, 2020)**

Test #	K80 ( $\mu\text{m}$ )	Head Assays		Residue	Consumption		Final Gold Extraction	
		Direct Au (g/t)	Calc. Au (g/t)	Assays Au (min)	NaCN (%)	CaO (g/t)	Calc. (prod.) (%)	Est. (Direct) (g/t)
CN-MC-F1	127	0.12	0.05	0.03	0.14	0.99	40	75
CN-MC-F2	147	0.15	0.25	0.04	0.15	0.96	86.2	76.7
CN-MC-F3	128	0.14	0.14	0.04	0.14	0.97	74.1	75
CN-MC-F4	107	0.15	0.25	0.04	0.14	0.94	85.9	76.7
CN-BC30-F1	172	0.22	0.25	0.12	0.16	0.67	51.7	45.5
CN-QM50-F1	160	0.06	0.05	0.02	0.17	0.54	62.8	66.7
CN-QZ60-F1	140	0.16	0.18	0.05	0.17	0.55	72	68.8

#### 13.2.4.5 Pressure Oxidation of Rougher Concentrate

Given that the direct leaching of reground concentrate did not achieve the desired recoveries due to finely disseminated gold in sulphides, a batch pressure oxidation (POX) test was conducted in a 1 gallon (3.78 L) titanium Parr autoclave at 200°C for 90 minutes with 100 psi oxygen overpressure to chemically liberate the gold from the sulphide matrix.

The feed was as-received with a measured particle size of K80 ~75  $\mu\text{m}$  (0.003 inch) and was subjected to acidulation with sulphuric acid at ambient conditions for 20 minutes to stabilize the pH at 1.81 prior to autoclaving.

Pressure oxidation achieved high sulphide oxidation of >99% with respect to calculated head grades. Gold remained very stable in the POX residue. Negligible mass loss was observed during POX, suggesting, as expected from pressure oxidation of a high sulphide concentrate, that a significant portion of the sulphides had re-precipitated as sulphate precipitates, likely as basic iron sulphates and jarosite.

#### 13.2.4.6 Leaching of the Pressure Oxidation Residue

The washed POX residue was submitted for direct cyanidation in a bottle roll test at a pH of 10.5-11 for 48 hours. The acidic slurry was conditioned for 1 hour with lime, then it was pre-aerated with oxygen at the target pH to ensure the pulp was effectively neutralized for cyanidation. Air and/or oxygen was sparged during the leach test to maintain dissolved oxygen concentration higher than 7 mg/L (0.0009 oz/gal).

The results indicate, as expected for this type of material, that a high gold extraction of 97% is achieved with a low gold grade 0.20 g/t (0.006 oz/ton) Au in the leach residue. The total lime consumption was found to be 9.53 kg/tonne (19.06 lb/ton), which is mostly consumed during neutralization and pre-aeration. The consumption of cyanide was relatively low, when compared to direct cyanidation of sulphide concentrate, at 0.36 kg/t (0.72 lb/ton).

**Table 13-16: Summary of POX Residue Leaching Results (SGS, 2020)**

Test #	K80 (µm)	Pulp Density (%)	Head Assays		Residue Assays Au (g/t)	Consumption		Final Gold Extraction	
			Direct Au (g/t)	Calc Au (g/t)		NaCN (kg/t)	CaO (kg/t)	Calc. (Products) (%)	Est. (Direct) (%)
CN-POX 1	78	40%	6.11	7.7	0.2	0.36	0.83	97.4	96.7

#### 13.2.4.7 Overall Milling Flowsheet Gold Recovery

A summary of the estimated gold recovery for various flowsheets is presented in Table 13-17.

The whole material leach flowsheet achieved only 38% gold recovery, which indicates about 55% of the gold is present as very fine inclusions in the sulphide matrix, which can only be liberated by chemical oxidation of the sulphides.

Rougher flotation alone was able to reach a gold recovery of approximately 83.6% at a primary grind of 150µm, which is not sufficient. Cleaning further penalized the recovery so was not deemed beneficial.

The flotation tails leach recovered approximately 78% of the gold in the flotation tails. The combined primary gold recovery of concentrate and leach is approximately 96.4%.

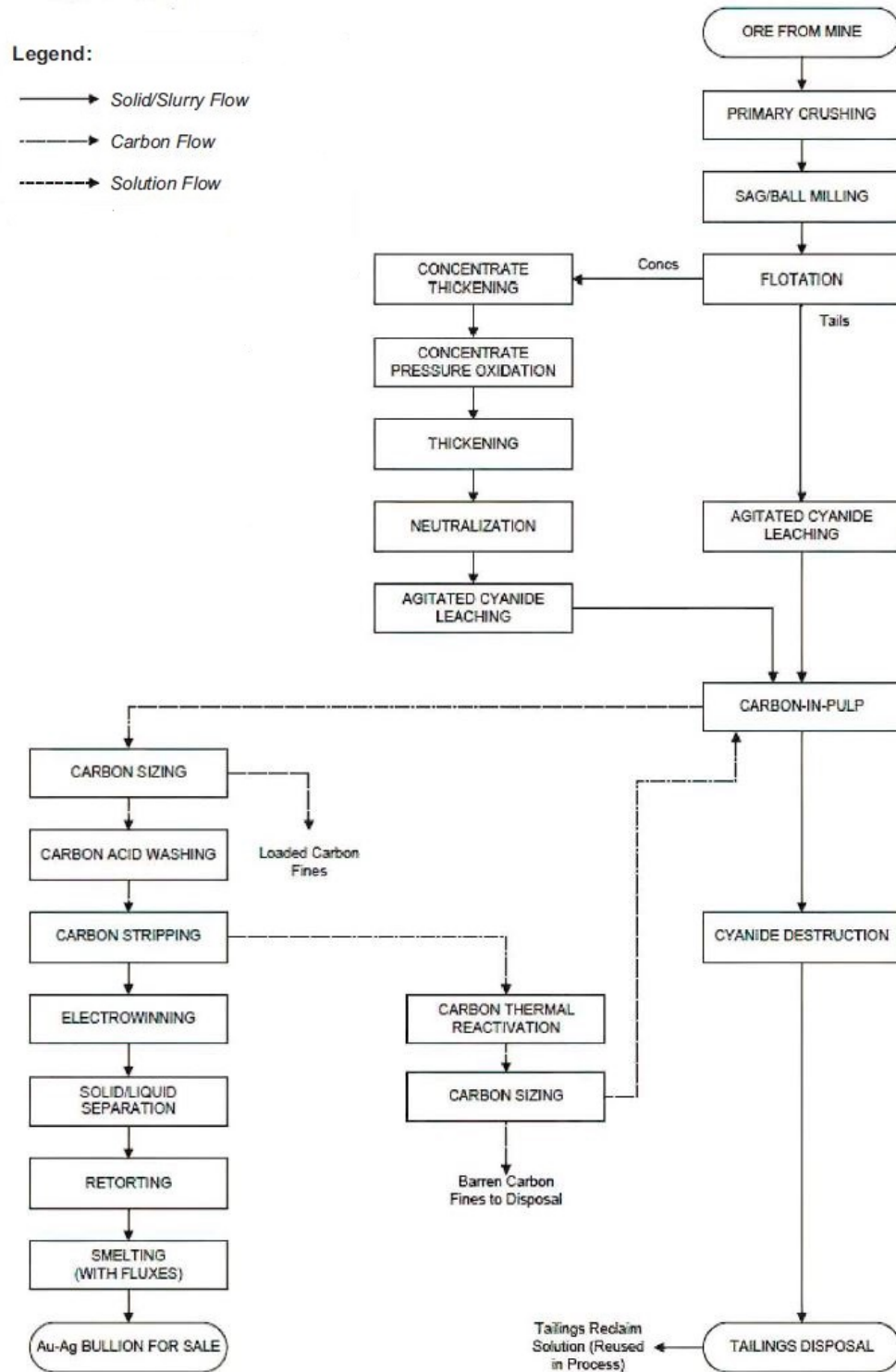


Rougher flotation concentrated up to 88% of the gold to a flotation concentrate at a primary grind K80 ~150  $\mu\text{m}$  (0.006 inch), but gold remained refractory during cyanidation, even when the concentrate was reground to as fine as K80 ~13  $\mu\text{m}$  (0.0005 inch).

Pressure oxidation of the rougher flotation concentrate at 200°C followed by cyanidation helped liberate gold and achieved a recovery of approximately 97%.

The highest total gold leach recovery was achieved in the Flotation-POX-Cyanidation-flotation tails leach flowsheet at approximately 94% gold recovery.

The Block Flow Diagram that represents the high sulphide material treatment process can be illustrated as per Figure 13-2.



**Figure 13-2: Block Flow Diagram Representing the High Sulphide Material Treatment Process (Source Revival, 2020)**

**Table 13-17: Overall Milling Flowsheet Recovery Summary (SGS, 2020)**

Test #	Grind Size		Direct Head	Calc. Final Tail	Whole Ore Leach	Flotation / Rougher Conc.	Gold Recovered from FLOT Conc Cyanide Leach	Gold Recovered from FLOT Tails Cyanide Leach	Gold Recovered to Flot Conc + Tails Leach	Overall Gold Recovery from Conc Leach + Tails Leach (Cal'd)	Overall Gold Recovery from Conc Leach + Tails Leach (Est*)
	Primary Grind	Regrind	Gold Grade	Gold Grade	Gold Rec.	Gold Rec.					
	(µm)	(µm)	(g/t)	(g/t)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
WOL	91	-	0.91	0.61	38	-	-	-	-	38	33
Flot-Leach	127	-	0.91	0.613	-	88	23.1	9	97	32.1	32.7
Flot-Leach	147	-	0.91	0.69	-	87.1	22.9	9.9	97	32.7	24.1
Flot-Leach	128	-	0.91	0.648	-	87.5	22.9	9.4	96.9	32.3	28.8
Flot-Leach	107	-	0.91	0.635	-	86.8	22.8	10.2	96.9	32.9	30.2
Flot-Leach	148	78	0.91	0.595	-	83.6	21.9	12.8	96.4	34.7	34.7
Flot-Leach	148	~27	0.91	0.538	-	83.6	40.3	12.8	96.4	53.1	40.9
Flot-Leach	148	~14	0.91	0.417	-	83.6	33.5	12.8	96.4	46.2	54.2
Flot-POX-Leach	148	78	0.91	0.054	-	83.6	81.6	12.8	96.4	94.3	94

Note:

^Based on calculated head of products

\*Based on direct head and calculated final tails

## 13.2.5 Beartrack Test Work Results Summary

### 13.2.5.1 Heap Leach Option

Heap leach Recovery of oxide, transition and sulphide material has been predicted to be 85% of soluble gold (AuCN) followed by secondary leaching to 90% at a crush size of 50.8 mm (2")

### 13.2.5.2 Milling Option

The highest total gold leach recovery was achieved in the Flotation-POX-Cyanidation-flotation tails leach flowsheet at approximately 94% gold recovery.

## 13.3 Arnett Deposit

The Arnett deposit drillhole results return low Copper, Arsenic and deleterious elements. Assay of sulfur by ICP returns trace values. The material is considered to be oxide.

Limited metallurgical test work has been performed on the Arnett mineralized material.

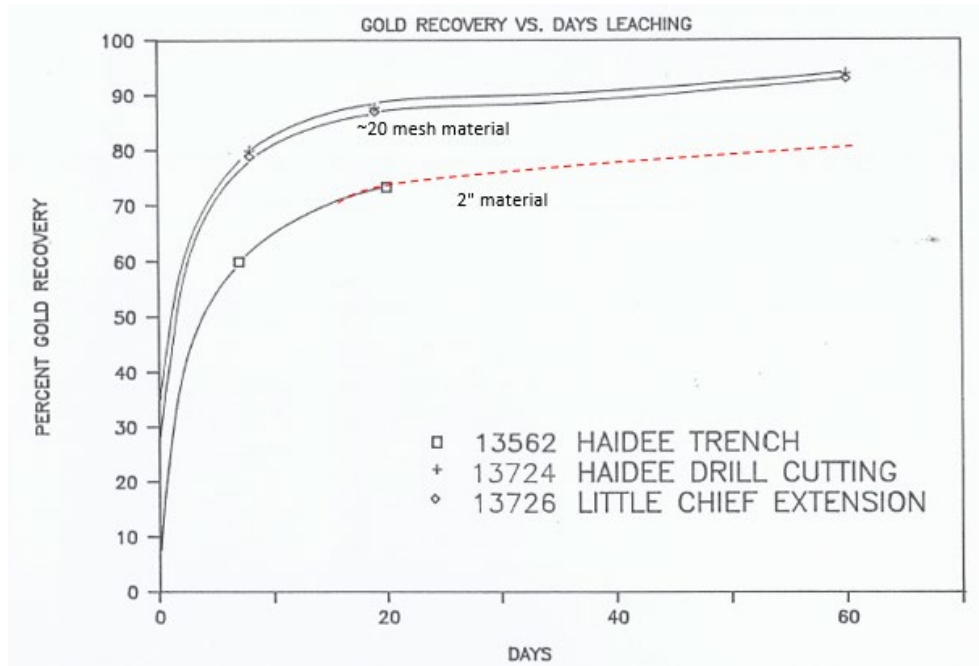
In 1991, column leach tests on trench and chip samples from the Haidee and Little Chief Extension were performed and reported by KCA (1991) (Table 13-18).

Figure 13-3 shows that 73% leaching was obtained after 20 days. A prolongation of the leach curve shows that approximately 80% leaching is obtainable in 60 days. This was a trench sample with a P80 of a 50.8 mm (2 in.), which is coarser than what would be expected on the leach pad with secondary crushing 31.75 mm (1-1/4 in.) to 38 mm (1-1/2 in.).

The recovery of gold appears to be approximately 75% of the total gold content, which is in line with the 85% of the soluble gold.

**Table 13-18: Arnett KCA Column Test Results**

Sample	P80	Days	Recovery
Haidee trench	50.8 mm	20	73%
Haidee drill cuttings	20 mesh	60	91%
Little Chief Extension	14 mesh	60	93%

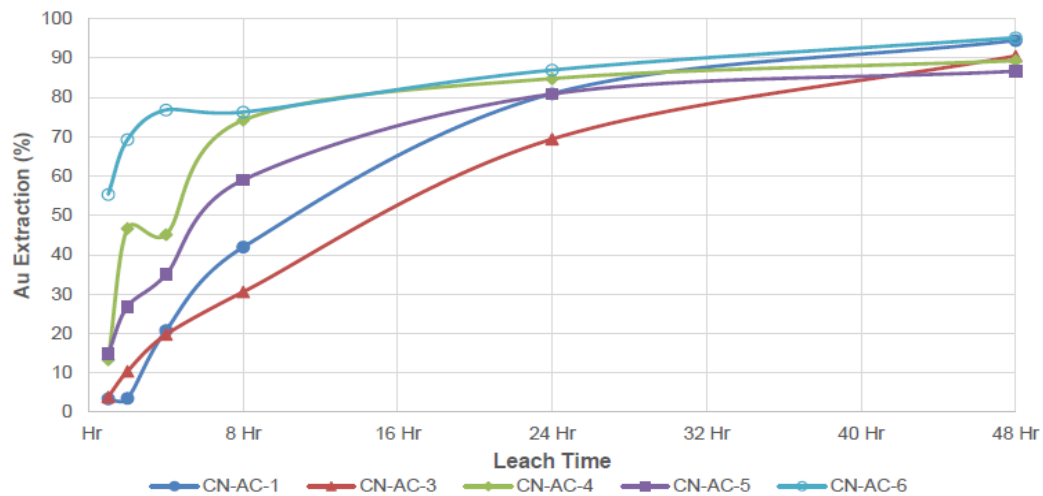


**Figure 13-3: KCA Column Test Results for Arnett (Source: KCA, 1991)**

In 2019, SGS performed bottle roll tests with results presented in Table 13-19 and Figure 13-4. RPA (2020) reported that since most of the tests for Arnett were performed at smaller particle sizes than anticipated for a heap leach operation, gold extraction is estimated to be approximately 75% based on the KCA column test that was conducted using material from a Haidee trench sample. There was insufficient information available at the time the samples were selected to determine whether they were representative of the deposit, but the gold grade seems to be in the range of the deposit.

**Table 13-19: Metallurgical Test Results (SGS, 2020)**

	K80 µm	Direct AuCN (g/t)	Direct Au (g/t)	Calc Au (g/t)	Direct AuCN/ Calc Au (%)	Residue Assay Au (g/t)	Consumption		Final Gold Extraction	
							NaCN (kg/t)	CaO (kg/t)	Calc (%)	Est. (Direct- Residue) (%)
CN-AC-1	831	0.27	0.30	0.36	74.8	0.02	0.13	0.94	94.5	93.3
CN-AC-3	1596	0.55	0.95	1.27	43.5	0.12	0.13	0.76	90.5	87.4
CN-AC-4	752	0.51	0.76	0.37	136.2	0.04	0.14	0.99	89.3	94.7
CN-AC-5	935	0.31	0.47	0.52	59.2	0.07	0.11	0.66	86.6	85.1
CN-AC-6	773	0.68	0.87	0.83	82.1	0.04	0.12	1.15	95.2	95.4
Average	977	0.46	0.67	0.67	69.2	0.06	0.13	0.90	91.2	91.2



**Figure 13-4: Arnett Bottle Roll Test Leach Curves (Source: Mathisen, Rodney and Altman, 2020)**

### 13.3.1 Arnett Test Work Result Summary

Heap leach recovery of oxide material has been predicted to be 75% of AuFA followed by secondary leaching to 80%.

## 13.4 Recommendations for Further Test Work

For oxide, sulphide and mixed material (50% oxide and 50% sulphide – as the current plan includes mixed heap leach pads for Beartrack), long term tests should be conducted as existing test work for oxide material was restricted to 60 days. Wood recommends a series of test work to be carried out on representative samples in both Beartrack and Arnett deposits

### 13.4.1 Acid Base Accounting Testing

Acid base account (ABA) testing on the waste rock, in-pit mineralized material and heap leach material is required to obtain a better understanding on the potential of mine acid formation from various geological materials. ABA testing will identify acid- and alkaline-producing materials in the overburden. ABA tests quantify the balance net acid producing potential (NAPP) between potentially acid-generating material (PAG), particularly the oxidation of sulphide materials, and acid neutralizing capacity (ANC) in a sample, such as the dissolution of alkaline, carbonates, displacement of exchangeable bases and weathering of silicate.

### 13.4.2 Humid Cell Test

A humid cell test should be conducted to estimate the long-term acid generation behavior of sulphide bearing tailings and waste rocks. The humidity cell is intentionally operated to accelerate sulphide mineral oxidation and acid production, which will also result in an enhanced rate of generation of alkalinity, dissolved metals, precipitated metal compounds and other oxidation products.

### 13.4.3 Beartrack Heap Leach Column Test

There is limited information on the behaviour of the mineralized material under a more prolonged leaching cycle, and, more importantly, what happens to the material when it is subjected to the “washing” caused by the leaching of the block above it. Acid mine drainage is the risk associated with prolonged exposure to water and oxygen.

To allow for prolonged leach tests, future column tests for Beartrack material should use a 2-stage column test procedure. The double test uses a regular charge (half column) for 120 days and add another half column for an additional 120 days for a total of 240 days. The test will continue for another 120 days for a total of 360 days. With a crush size of 50.8 mm (2 in.), each column diameter should be 0.30 m (12 in.) (6 to 9 times the maximum particle size) of the material to avoid the “wall effect” during the tests., As such large quantities of material is needed. A column height of 3 m (9.8 ft) is required to maintain a height to diameter ratio of about 10:1. Each test should consist of 333 kg (734 lb) samples, where each material type will have three tests of its own for a total of 1,000 kg (2,200 lb). Wood recommends further tests be performed for a crush size of 25.4 mm (1 in.).

It is expected that approximately 85% of soluble gold is attained in the first 60 days after which the amount of gold leached is commonly below the detection limit of the analysis. To circumvent this, it is required to cycle and irrigate for one day out of the seven days. A sample is taken and let it rest for six days. Multistage column test will last for 365 days.

In summary, the following heap leach tests are recommended:

1. Beartrack oxide: three tests at 50.8 mm (2 in.), 3 tests at 25.4 mm (1 in.)
2. Beartrack transition: three double tests at 50.8 mm (2 in.), 3 double tests at 25.4 mm (1 in.)
3. Beartrack sulphide: three double tests at 50.8mm (2 in.), 3 double tests at 25.4 mm (1 in.)
4. Beartrack mixed (50% oxide and 50% sulphide): three double tests at 50.8mm (2 in.), 3 double tests at 25.4 mm (1 in.)

#### 13.4.4 Arnett Heap Leach Column Test

As the mineralized material at Arnett is oxide the concern of turning acidic is not expected. Consequently, testing for Arnett should consist of a single stage column test. With a crush size of 50.8 mm (2 in.), the column diameter will be 0.30 m (12 in.) and column height, 3 m (9.8 ft). Each test should consist of 166.6 kg (367 lb) samples, where oxide material should have three tests for a total of (500 kg) 1,100 lb. Wood recommends further tests to be performed at a crush size of 25.4 mm (1 in.). The single stage column test will last for 180 days.

#### 13.4.5 Beartrack Mill Sulphide Project

The Beartrack drillhole assay results show the material contains high levels of sulphide and high levels of arsenic, the latter also appears to be proportional to the gold content. Copper and other base metals are low. Arsenic is not a deleterious element from the heap leach process at the levels encountered, although it will be an element of concern for the water treatment prior for discharge, especially considering that the site and the heap leach is on a positive water balance.

The Beartrack mill project was tested by SGS in 2019 (SGS, 2020). The work concluded that sulphide material processed with milling, then floated and the concentrate submitted to a Pressure Oxidation (POX), results in a high recovery. Given the inherent mixing of oxide, transitional and sulphide material, it was recommended to have an oxidized flotation tailings leach circuit.

The metallurgical test work conducted to date is of high quality. Alternatives like the Albion process could be an option and might reveal lower capital costs that POX, however, at the cost of recovery.

Mineralized material containing significant levels of arsenic prefers POX, where the products are more stable due to the high temperatures of the process.

It is recommended to submit additional samples to the recommended flowsheet to better confirm the recoveries and proceed with basic comminution tests.

Given the higher processing costs of a sulphide mill, the tests should be conducted on material from 1 to 2 g/t (0.034-0.068 oz/ton) generated from intervals of 10 m (32 ft) of half core within the deposit.

- three samples from Beartrack oxide material
- three samples from Beartrack transitional material
- three samples from Beartrack sulphide material
- three samples for Beartrack mixed material (50% oxide and 50% sulphide)

Each sample should be subjected to the following tests:



- Head mineralized assays: Inductively couple plasma (ICP), total sulfur (Stot), sulphide sulfur (SS), carbon total (Ctot), organic carbon (Corg), mercury (Hg)
- Comminution tests: SMC, BWi at a closing screen of 106µm (P80 target is 75 µm), Cwi
- Mill-flotation-POX-flotation tailings leach sequence test.

### 13.4.6 Bulk Density Testing

RPA (2020) suggested the completion of additional bulk density measurements given the difference in historical values determined for Beartrack by Meridian and those completed by SGS (2020). More specifically for the Yellowjacket Formation, densities from the Joss and Ward's Gulch areas were found to be higher for SGS than previously reported from both the North Pit and South Pit areas. Wood agrees with RPA and recommends further test work to be completed for obtaining additional bulk density determinations from representative rock types at different depths.

### 13.4.7 Additional Tests and Analysis

In addition to the heap leach column test, Wood proposes further test work to be done for bottle roll tests, FA, soluble AA and the suite of total sulfur (LECO), sulphide carbon and organic carbon plus ICP for both Beartrack oxide/transition/sulphide/mixed (50% oxide, 50% sulphide) material and Arnett material.

## 13.5 Comment on Section 13

The QP notes:

- For Beartrack, sulphides could have a significant impact on the operation of the heap leach and is the most important deleterious element. Arsenic could be an element of concern from a water management perspective.
- Limited metallurgical test work has been performed on the Arnett deposit.
- Further test work is required to investigate the extent of mine acid formation from various geological and sulphide material.
- Further test work is required as the current mine plan includes a mixed heap leach pad (50% oxide and 50% sulphide) for Beartrack.

## 14.0 Mineral Resource Estimates

The updated Mineral Resource estimates for the Beartrack and Arnett deposits were carried out by RPA. The Mineral Resource estimate is based on open pit mining and underground mining scenarios. The Mineral Resources are based on a gold price of \$1,400/oz value. CIM (2014) definitions were used for Mineral Resource classification.

Following the February 21, 2020 Technical Report release a subsequent follow-up review of the Arnett resources and sensitivity analysis conducted by RPA resulted in a fine tuning and reclassification of 3,000 ounces from Inferred to Indicated category. For this PEA, the resource estimate at Arnett has been restated to reflect this change and is not considered material to the economics of the property as the total Indicated plus Inferred remains unchanged. A summary of the Mineral Resources at Beartrack and Arnett dated December 10, 2019, is given in Table 14-1.

**Table 14-1: Mineral Resource Estimate – Effective date December 10, 2019 (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Resource Category	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Gold (000 oz)
Indicated (Leach)			
Beartrack – Open Pit	11,900	0.56	215
Arnett – Open Pit	2,500	0.65	52
Indicated (Mill)			
Beartrack – Open Pit	22,216	1.52	1,089
Beartrack – Underground	NA	NA	NA
<b>Total Indicated</b>	<b>36,616</b>	<b>1.15</b>	<b>1,356</b>
Inferred (Leach)			
Beartrack – Open Pit	9,961	0.53	169
Arnett – Open Pit	8,200	0.55	144
Inferred (Mill)			
Beartrack – Open Pit	22,228	1.19	850
Beartrack - Underground	6,700	2.19	471
<b>Total Inferred</b>	<b>47,089</b>	<b>1.08</b>	<b>1,638</b>

Notes:

1. Effective date of December 10, 2019. CIM (2014) definitions were used for Mineral Resource

classification.

2. Qualified Persons:  
Mark B. Mathisen, C.P.G., Ryan Rodney, C.P.G.  
Mineral Resources were tabulated for model blocks with positive net value located within an optimized conceptual pit.
3. The price, recovery, and cost data translate to a breakeven gold cut-off grade of approximately 0.52 g/t Au for mineral resources amenable to the mill option and open pit mining; and 0.17 g/t Au for the mineral resources amenable to the leach option and open pit mining at Beartrack; a breakeven gold cut-off grade of approximately 1.26 g/t Au for the incremental underground mill option at Beartrack, and approximately 0.19 g/t Au for the leach option and open pit mining at Arnett. The cut-off grades include considerations of metal price, process plant recovery, mining, processing, and general and administrative costs. A gold price US\$1,400 per ounce was used in the estimation. Additional details below.
4. Tonnes are based on bulk density of each lithologic unit ranging at Beartrack from 2.0 t/m<sup>3</sup> to 2.75 t/m<sup>3</sup>. An average bulk density of 2.35 t/m<sup>3</sup> was used at Arnett.
5. Leachability is yet to be determined and further metallurgical studies are required to fully understand the behaviour of transitional and sulfide ores when mixed with readily leachable oxide materials. Leach material defined by cyanide soluble grade leach characteristics.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Rounding may result in apparent discrepancies between tonnes, grade, and contained metal content. The geological model supporting the mineral resource model is based on interpretations based on drilling and mapping which may change with more data. The metallurgical sampling data may not be representative of the material as a whole or may have significant variations locally in the metallurgical characteristics that could affect cost or recoveries.
8. The cut-off grade for the open pit mill resource assumes a 20,000 tpd flotation mill with pressure oxidation of flotation concentrate followed by cyanidation of the concentrate and the flotation tailings, with gold recovery of 94%, pit slopes of 37-50%, mining costs of \$2.25 per tonne, re-handle costs of \$0.10 per tonne, G&A costs of \$0.50-\$1.00 per tonne and a mill processing cost of \$18.46 per tonne.
9. The cut-off grade for the mineral resources amenable to underground mining and mill processing assumes a 3,000 tpd, ramp-access, mechanized mine with a bulk mining method and mining cost of \$35.00 per tonne.
10. The cut-off grade for the mineral resources amenable to open pit mining and heap leach processing assumes recoveries of 85% of cyanide soluble gold at Beartrack and 75% of contained gold at Arnett. Pit slopes of 37-50%. Mining costs were assumed to be \$2.25 per tonne, G&A costs of \$0.50-\$1.00 per tonne and heap leach processing costs of \$3.25 per tonne processed.

RPA recommends infill drilling to further define Mineral Resources in the Joss and Haidee areas. This includes strike and depth extensions at Joss and strike and down-dip extensions at Haidee, as well as to the northeast of Haidee, where historical drilling encountered mineralization. There is also good potential to define further areas suitable for underground mining through additional drilling at both the South Pit and Joss areas. The underground potential in Ward's Gulch should also be evaluated.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political, factors that could materially affect the Mineral Resource estimate other than what has been described in this Report.

## 14.1 Resource Database

Revival maintains a complete set of drill hole data plus other exploration data for the entire Project in a GeoSequel database. RPA was supplied with individual drill hole databases for the Beartrack and Arnett deposits by Revival. The Beartrack and Arnett resource database dated October 1, 2019 includes drill hole collar locations (including dip and azimuth), assay, and lithology data from 1,216 drill holes (262 from Arnett and 954 from Beartrack) totalling 181,024 m (593,908 ft) of drilling. The resource database used in the resource estimate does not include the 37 (7-Beartrack, 30-Arnett) drill holes totaling 7,103 m (23,304 ft) drilled by Revival in 2020. The 2020 drill holes will be used in the next resource estimate.

Of the 954 drill holes at Beartrack, 524 (226 DD and 298 RC), of which Revival drilled 32, were used to construct the wireframe models representing the Joss, South Pit, North Pit, and Moose mineralized zones. RC drilling (430) completed prior to 1990 was not used due to sampling procedures resulting in a significant bias in the gold grades compared to DD holes.

Of the 262 drill holes at Arnett, 148 (39 DD and 109 RC) were used to construct the wireframe models representing the Arnett mineralized zones. Block grade estimates and classification at Arnett were based on the DD (39) only as a review of the RC (109) drilling at Arnett demonstrated that the gold grade for those samples was biased high and smearing of gold grade below the water table was observed in several holes. Twenty-eight of the DD holes used in the Mineral Resource estimate were drilled by Revival.

A summary of records directly related to the Beartrack and Arnett resource models is provided in Table 14-2.

**Table 14-2: Description of Beartrack and Arnett Database (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Area	Beartrack	Arnett
Number of Drill Holes	524	148
Total Length (m)	86,709	20,191
Average Depth	165	136
Number of Surveys	2,257	303
Number of Lithology Entries	49,097	14,007
Number of Fire Assays	45,009	14,007
Number of Cyanide Soluble Assays	21,668	0.00

## 14.2 Beartrack

### 14.2.1 Geological Interpretation and 3D Solids

#### 14.2.1.1 Open Pit

Gold mineralization at Beartrack is associated with a major gold-arsenic-bearing hydrothermal system where stockwork, vein, and breccia-hosted mineralization has been identified in four different areas over more than five kilometres of strike length. All mineralization is spatially related to, and primarily controlled by, the PCSZ. The gold mineralization has been intersected over a vertical range of 600 m (1,950 ft) from surface and is open at depth. All areas drilled to date at Beartrack display similarities in style of mineralization and alteration with only slight variations in geochemistry. The primary difference between the areas is host rock.

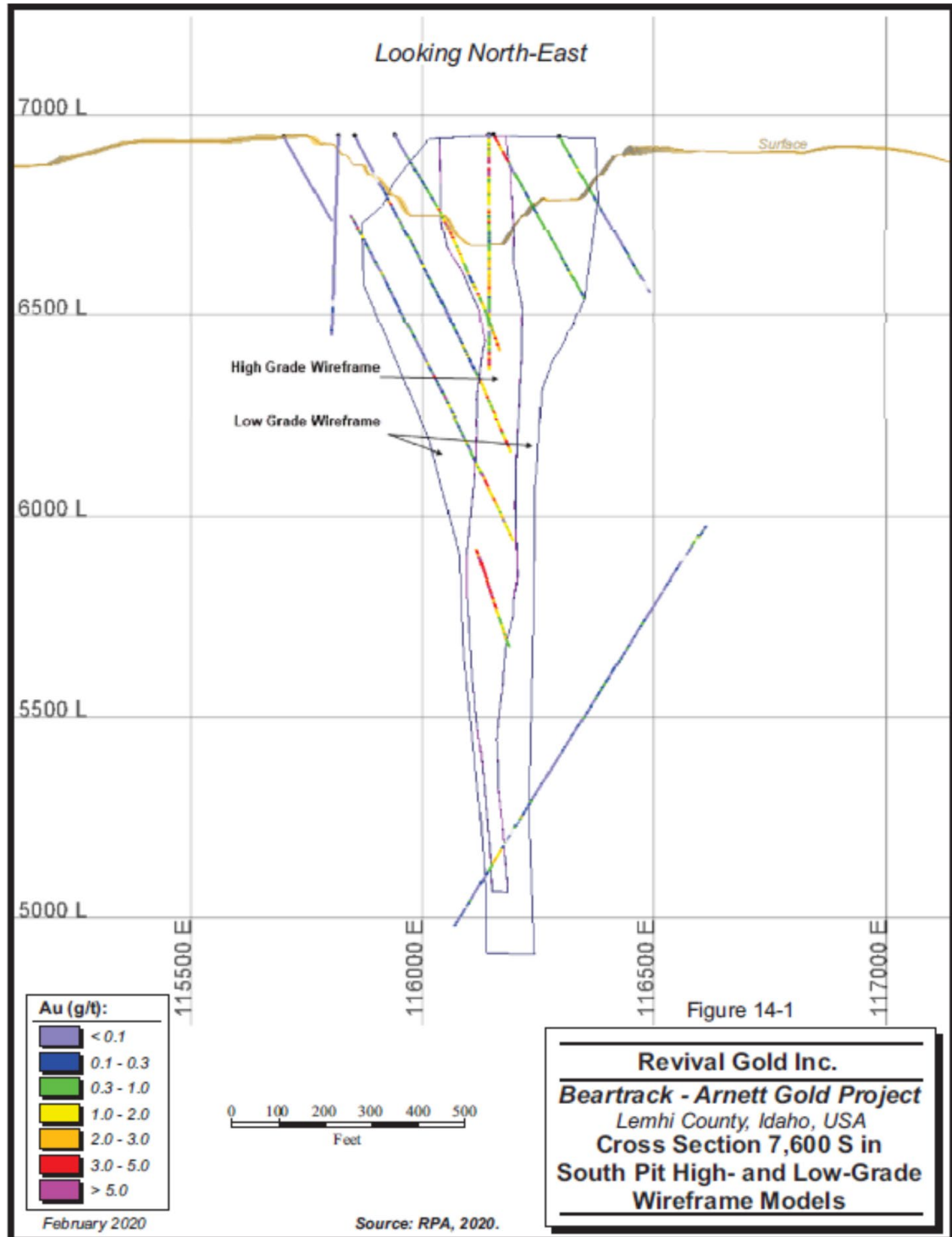
Geological models supporting the resource estimate were generated by Revival geologists and audited by RPA for completeness and accuracy. Revival provided RPA with initial 0.3 g/t Au wireframes in cross section and plan section views for the North and South Pits. The wireframe cut-off comes from past methods used for modelling the deposits at Beartrack. RPA audited these wireframes and edited them to incorporate the new drilling. Topographic surfaces, solids, and mineralized wireframes were modelled by RPA using Vulcan software.

RPA incorporated a higher-grade domain to isolate the core of the mineralization and limit the influence of high-grade material on the entire mineralization. RPA created a 1.0 g/t Au grade shell for the Joss, South Pit, and North Pit areas which resides within the corresponding 0.3 g/t Au grade shell. Mineralization at Moose did not justify a high-grade wireframe. This grade cut-off for modelling was agreed upon by RPA and Revival and is sufficient for modelling a higher-grade core within the low-grade mineralization. The high-grade wireframes were treated independently of the low-grade wireframes for capping analyses, compositing, estimations, and resource reporting.

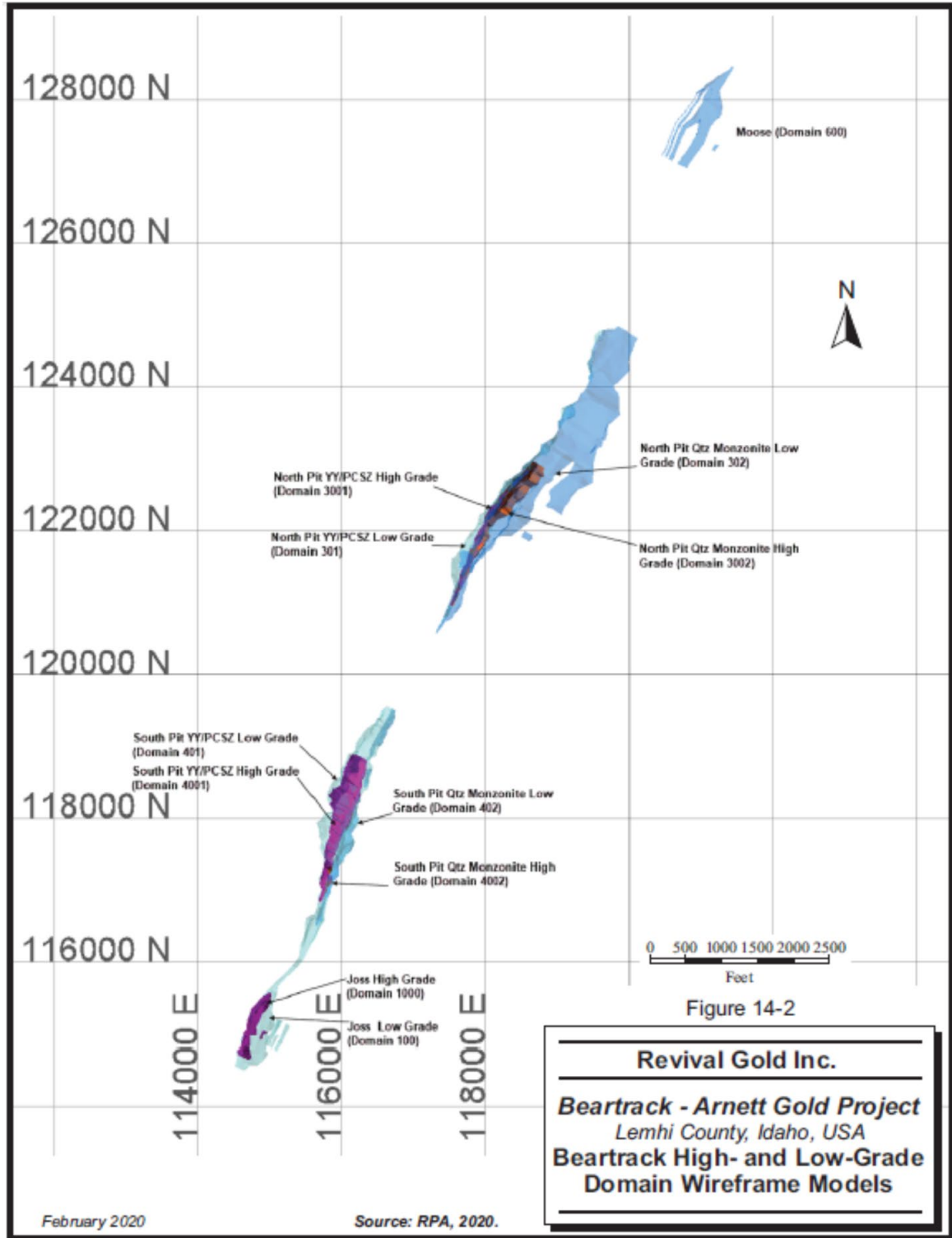
The high-grade (HG) domain models were created using a grade intercept limit equal to or greater than 1.54 m (5 ft) with a minimum grade of 1.0 g/t Au, although lower grades were incorporated in places to maintain continuity and meet a minimum thickness requirement. Low-grade (LG) domain models were created using a grade intercept limit equal to or greater than 1.54 m (5 ft) and a minimum grade of 0.3 g/t Au. RPA considers the selection of 0.3 g/t Au to be appropriate for the construction of LG mineralized wireframe outlines and consistent with other known deposits in the area. Sample intervals with assay results less than the nominated cut-off grade were included within the mineralized wireframes if the core length was less than 1.54 m (5 ft) or allowed for modelling of grade continuity. Once the high- and low-grade domains were complete, the high-grade domain was cut out of the low-grade domain to prevent overlap between domains. Figure 14-1 is a cross section in the South Pit

depicting the high- and low-grade domains with respect to the drilling. A total of 11 mineralized grade wireframes, including five HG wireframes contained within five LG grade enveloping wireframes and one additional LG wireframe, were used in the resource estimate. Figure 14-2 and Table 14-3 describe the details of the wireframes used for the resource estimates.

Four separate deposits (Moose, North Pit, South Pit, and Joss) at Beartrack, all with a northeast trend, have approximate strike lengths of 500 m (1,650 ft), 1,500 m (4,900 ft), 1,300 m (4,250 ft), and 360 m (1,200 ft), respectively. Gold mineralization is primarily controlled by the PCSZ and dips near vertical between 86° and 90°. These deposits occur over a strike length of approximately 5.6 km (3.5 mi) of the PCSZ. A continuous zone of higher-grade mineralization occurs along the PCSZ within the North Pit, South Pit, and Joss deposits.



**Figure 14-1: Beartrack Cross Section 7600S in South Pit High- and Low-Grade Wireframe Models**



**Figure 14-2: Beartrack High- and Low-Grade Domain Wireframe Models**



**Table 14-3: Summary of Beartrack Wireframe Models (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

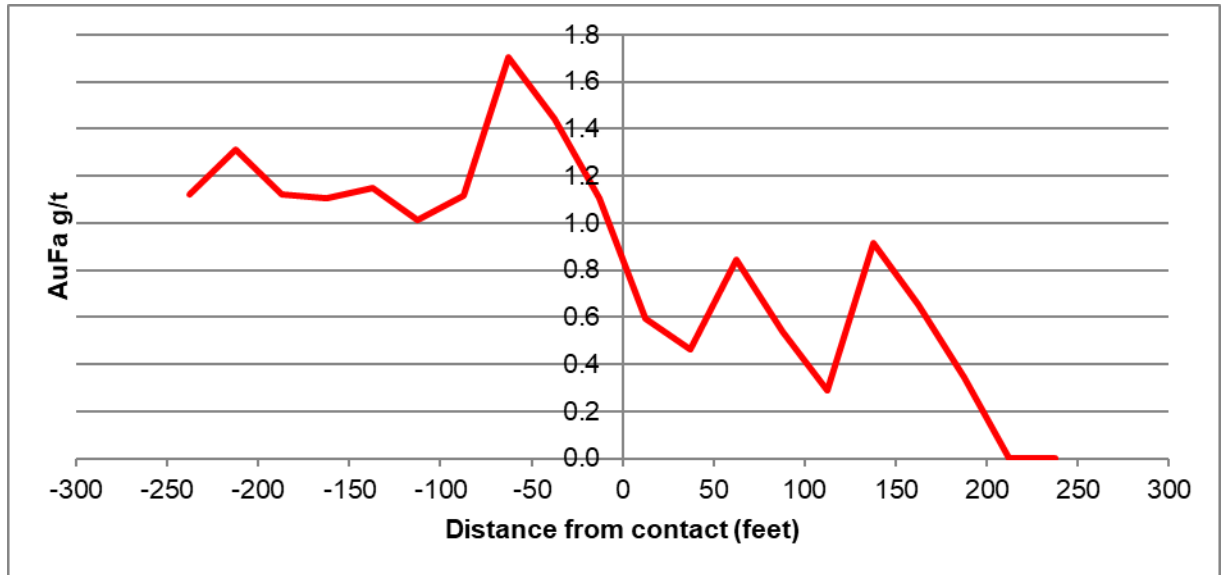
Area	Zone	Domain Designation	Wireframe Name
Joss	Joss Low-grade	100	JP_GS_03GT_v5_solid_trim_grav_topo_clipped.00t
Joss	Joss High-Grade	1000	JP_GS_1GT_v5_solid_clipped_grav_topo.00t
North Pit	North Pit Low-grade YY/PCSZ	301	NP_GS_03GT_v3_solid_topo_clipped_301.00t
North Pit	North Pit Low-grade Qtz Monzonite	302	NP_GS_03GT_v3_solid_topo_clipped_302.00t
North Pit	North Pit High-grade YY/PCSZ	3001	NP_GS_1.0GT_v3_solid_clipped_topo_3001.00t
North Pit	North Pit High-grade Qtz Monzonite	3002	NP_GS_1.0GT_v3_solid_clipped_topo_3002.00t
South Pit	South Pit Low-grade YY/PCSZ	401	SP_GS_03GT_v5_solid_topo_clip_grav_401.00t
South Pit	South Pit Low-grade Qtz Monzonite	402	SP_GS_03GT_v5_solid_topo_clip_grav_402.00t
South Pit	South Pit High-grade YY/PCSZ	4001	SP_GS_1GT_v5_solid_topo_clip_grav_4001.00t
South Pit	South Pit High-grade Qtz Monzonite	4002	SP_GS_1GT_v5_solid_topo_clip_grav_4002.00t
Moose	Moose	600	MC_GS_03GT_solid.00t

High-grade and low-grade domains are used to define the mineralization in the South Pit and North Pit deposits. Contact profiles (Figure 14-3 and Figure 14-4) of the gold grades in the different rock types show a distinct change in grades at the boundary of the PCSZ and Quartz Monzonite, which led to further refining of both the HG and LG domains in these areas.

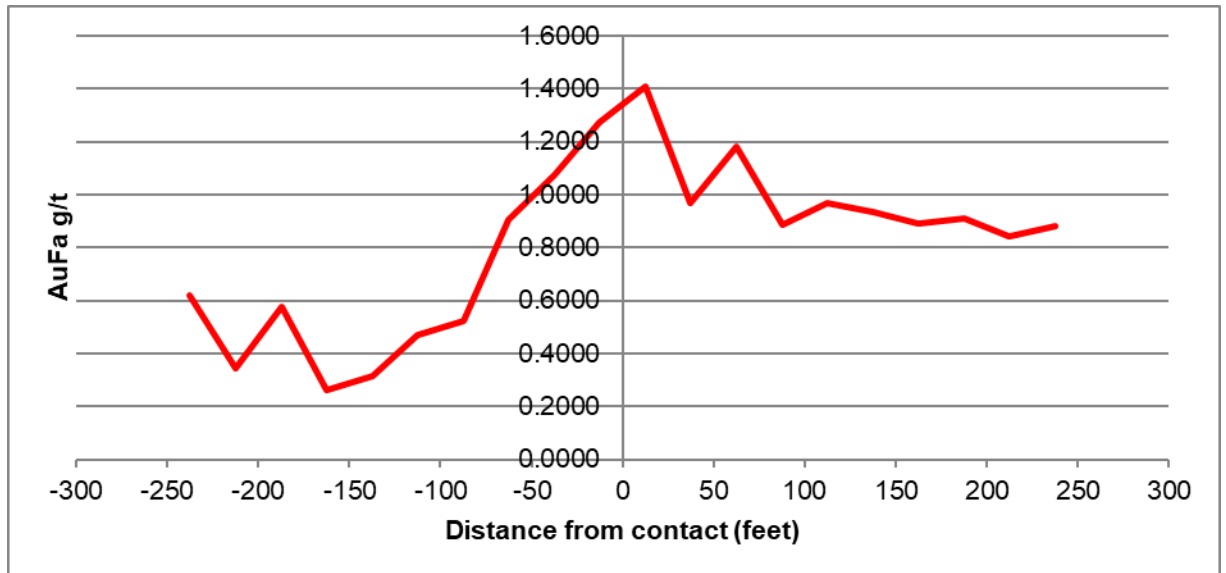
The Moose deposit consists of only one LG wireframe extending 120 m (75 ft) below the surface with a width of 120 m (75 ft).

The Joss deposit located within the Yellowjacket Formation just below the overlying Tertiary epiclastic sediments, consists of one HG domain with an enveloping LG domain starting at approximately 70 m (40 ft) below the surface and extending downward for over 500 m (300 ft).

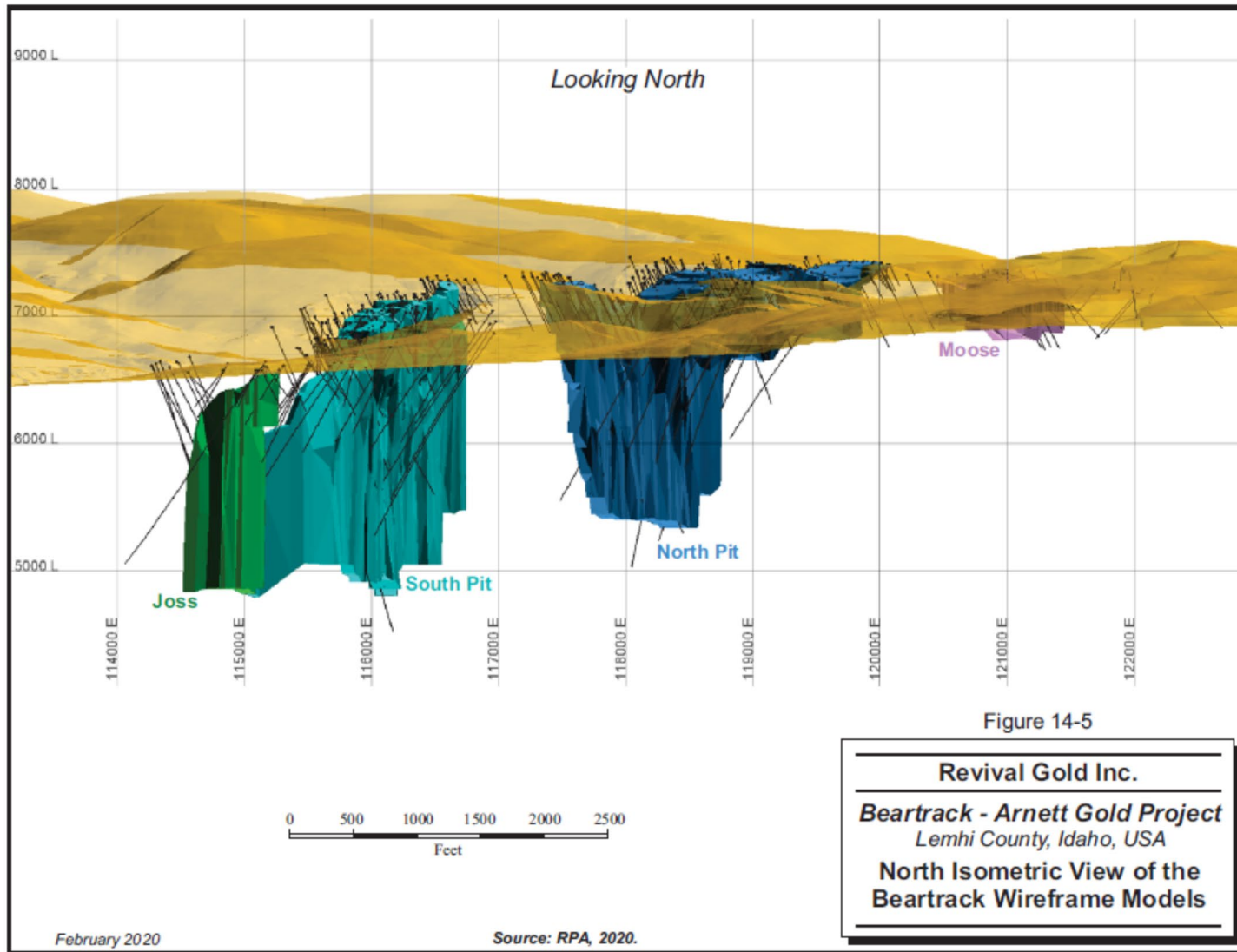
Figure 14-5 and Figure 14-6 show isometric views of each of the Beartrack deposits' wireframe models.



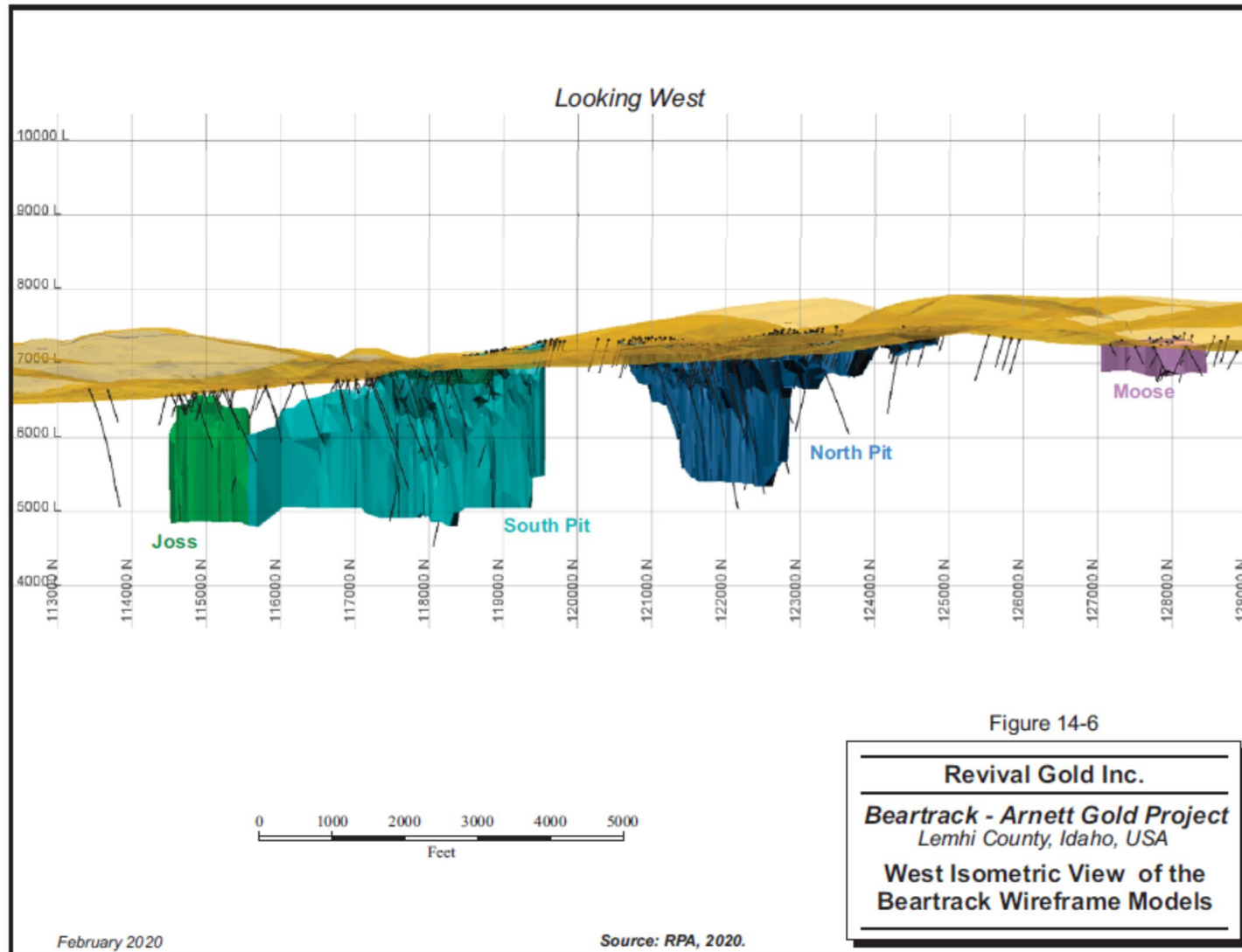
**Figure 14-3: Contact Plot in the South Pit Between YellowJacket/PCSZ (left) and Quartz Monzonite (right)**



**Figure 14-4: Contact Plot in the North Pit Between YellowJacket/PCSZ (left) and Quartz Monzonite (right)**



**Figure 14-5: North Isometric View of the Beartrack Wireframe Models**



**Figure 14-6: West Isometric View of the Beartrack Wireframe Models**

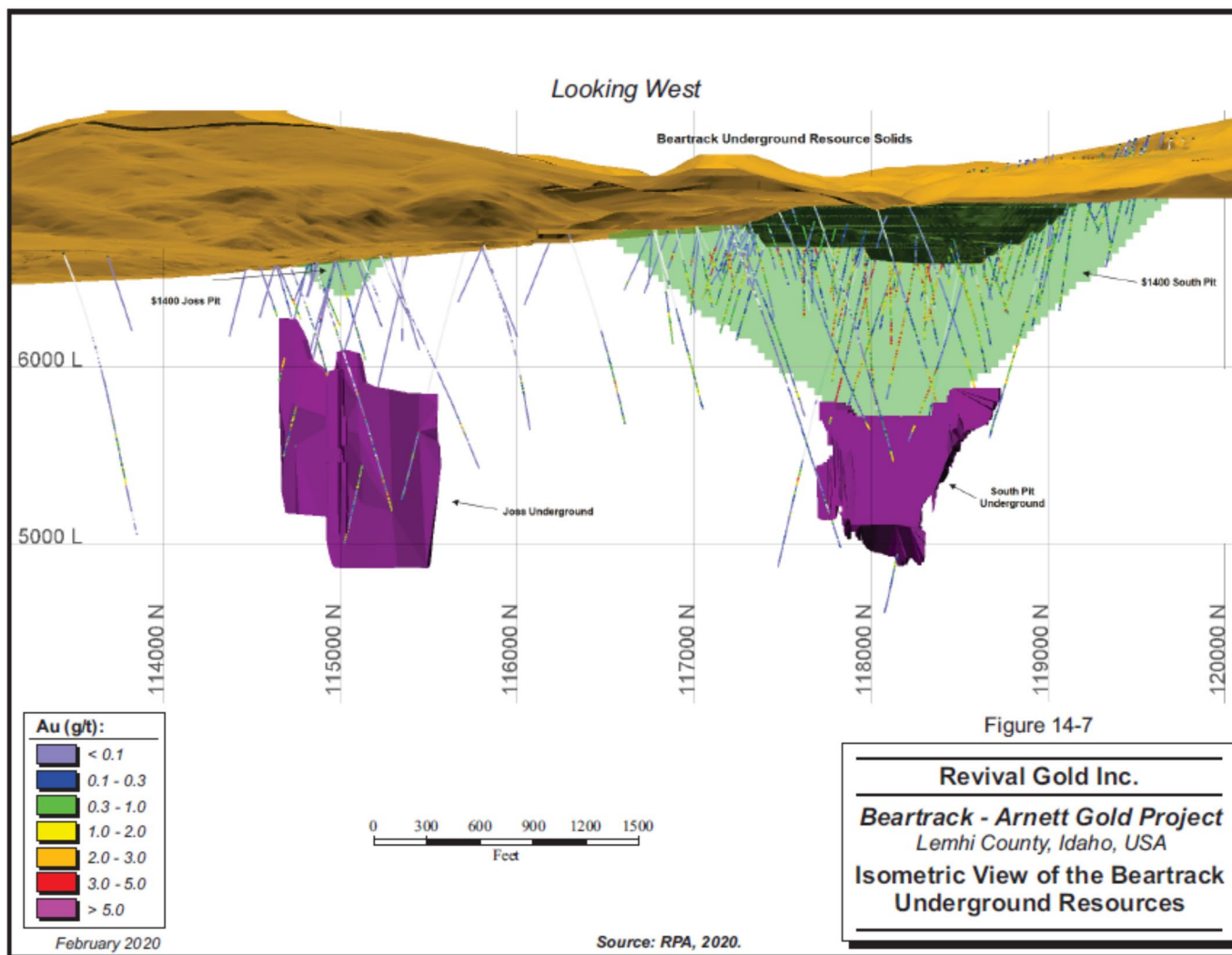
### 14.2.1.2 Underground

Underground resources were identified for the South Pit and Joss areas at Beartrack. A 2.0 g/t Au solid was created within the HG wireframe to isolate continuous mineralization below the current pit outline.

Figure 14-7 shows the final underground resource solid used to evaluate the underground resources at Joss and South Pit. RPA calculated a break-even incremental cut-off grade of 1.26 g/t Au for the underground resources.

The criteria used for the underground material to be included in the estimation are as follows:

- Material within the 2.0 g/t Au solid and the 1.0 g/t resource wireframe,
- Sulphide material designated to be run through the mill,
- A grade average above the underground cut-off grade of 1.26 g/t Au.



Note: Underground triangulation color is not indicative of grade.

**Figure 14-7: Isometric View of Beartrack Underground Resources**

## 14.2.2 Statistical Analysis

Wireframes were built to include areas that were previously mined. Revival provided current LiDAR, pre-mining, and end-of-mining topographies which were used to code the blocks according to mined out or in-situ rock material. In the North Pit, there is an area with backfill material. Revival provided a 3D volume that outlined this material and allowed RPA to flag the blocks appropriately.

The wireframe models were used to code the drill hole database and to identify samples within the mineralized wireframes. Samples which were labelled as mined out were included for capping analyses. Samples were extracted from the database on a group-by-group basis, subjected to statistical analyses for their respective domains, and then analyzed by means of histograms and probability plots. A total of 24,731 fire assays and 16,801 cyanide soluble assays were contained within the mineralized wireframes.

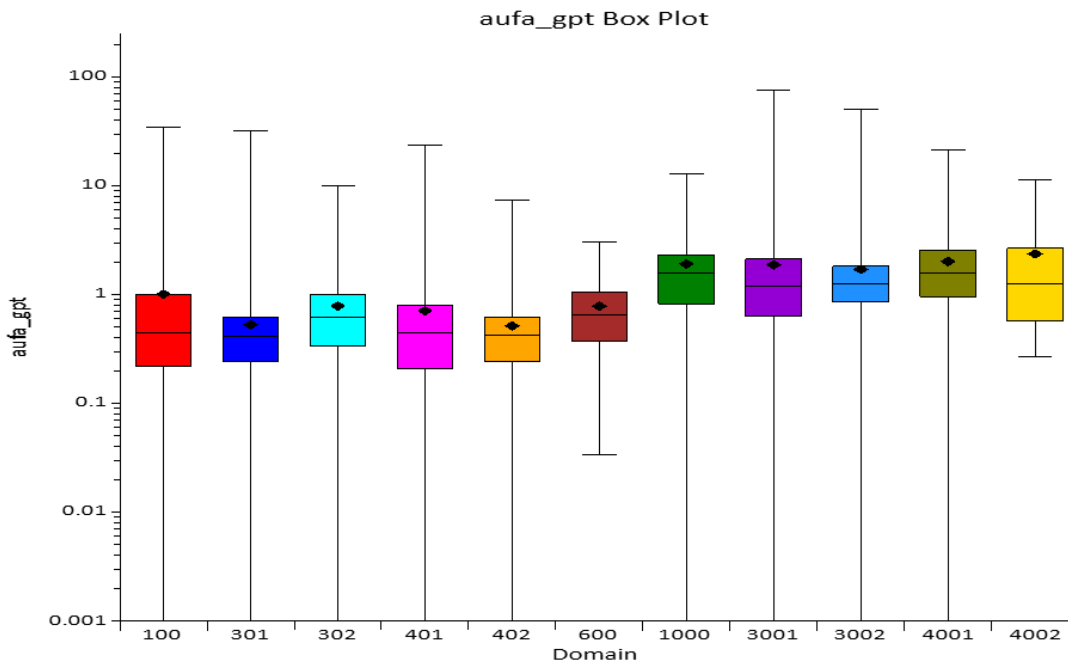
Statistical analysis of cyanide soluble assays was based on the same methods used for the fire assays in order to determine if materials are leachable. The results are used in the cut-off calculations and material designation and will be discussed later under “Cut-Off Grade”. All resources, however, are reported based on fire assays only. Table 14-4 and Table 14-5 and Figure 14-8 and Figure 14-9 present the descriptive and visual statistics for each individual zone. The coefficient of variation (CV) is a measure of variability of the data.

**Table 14-4: Summary Statistics of Uncapped Fire Assays – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	597	0.000	34.290	0.753	3.300	1.817	2.410
1000	288	0.000	12.850	2.133	4.520	2.127	1.000
301	2,424	0.000	32.300	0.506	0.710	0.842	1.660
302	6,378	0.000	15.770	0.687	0.600	0.775	1.130
3001	819	0.000	180.710	2.483	109.800	10.480	4.220
3002	1,540	0.000	50.220	1.667	5.300	2.302	1.380
401	5,540	0.000	31.200	0.655	1.560	1.248	1.900
402	434	0.000	7.440	0.528	0.340	0.584	1.110
4001	5,659	0.000	21.330	2.013	2.980	1.728	0.860
4002	29	0.270	11.450	2.373	8.060	2.838	1.200
600	1,023	0.034	3.048	0.781	0.290	0.542	0.690
<b>Total</b>	<b>24,731</b>	<b>0.000</b>	<b>180.710</b>	<b>1.108</b>	<b>5.800</b>	<b>2.409</b>	<b>2.170</b>

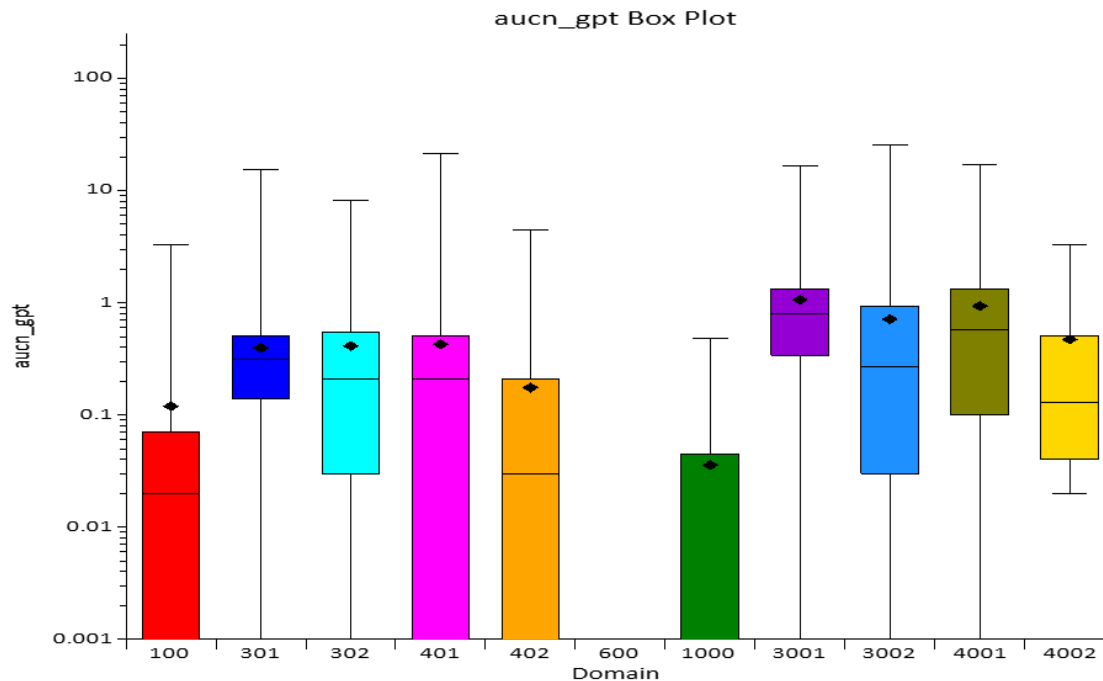
**Table 14-5: Summary Statistics of Uncapped Cyanide Soluble Assays – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	272	0.000	3.290	0.120	0.110	0.334	2.790
1000	94	0.000	0.480	0.036	0.000	0.069	1.940
301	1,744	0.000	15.390	0.396	0.320	0.569	1.440
302	3,690	0.000	8.260	0.413	0.380	0.613	1.480
3001	749	0.000	16.660	1.064	1.760	1.328	1.250
3002	1,209	0.000	25.540	0.715	2.350	1.533	2.140
401	3,515	0.000	21.190	0.427	0.740	0.857	2.010
402	361	0.000	4.490	0.176	0.180	0.424	2.410
4001	4,116	0.000	16.870	0.934	1.550	1.245	1.330
4002	28	0.020	3.330	0.471	0.590	0.767	1.630
600	1,023	0.000	0.000	0.000	0.000	0.000	N/A
<b>Total</b>	<b>16,801</b>	<b>0.000</b>	<b>25.540</b>	<b>0.555</b>	<b>0.990</b>	<b>0.994</b>	<b>1.790</b>



**Figure 14-8: Beartrack Au Fire Assay Box Plots by Domain**





**Figure 14-9: Beartrack Au Cyanide Soluble Assay Box Plots by Domain**

### 14.2.2.1 Grade Capping/Outlier Restrictions

Where the assay distribution is skewed positively or approaches log-normal, erratic high-grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level.

RPA is of the opinion that the influence of high-grade gold assays must be reduced or controlled and uses a number of industry best practice methods to achieve this goal, including capping of high-grade values. Selecting a capping threshold in order to reduce the influence of outliers involves several statistical analytical methods to determine an appropriate capping value including preparation of frequency histograms, probability plots, decile analyses, and capping curves. Using these methodologies, RPA selected capping values for the different mineralized domains within the Beartrack project and applied them to fire and cyanide soluble assays separately.

Examples of the capping analysis are shown in Figure 14-10 and Figure 14-11 and applied to the data set for the mineralized domains. Table 14-6 and Table 14-7 describe the mineralized domains and their corresponding capping level for fire and cyanide soluble assays. Capped

assay statistics by zones are compared with uncapped assay statistics and summarized in Table 14-8 and Table 14-9.

In RPA's opinion, the selected capping values are reasonable and have been correctly applied to the raw assay values for the Beartrack Mineral Resource estimate.

**Table 14-6: Capping of Resource Fire Assay Values by Domain – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Cap Levels (g/t Au)	Number of Assays	Number Assays Capped	% Capped
100	4.5	597	12	2.01%
1000	6	288	12	4.17%
301	8	2,424	2	0.08%
302	8	6,378	8	0.13%
3001	14	819	9	1.10%
3002	13	1,540	8	0.52%
401	8	5,540	21	0.38%
402	8	434	0	0.00%
4001	14	5,659	12	0.21%
4002	13	29	0	0.00%
600	5	1,023	0	0.00%
<b>Grand Total</b>		<b>24,731</b>	<b>84</b>	<b>0.34%</b>

**Table 14-7: Capping of Resource Cyanide Soluble Assay Values by Domain – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Cap Levels (g/t Au)	Number of Assays	Number Assays Capped	% Capped
100	3	272	8	2.94%
1000	4	94	0	0.00%
301	4	1,744	159	9.12%
302	3	3,690	205	5.56%
3001	5	749	58	7.74%
3002	4	1,209	54	4.47%
401	5	3,515	170	4.84%
402	3	361	4	1.11%

Domain	Cap Levels (g/t Au)	Number of Assays	Number Assays Capped	% Capped
4001	5	4,116	123	2.99%
4002	4	28	0	0.00%
600	0	1,023	0	0.00%
<b>Grand Total</b>		<b>16,801</b>	<b>781</b>	<b>4.65%</b>

**Table 14-8: Summary Statistics of Uncapped versus Capped Fire Assays – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	100		1000	
	Uncapped	Capped	Uncapped	Capped
<b>Descriptive Statistics</b>				
Number of Samples	597	597	288	288
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	34.290	4.500	12.850	6.000
Mean (g/t Au)	0.753	0.660	2.133	1.980
Variance	3.300	0.870	4.520	2.520
SD (g/t Au)	1.817	0.935	2.127	1.589
CV	2.410	1.420	1.000	0.800
Number of Caps		12		12
Domain	301		302	
<b>Descriptive Statistics</b>	Uncapped	Capped	Uncapped	Capped
Number of Samples	2,424	2,424	6,378	6,378
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	32.300	8.000	15.770	8.000
Mean (g/t Au)	0.506	0.495	0.687	0.684
Variance	0.710	0.300	0.600	0.540
SD (g/t Au)	0.842	0.549	0.775	0.733
CV	1.660	1.110	1.130	1.070
Number of Caps		2		8

<b>Domain</b>	<b>3001</b>		<b>3002</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	819	819	1,540	1,540
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	180.710	14.000	50.220	13.000
Mean (g/t Au)	2.483	1.813	1.667	1.604
Variance	109.800	4.630	5.300	2.450
SD (g/t Au)	10.480	2.152	2.302	1.565
CV	4.220	1.190	1.380	0.980
Number of Caps		9		8
<b>Domain</b>	<b>401</b>		<b>402</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	5,540	5,540	434	434
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	31.200	8.000	7.440	7.440
Mean (g/t Au)	0.655	0.630	0.528	0.528
Variance	1.560	0.880	0.340	0.340
SD (g/t Au)	1.248	0.940	0.584	0.584
CV	1.900	1.490	1.110	1.110
Number of Caps		21		0
<b>Domain</b>	<b>4001</b>		<b>4002</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	5,659	5,659	29	29
Min (g/t Au)	0.000	0.000	0.270	0.270
Max (g/t Au)	21.330	14.000	11.450	11.450
Mean (g/t Au)	2.013	2.006	2.373	2.373
Variance	2.980	2.770	8.060	8.060
SD (g/t Au)	1.728	1.665	2.838	2.838
CV	0.860	0.830	1.200	1.200
Number of Caps		123		0

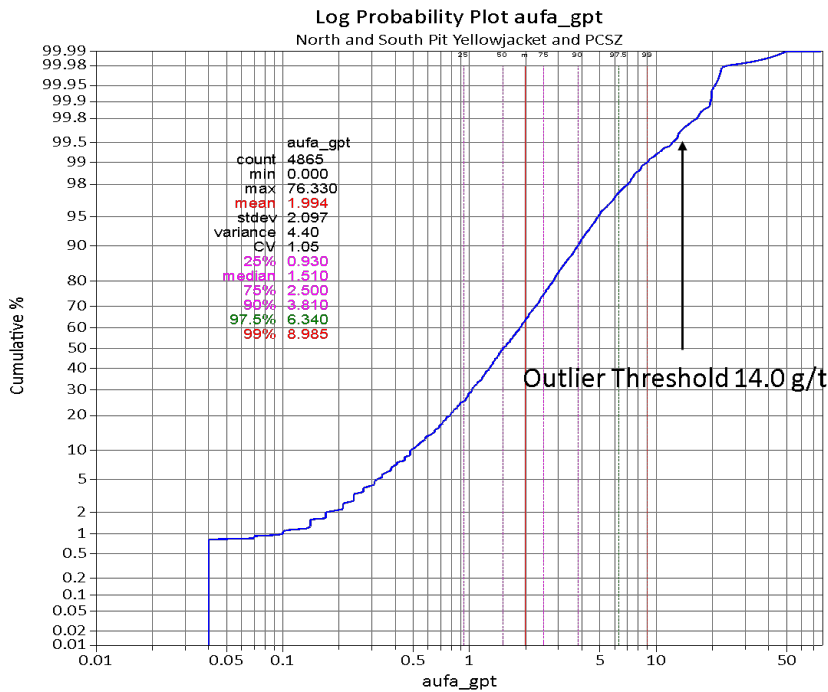
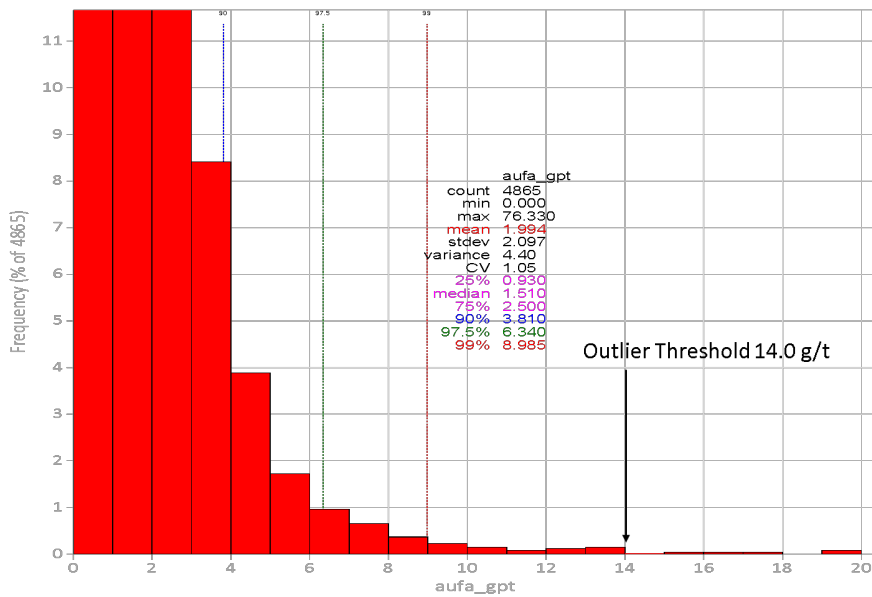
<b>Domain</b>	<b>600</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	1,023	1,023
Min (g/t Au)	0.034	0.034
Max (g/t Au)	3.048	3.048
Mean (g/t Au)	0.781	0.781
Variance	0.290	0.290
SD (g/t Au)	0.542	0.542
CV	0.690	0.690
Number of Caps		0

**Table 14-9: Summary Statistics of Uncapped versus Capped Cyanide Soluble Assays – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

<b>Domain</b>	<b>100</b>		<b>1000</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	272	272	94	94
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	3.290	3.000	0.480	0.480
Mean (g/t Au)	0.120	0.118	0.036	0.036
Variance	0.110	0.110	0.000	0.000
SD (g/t Au)	0.334	0.324	0.069	0.069
CV	2.790	2.740	1.940	1.940
Number of Caps		8		0
<b>Domain</b>	<b>301</b>		<b>302</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	1,744	1,744	3,690	3,690
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	15.390	4.000	8.260	3.000
Mean (g/t Au)	0.396	0.382	0.413	0.401
Variance	0.320	0.180	0.380	0.300
SD (g/t Au)	0.569	0.419	0.613	0.551
CV	1.440	1.090	1.480	1.370
Number of Caps		159		205

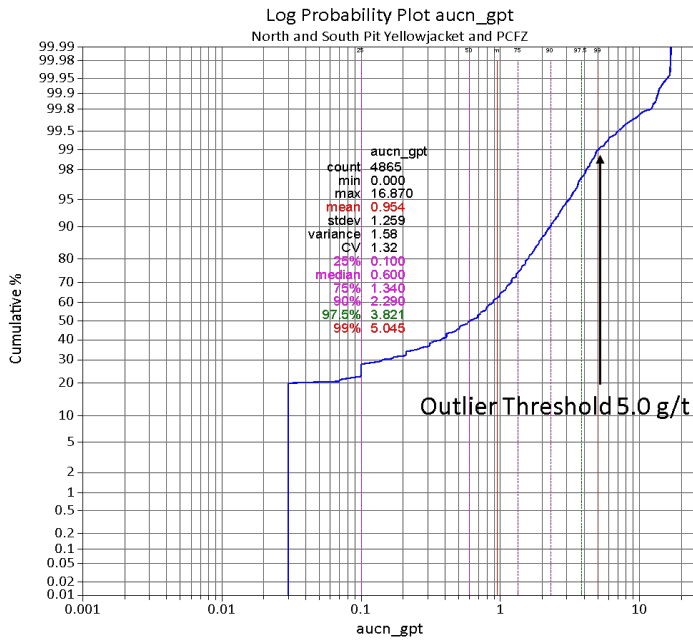
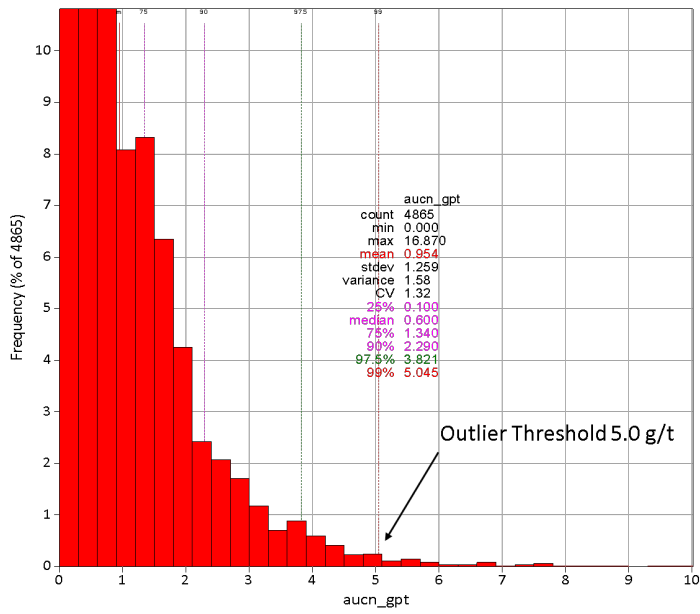
<b>Domain</b>	<b>3001</b>		<b>3002</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	749	749	1,209	1,209
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	16.660	5.000	25.540	4.000
Mean (g/t Au)	1.064	1.002	0.715	0.613
Variance	1.760	0.880	2.350	0.680
SD (g/t Au)	1.328	0.939	1.533	0.822
CV	1.250	0.940	2.140	1.340
Number of Caps		58		54
<b>Domain</b>	<b>401</b>		<b>402</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	3,515	3,515	361	361
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	21.190	5.000	4.490	3.000
Mean (g/t Au)	0.427	0.406	0.176	0.166
Variance	0.740	0.460	0.180	0.110
SD (g/t Au)	0.857	0.678	0.424	0.338
CV	2.010	1.670	2.410	2.040
Number of Caps		170		4
<b>Domain</b>	<b>4001</b>		<b>4002</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	4,116	4,116	28	28
Min (g/t Au)	0.000	0.000	0.020	0.020
Max (g/t Au)	16.870	5.000	3.330	3.330
Mean (g/t Au)	0.934	0.901	0.471	0.471
Variance	1.550	1.090	0.590	0.590
SD (g/t Au)	1.245	1.044	0.767	0.767
CV	1.330	1.160	1.630	1.630
Number of Caps		123		0

<b>Domain</b>	<b>600</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	0	0
Min (g/t Au)	0	0
Max (g/t Au)	0	0
Mean (g/t Au)	0	0
Variance	0	0
SD (g/t Au)	0	0
CV	0	0
Number of Caps		0



**Figure 14-10: Histogram and Log Probability Fire Assays – Beartrack North and South Pit YellowJacket/PCSZ (Zones 3001 and 4001)**

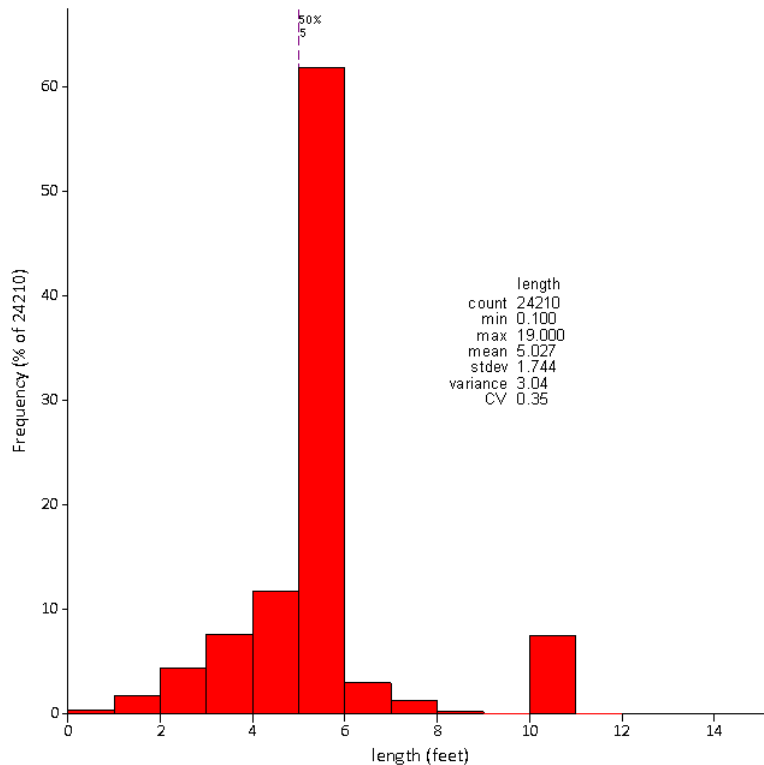




**Figure 14-11: Histogram and Log Probability Cyanide Soluble Assays – Beartrack North and South Pit YellowJacket/PCSZ (Zones 3001 and 4001)**

### 14.2.2.2 Composites

Composites were created from the capped raw assay values using the downhole compositing function of the Vulcan modelling software package. The composite lengths used during interpolation were chosen considering the predominant sampling length, the minimum mining width, style of mineralization, and continuity of grade. The raw assay data contains samples having irregular sample lengths. Sample lengths range from 0.1 ft to 19.0 ft (0.03 m to 5.8 m) within the wireframe models, with 76% of the samples taken between 4.0 ft to 6.0 ft (1.2 m and 1.8 m) intervals (Figure 14-12). Given this distribution, and considering the width of the mineralization, RPA chose to composite to 10 ft (3.05 m) lengths, which in RPA’s opinion is appropriate for Beartrack Mineral Resource estimation.



**Figure 14-12: Histogram of Sampling Length – Beartrack**

Assays within the wireframe domains were composited starting at the first mineralized wireframe boundary from the collar and resetting at each new wireframe boundary. Assays were capped prior to compositing. Table 14-10 and Table 14-11 show the statistics for fire and cyanide soluble composites by zone.

**Table 14-10: Descriptive Statistics of Fire Assay Composite Values by Domain – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	275	0.000	3.795	0.662	0.520	0.724	1.100
1000	126	0.000	5.267	1.928	1.640	1.280	0.660
301	1,140	0.000	5.510	0.465	0.170	0.418	0.900
302	3,670	0.000	5.918	0.657	0.370	0.605	0.920
3001	383	0.000	13.087	1.843	3.740	1.935	1.050
3002	756	0.069	13.990	1.648	2.060	1.437	0.870
401	2,777	0.000	8.000	0.622	0.620	0.789	1.270
402	219	0.000	6.205	0.491	0.260	0.505	1.030
4001	2,702	0.000	14.000	1.983	1.940	1.391	0.700
4002	14	0.516	10.180	2.390	7.050	2.656	1.110
600	512	0.031	2.894	0.779	0.240	0.487	0.620
<b>Total</b>	<b>12,574</b>	<b>0.000</b>	<b>14.000</b>	<b>1.029</b>	<b>1.330</b>	<b>1.152</b>	<b>1.120</b>

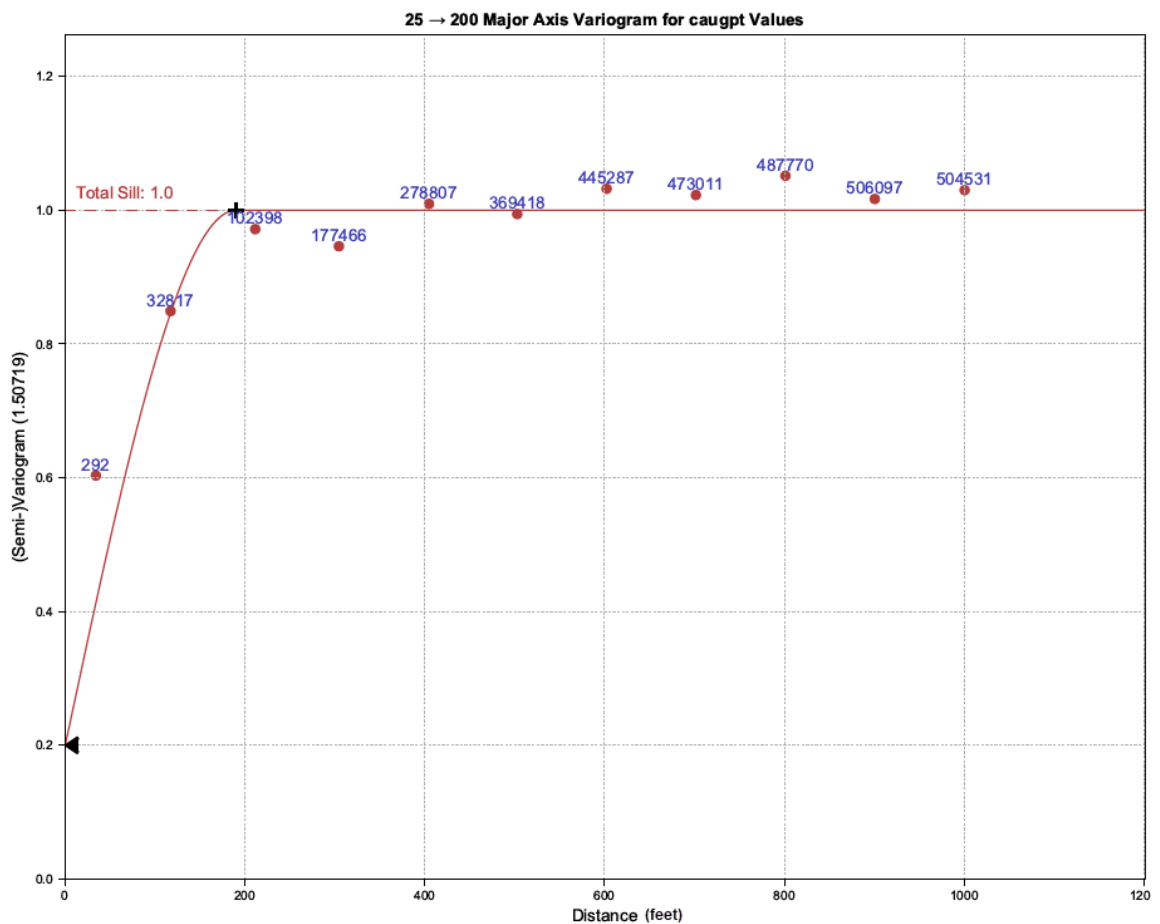
**Table 14-11: Descriptive Statistics of Cyanide Soluble Assay Composite Values by Domain – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	132	0.000	2.955	0.120	0.100	0.321	2.680
1000	46	0.000	0.347	0.034	0.000	0.061	1.800
301	874	0.000	3.810	0.368	0.130	0.355	0.960
302	2,277	0.000	3.000	0.419	0.260	0.507	1.210
3001	353	0.000	4.751	1.015	0.610	0.782	0.770
3002	606	0.000	5.000	0.638	0.620	0.785	1.230
401	1,851	0.000	5.000	0.417	0.400	0.629	1.510
402	189	0.000	3.000	0.159	0.080	0.280	1.760
4001	2,043	0.000	5.000	0.923	0.930	0.964	1.040
4002	15	0.035	1.710	0.502	0.270	0.517	1.030
600	512	0.000	0.000	0.000	0.000	0.000	NaN
<b>Total</b>	<b>8,898</b>	<b>0.000</b>	<b>5.000</b>	<b>0.532</b>	<b>0.520</b>	<b>0.721</b>	<b>1.360</b>

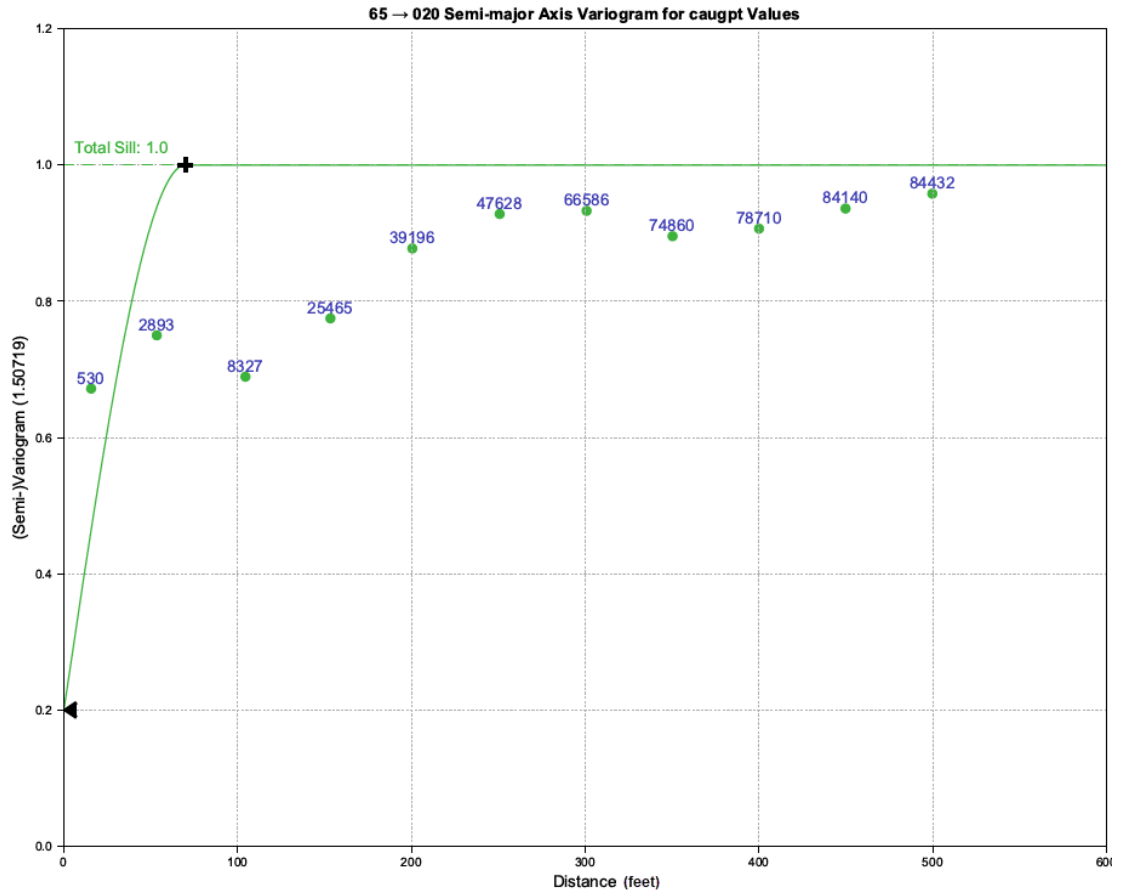
### 14.2.2.3 Variography

RPA generated downhole and directional variograms using the 10 ft (3.05 m) capped composite values located within the South Pit mineralized domains. Variograms from the South Pit HG domain (4001) are shown in Figure 14-13 through Figure 14-15.

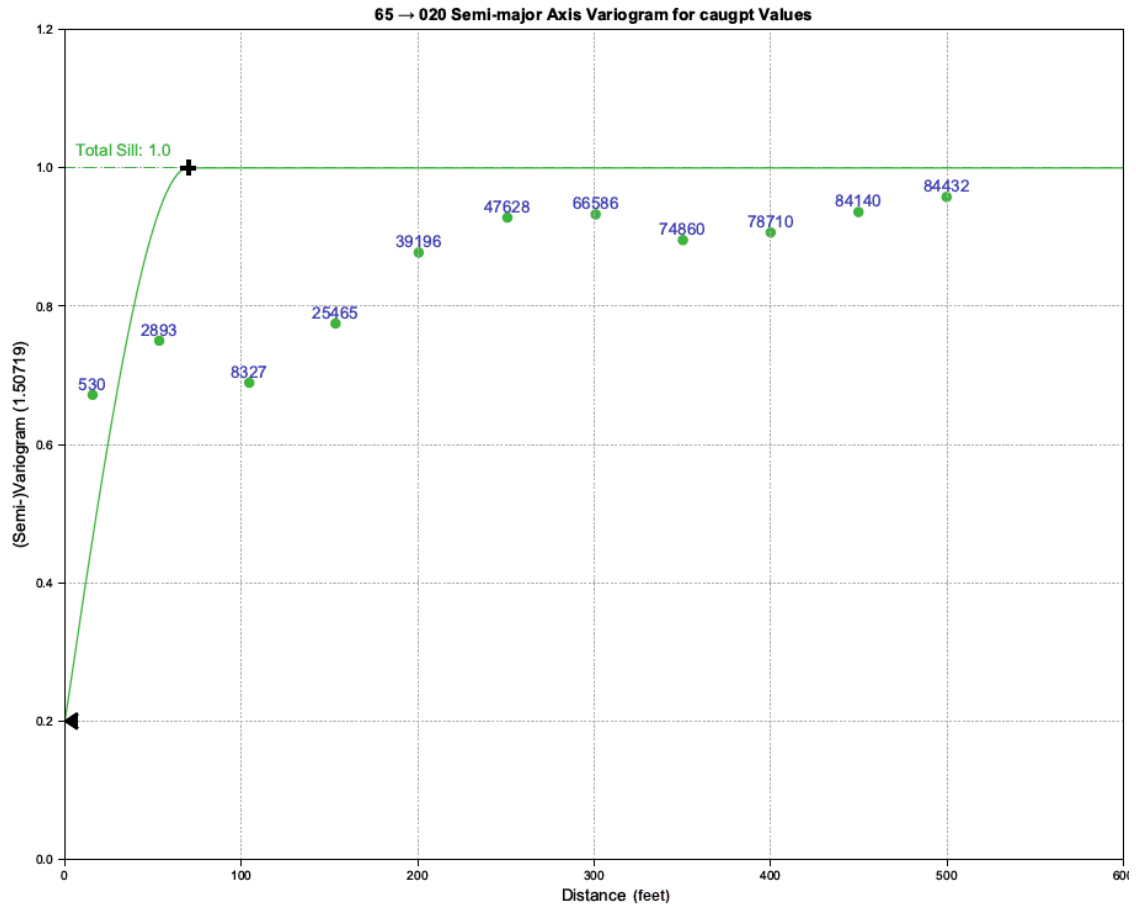
The variograms were used to support search ellipsoid anisotropy and Mineral Resource classification decisions. The downhole variograms suggests a relative nugget effect of approximately 20%. Long range directional variograms were focused in the primary plane of mineralization, which commonly strikes northeast and dips steeply to the southeast.



**Figure 14-13: Major Directional Variogram for South Pit High-Grade Domain (Azimuth 110°, Dip 90°, Pitch 155°)**



**Figure 14-14: Semi-Major Directional Variogram for South Pit High-Grade Domain (Azm 110°, Dip 90°, Pitch 155°)**



**Figure 14-15: Minor Directional Variogram for South Pit High-Grade Domain (Azimuth 110°, Dip 90°, Pitch 155°)**

### 14.2.3 Block Model

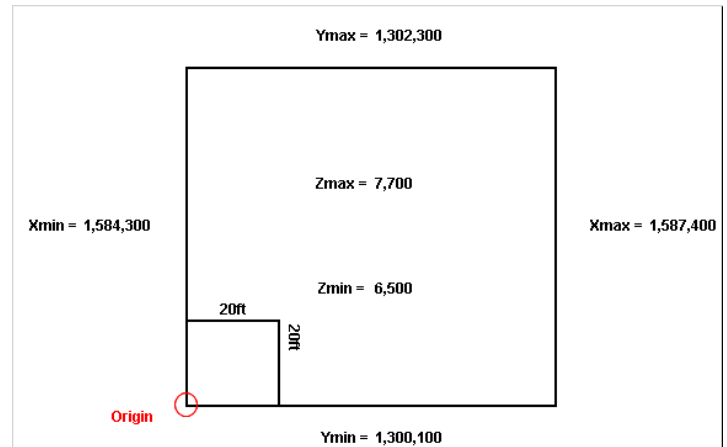
Block models were created by RPA using Vulcan 12.0 to support the Mineral Resource estimate for the gold deposits at Beartrack. Block size determination took into account the composite lengths and number of samples used for an estimation. A parent block size of 20 ft (6.1 m - in the north-south directions) by 20 ft (6.1 m - in an east-west direction) by 20 ft (6.1 m - vertical direction) was used, with no sub-blocking.

The model origin for Beartrack (lower-left corner at lowest elevation) is at local mine coordinates 110,960ft E, 112,000ft N and 3,600 FASL. The model fully enclosed the modelled resource wireframes and is oriented with an azimuth of 90.0°, dip of 0.0°, and a plunge of 0.0°. A summary of the block model extents is provided in Table 14-12.

Several attributes were created to store such information as bulk density, estimated gold grades, wireframe code, Mineral Resource classification, etc., for each block model area as listed in Table 14-13.

**Table 14-12: Beartrack Block Model Dimensions (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

<b>Origin</b>	<b>Value</b>
Xmin (ft)	110,960
Ymin (ft)	112,000
Zmin (ft)	3,600
X Extents (ft)	12,000
Y Extents (ft)	19,000
Z Extents (ft)	4,000
<b>Schema</b>	<b>Value</b>
<b>Parent</b>	
DX (ft)	20
DY (ft)	20
DZ (ft)	20
NX	600
NY	950
NZ	200
<b>Number of Blocks</b>	114,000,000
<b>Model Rotation</b>	<b>Value</b>
Bearing	90°
Plunge	0°
Dip	0°
Project Units	Feet
Coordinate System	Local Mine Coordinate



**Table 14-13: Beartrack Block Model Parameters and Variables (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Variable	Data Type	Default Value	Description
aufa_gpt_ok	-99	double	au grams per tonne fire assay ordinary kriging
aufa_gpt_id2	-99	double	au grams per tonne fire assay inverse distance squared
aufa_gpt_id3	-99	double	au grams per tonne fire assay inverse distance cubed
aucn_gpt_ok	-99	double	cyanide soluble grams per tonne ordinary krig
aucn_gpt_id2	-99	double	cyanide soluble grams per tonne inverse distance squared
aucn_gpt_id3	-99	double	cyanide soluble grams per tonne inverse distance cubed
aufa_final_gpt	-99	double	final aufa value
aucn_final_gpt	-99	double	final aucn value
aufa_bh_gpt	-99	double	aufa value for blast holes
aucn_bh_gpt	-99	double	aucn value for blast holes
zflag	-99	integer	high-grade and low-grade domains
est_flag_id2_fa	-99	integer	inverse distance estimation pass fire assay
est_flag_id2_cn	-99	integer	inverse distance estimation pass cyanide soluble
est_flag_id3_fa	-99	integer	inverse distance estimation pass fire assay
est_flag_id3_cn	-99	integer	inverse distance estimation pass cyanide soluble
est_flag_ok_fa	-99	integer	ordinary krig estimation pass fire assay
est_flag_ok_cn	-99	integer	ordinary krig estimation pass cyanide soluble
est_flag_bh_fa	-99	integer	estimation flag for blast holes fire assay
est_flag_bh_cn	-99	integer	estimation flag for blast holes cyanide soluble
litho	-99	integer	lithology category: 10 gt; 30 pcfz; 40 d, 50 qm; 60 yj; 70 bf
class	-99	integer	1 =measured, 2= indicated, 3 = inferred
nholes	-99	integer	number of holes used in estimate
nn_dist	-99	double	distance to the nearest neighbor
nn	-99	double	grade of the nearest neighbor
nsamp	-99	integer	number of samples used in an estimate
domain	-99	integer	1 = Joss; 2 = mason dixon; 3 north pit, 4 south pit, 6 moose
oxide	-99	double	1=oxide, 2=transition, 3=sulfide
mined	-99	double	mined out material 1=mined out
rev_class	-99	double	



Variable	Data Type	Default Value	Description
cst_heap	0	double	
cst_pox	0	double	
rev_heap	0	double	
rev_pox	0	double	
val_mrg_heap	0	double	
val_mrg_pox	0	double	
mill_1400	-99	integer	1 = heap, 2 = pox, 0 = waste @ \$1400 gold price
open_pit_1500	-99	integer	open pit @ \$1500 gold price
mined2	-99	integer	
aucn_final_adjust_gpt	-99	double	
mill_1500	-99	integer	1 = heap, 2 = pox, 0 = waste @ \$1500 gold price
density_2	0.0763	double	
old_au_gpt	-99	double	
old_aucn_gpt	-99	double	
old_density_calculated	-99	double	
old_tons	-99	double	
old_class	-99	integer	
old_dest	-99	integer	
old_litho	-99	integer	
aufa_diff	-99	double	2018 aufa minus 2019 aufa
open_pit_1400	-99	double	proportional block eval for open pit \$1400
ug_resource_flag	-99	double	proportional block eval for ug
bh_exp_diff	-99	double	bh grade minus exproation hole grade
topo_rpa	0	double	
pit_rpa	0	double	
op_rpa	-99	double	
old_density	-99	double	1/old_tf
rpa_density	-99	double	old_density*op_rpa
old_auidw_opt	-99	double	2018 gold grade opt

RPA considers the Beartrack block model parameters to be acceptable for a Mineral Resource estimate.

#### 14.2.4 Density

Bulk density (SG) measurements are applied to units of variable rock density for tonnage calculations. The number of densities is a direct function of density variability across the mineralization and adjacent waste zones. A tonnage factor expressed in ft<sup>3</sup>/ton is calculated by dividing a constant of 32.04 by the SG value. Dense rocks with high SGs therefore produce low tonnage factors. Vulcan software uses a different density factor to calculate tonnage. It is defined as tons/ft<sup>3</sup> (1/(tonnage factor, ft<sup>3</sup>/ton). The mineralized triangulations are coded for each type of lithology and based on the lithology coding the density factors are assigned to each block using a block calculation file.

Gold mineralization at Beartrack occurs primarily in the Yellowjacket Formation, PCSZ, and rapakivi granite. Densities range from 2.00 t/m<sup>3</sup> to 2.75 t/m<sup>3</sup>. Further discussion is provided in Section 11. Table 14-14 summarizes the various bulk density values (t/m<sup>3</sup>) used at Beartrack.

**Table 14-14: Beartrack Density by Lithology (Revival Gold Inc. – Beartrack – Arnett Gold Project)**

Lithology	Lith Block Code	Block Grade (g/t) with Corresponding Density Value (t/m <sup>3</sup> )	
		<0.17	≥0.17
Glacial Till/Overburden	10	2.00	2.00
PCSZ	30	2.63	2.46
Dikes	40	2.45	2.34
Quartz Monzonite	50	2.45	2.34
Yellowjacket Formation	60	2.63	2.46
Backfill	70	2.00	2.00
Waste/Defaults	-99	2.46	2.46
Joss Yellowjacket Formation	60	2.75	2.75

#### 14.2.5 Estimation/Interpolation Parameters

For the mineralized domains, search ellipsoid geometry was oriented into the structural plane of the mineralization, as indicated by the mineralized intervals in core. The interpolation strategy involved setting up search parameters in a series of three estimation runs for each individual domain. Search ellipse dimensions were chosen following a review of drill hole

spacing and interpolation efficiency. The first pass uses a 200 ft x 200 ft x 50 ft (61.0 m x 61.0 m x 15.2 m) search ellipse. Each subsequent pass maintained the 4:4:1 anisotropic ratio search ellipse. Search ellipses were oriented with the major axis oriented parallel to the dominant northeast trend of the deposit. Grade variables were interpolated using inverse distance weighting squared ( $ID^2$ ).

The first two estimates used a minimum of three and a maximum of ten composites per block estimate with all of the domains using a maximum of two composites per drill hole. The third estimate used a minimum of two and a maximum of ten composites per block estimate with all of the domains using a maximum of two composites per drill hole. The sample selection criteria were established through sensitivity testing, comparing the estimated block means of each domain to the composited mean. Hard boundaries were used to limit the use of composites between domains.

Interpolation parameters are listed in Table 14-15 and Table 14-16 for the Beartrack project for fire assay and cyanide soluble assay estimations.

**Table 14-15: Fire Assay Block Estimate Search Strategy by Domain – Beartrack (Revival Gold Inc. Beartrack-Arnett Gold Project)**

Domain	Estimation Type	Cap AuFA (g/t)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
<b>1st Pass Estimate</b>													
100	ID <sup>2</sup>	4.5	20	10	90	200	200	50	3	10	2	2	5
1000	ID <sup>2</sup>	6	20	10	90	200	200	50	3	10	2	2	5
301	ID <sup>2</sup>	8	30	10	90	200	200	50	3	10	2	2	5
302	ID <sup>2</sup>	8	30	10	90	200	200	50	3	10	2	2	5
3001	ID <sup>2</sup>	14	30	10	90	200	200	50	3	10	2	2	5
3002	ID <sup>2</sup>	13	30	10	90	200	200	50	3	10	2	2	5
401	ID <sup>2</sup>	8	20	10	90	200	200	50	3	10	2	2	5
402	ID <sup>2</sup>	8	20	10	90	200	200	50	3	10	2	2	5
4001	ID <sup>2</sup>	14	20	10	90	200	200	50	3	10	2	2	5
4002	ID <sup>2</sup>	13	20	10	90	200	200	50	3	10	2	2	5
600	ID <sup>2</sup>	5	20	10	90	200	200	50	3	10	2	2	5
<b>2nd Pass Estimate</b>													
100	ID <sup>2</sup>	4.5	20	10	90	400	400	100	3	10	2	2	5
1000	ID <sup>2</sup>	6	20	10	90	400	400	100	3	10	2	2	5
301	ID <sup>2</sup>	8	30	10	90	400	400	100	3	10	2	2	5
302	ID <sup>2</sup>	8	30	10	90	400	400	100	3	10	2	2	5
3001	ID <sup>2</sup>	14	30	10	90	400	400	100	3	10	2	2	5
3002	ID <sup>2</sup>	13	30	10	90	400	400	100	3	10	2	2	5
401	ID <sup>2</sup>	8	20	10	90	400	400	100	3	10	2	2	5

Domain	Estimation Type	Cap AuFA (g/t)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
402	ID <sup>2</sup>	8	20	10	90	400	400	100	3	10	2	2	5
4001	ID <sup>2</sup>	14	20	10	90	400	400	100	3	10	2	2	5
4002	ID <sup>2</sup>	13	20	10	90	400	400	100	3	10	2	2	5
600	ID <sup>2</sup>	5	20	10	90	400	400	100	3	10	2	2	5
<b>3rd Pass Estimate</b>													
100	ID <sup>2</sup>	4.5	20	10	90	400	400	100	2	10	2	1	5
1000	ID <sup>2</sup>	6	20	10	90	400	400	100	2	10	2	1	5
301	ID <sup>2</sup>	8	30	10	90	400	400	100	2	10	2	1	5
302	ID <sup>2</sup>	8	30	10	90	400	400	100	2	10	2	1	5
3001	ID <sup>2</sup>	14	30	10	90	400	400	100	2	10	2	1	5
3002	ID <sup>2</sup>	13	30	10	90	400	400	100	2	10	2	1	5
401	ID <sup>2</sup>	8	20	10	90	400	400	100	2	10	2	1	5
402	ID <sup>2</sup>	8	20	10	90	400	400	100	2	10	2	1	5
4001	ID <sup>2</sup>	14	20	10	90	400	400	100	2	10	2	1	5
4002	ID <sup>2</sup>	13	20	10	90	400	400	100	2	10	2	1	5
600	ID <sup>2</sup>	5	20	10	90	400	400	100	2	10	2	1	5

**Table 14-16: Cyanide Soluble Assay Block Estimate Search Strategy by Domain – Beartrack (Revival Gold Inc. Beartrack-Arnett Gold Project)**

Domain	Estimation Type	Cap AuCN (g/t)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
<b>1st Pass Estimate</b>													
100	ID <sup>2</sup>	3	20	10	90	200	200	50	3	10	2	2	5
1000	ID <sup>2</sup>	4	20	10	90	200	200	50	3	10	2	2	5
301	ID <sup>2</sup>	4	30	10	90	200	200	50	3	10	2	2	5
302	ID <sup>2</sup>	3	30	10	90	200	200	50	3	10	2	2	5
3001	ID <sup>2</sup>	5	30	10	90	200	200	50	3	10	2	2	5
3002	ID <sup>2</sup>	4	30	10	90	200	200	50	3	10	2	2	5
401	ID <sup>2</sup>	5	20	10	90	200	200	50	3	10	2	2	5
402	ID <sup>2</sup>	3	20	10	90	200	200	50	3	10	2	2	5
4001	ID <sup>2</sup>	5	20	10	90	200	200	50	3	10	2	2	5
4002	ID <sup>2</sup>	4	20	10	90	200	200	50	3	10	2	2	5
600	ID <sup>2</sup>	0	20	10	90	200	200	50	3	10	2	2	5
<b>2nd Pass Estimate</b>													
100	ID <sup>2</sup>	3	20	10	90	400	400	100	3	10	2	2	5
1000	ID <sup>2</sup>	4	20	10	90	400	400	100	3	10	2	2	5
301	ID <sup>2</sup>	4	30	10	90	400	400	100	3	10	2	2	5
302	ID <sup>2</sup>	3	30	10	90	400	400	100	3	10	2	2	5
3001	ID <sup>2</sup>	5	30	10	90	400	400	100	3	10	2	2	5
3002	ID <sup>2</sup>	4	30	10	90	400	400	100	3	10	2	2	5
401	ID <sup>2</sup>	5	20	10	90	400	400	100	3	10	2	2	5
402	ID <sup>2</sup>	3	20	10	90	400	400	100	3	10	2	2	5
4001	ID <sup>2</sup>	5	20	10	90	400	400	100	3	10	2	2	5



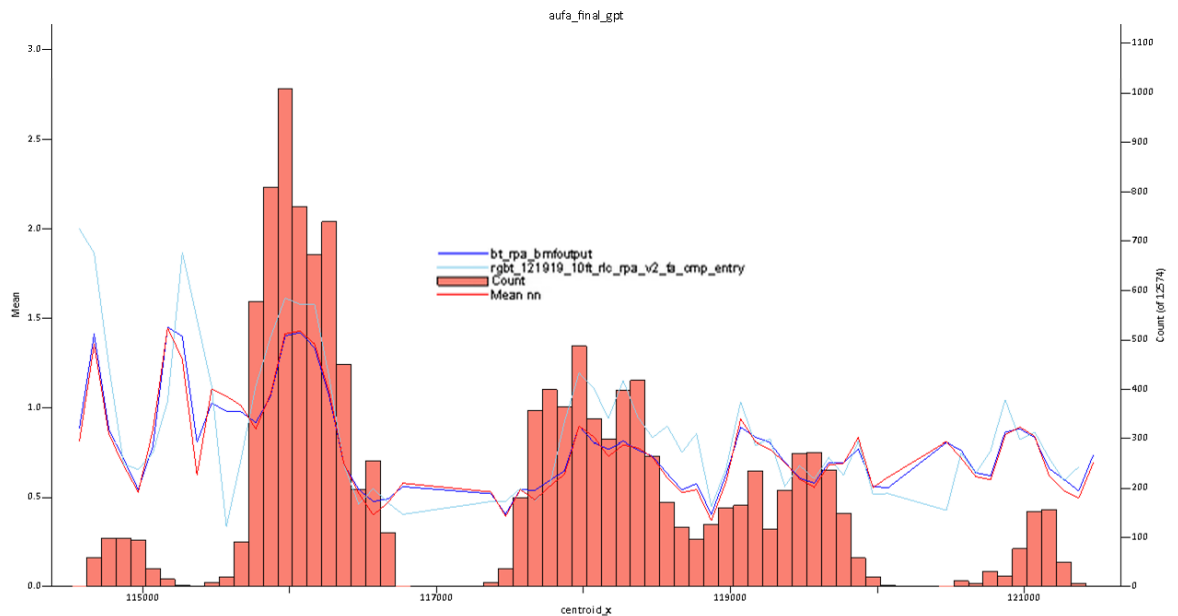
Domain	Estimation Type	Cap AuCN (g/t)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
4002	ID <sup>2</sup>	4	20	10	90	400	400	100	3	10	2	2	5
600	ID <sup>2</sup>	0	20	10	90	400	400	100	3	10	2	2	5
<b>3rd Pass Estimate</b>													
100	ID <sup>2</sup>	3	20	10	90	400	400	100	2	10	2	1	5
1000	ID <sup>2</sup>	4	20	10	90	400	400	100	2	10	2	1	5
301	ID <sup>2</sup>	4	30	10	90	400	400	100	2	10	2	1	5
302	ID <sup>2</sup>	3	30	10	90	400	400	100	2	10	2	1	5
3001	ID <sup>2</sup>	5	30	10	90	400	400	100	2	10	2	1	5
3002	ID <sup>2</sup>	4	30	10	90	400	400	100	2	10	2	1	5
401	ID <sup>2</sup>	5	20	10	90	400	400	100	2	10	2	1	5
402	ID <sup>2</sup>	3	20	10	90	400	400	100	2	10	2	1	5
4001	ID <sup>2</sup>	5	20	10	90	400	400	100	2	10	2	1	5
4002	ID <sup>2</sup>	4	20	10	90	400	400	100	2	10	2	1	5
600	ID <sup>2</sup>	0	20	10	90	400	400	100	2	10	2	1	5

## 14.2.6 Block Model Validation

RPA validated the block model using the following methods:

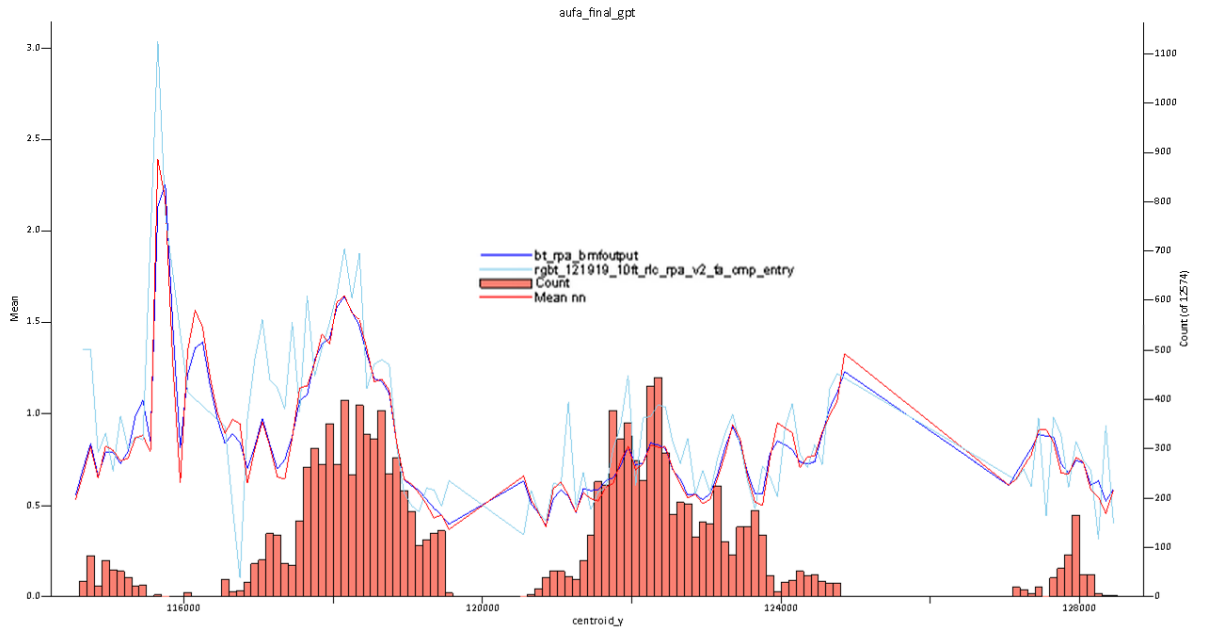
- Swath plots of composite grades versus and nearest neighbour (NN) grades in the X, Y, and Z (Figure 14-16 through Figure 14-18)
- Volumetric comparison of blocks versus wireframes
- Visual inspection of block versus composite grades on plan, vertical, and longitudinal section
- Parallel secondary estimation using ordinary kriging (OK) and inverse distance cubed (ID<sup>3</sup>)
- Statistical comparison of block grades with assay and composite grades

RPA found grade continuity to be reasonable and confirmed that the block grades were reasonably consistent with local drill hole composite grades.

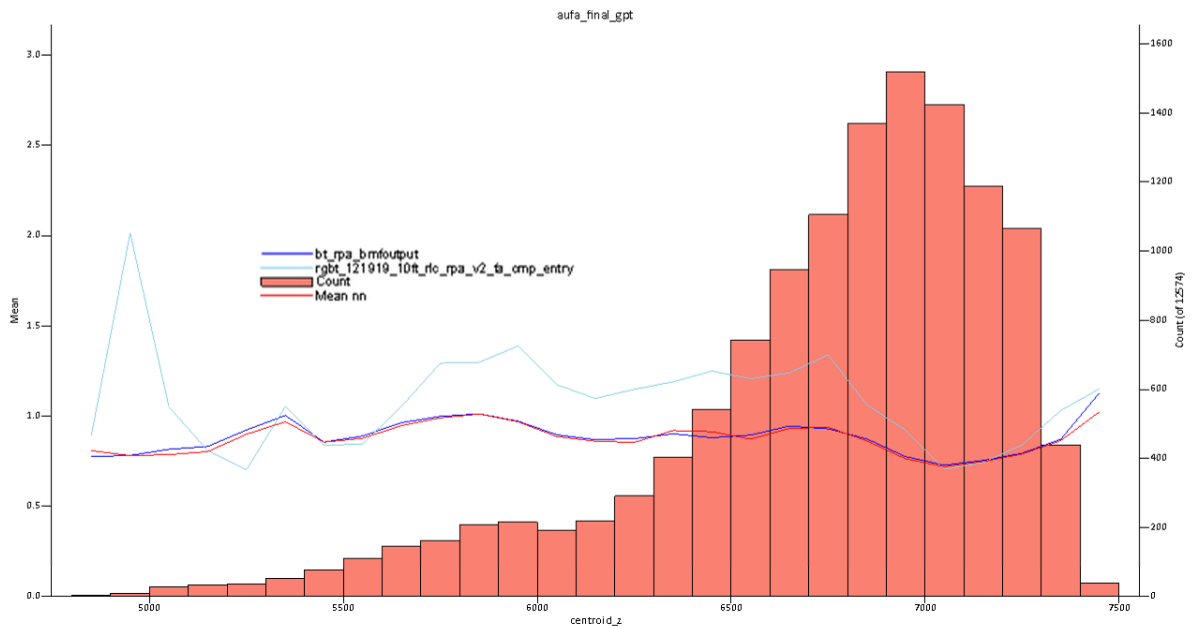


**Figure 14-16: East-West (X) Swath Plot of Beartrack Deposit**





**Figure 14-17: East-West (Y) Swath Plot of Beartrack Deposit**



**Figure 14-18: East-West (Z) Swath Plot of Beartrack Deposit**

### 14.2.6.1 Volume Comparison

Wireframe volumes were compared to block volumes for each zone at Beartrack. This comparison is summarized in Table 14-17 and results show that there is good agreement between the wireframe volumes and block model volume, with the difference being less than 1%.

**Table 14-17: Volume Comparison – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Wireframe Volume (ft <sup>3</sup> )	Block Model Volume (ft <sup>3</sup> )	% Difference
100	314,706,943	314,848,000	-0.04%
301	272,987,669	272,472,000	0.19%
302	1,048,590,463	1,049,112,000	-0.05%
401	830,107,989	832,976,000	-0.35%
402	85,769,716	85,816,000	-0.05%
600	118,475,142	118,920,000	-0.38%
1000	69,765,681	70,288,000	-0.75%
3001	29,265,922	29,080,000	0.64%
3002	86,834,381	86,536,000	0.34%
4001	374,475,367	374,512,000	-0.01%
4002	2,097,781	1,968,000	6.19%
<b>Total</b>	<b>3,233,077,055</b>	<b>3,263,688,000</b>	<b>-0.947%</b>

### 14.2.6.2 Visual Comparison

Block grades were visually compared with drill hole composites on cross-sections, longitudinal sections, and plan views. The block grades and composite grades correlate very well visually within the Beartrack deposit. Figure 14-19 through Figure 14-21 are cross sections and level plan sections showing blocks and drill hole composites colour coded by grade within the Joss, South Pit, North Pit, and Moose deposits.

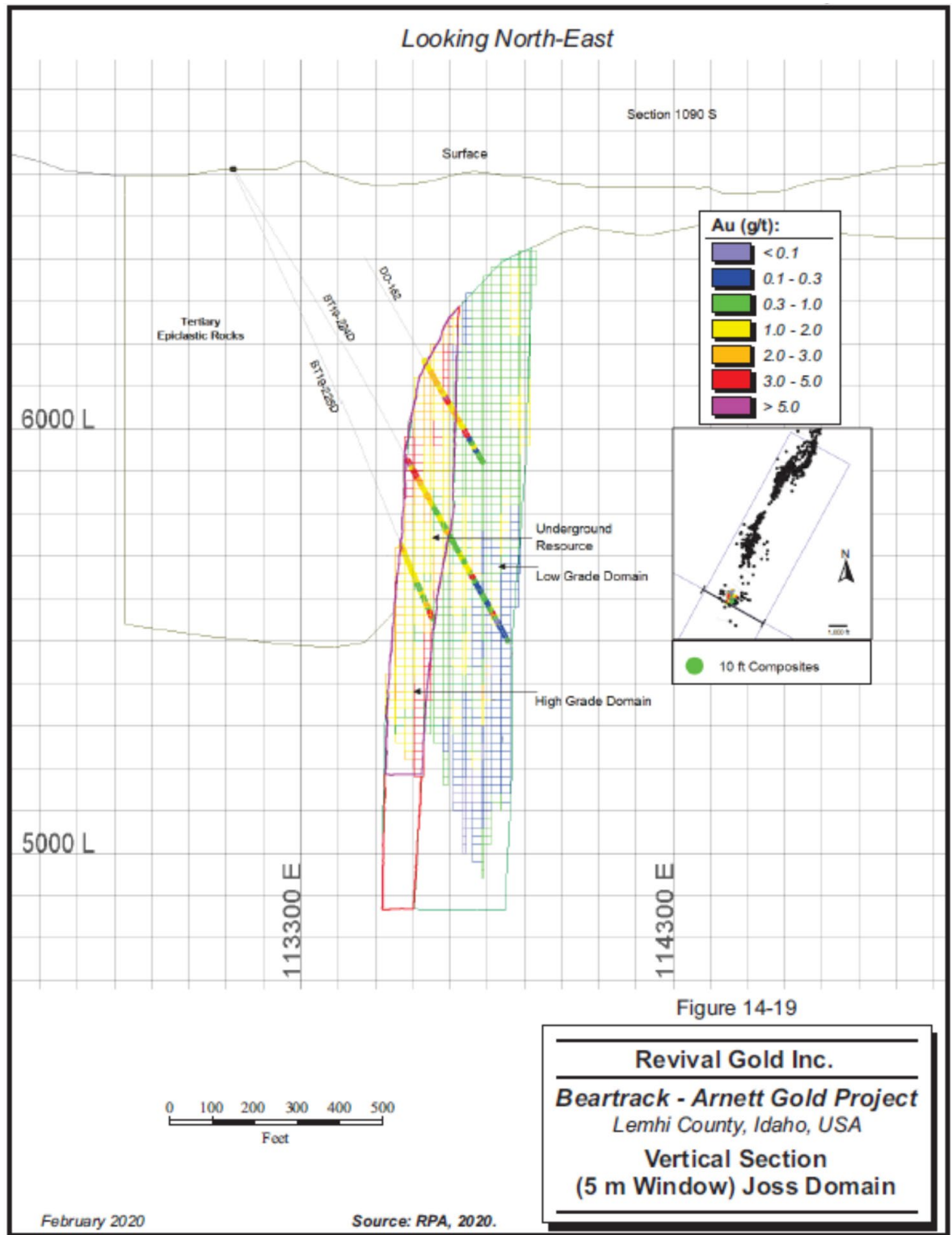
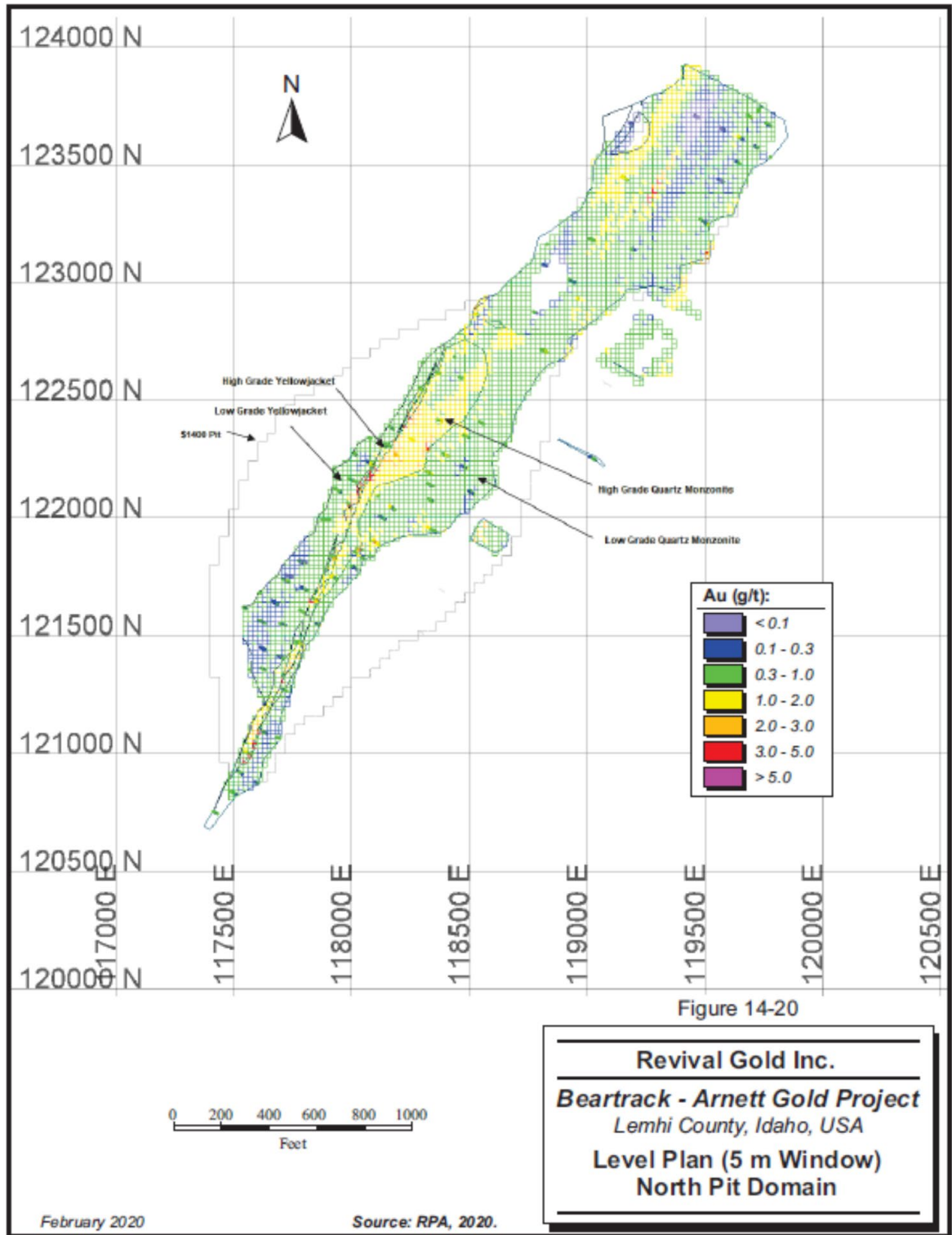
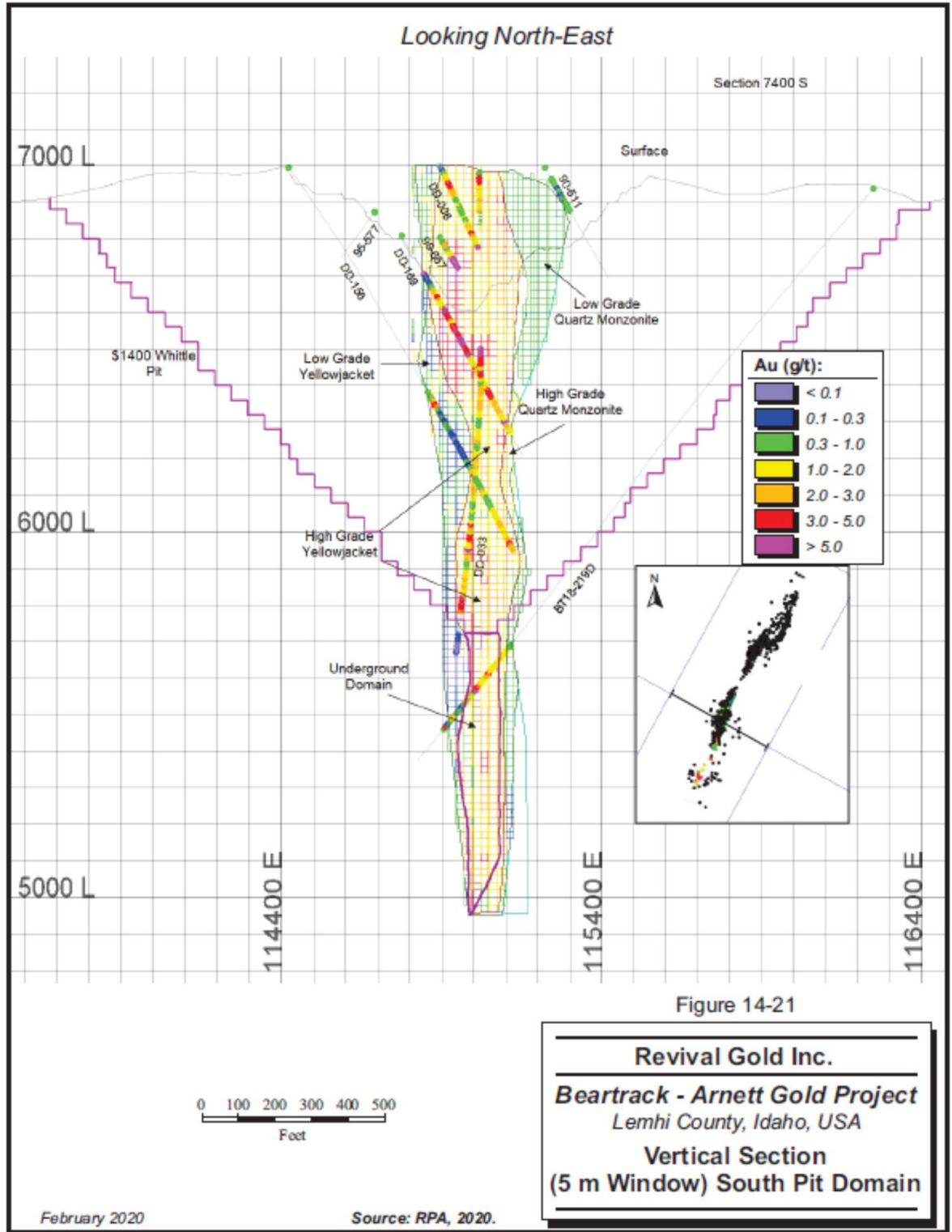


Figure 14-19: Vertical Section (15 ft window) – Joss Domain



**Figure 14-20: Level Plan (15 ft window) – North Pit Domain**



**Figure 14-21: Vertical Section (15 ft window) – South Pit Domain**

### 14.2.6.3 Secondary Estimation Comparison

As a secondary parallel estimation validation, RPA completed ordinary kriging (OK) and ID<sup>3</sup> block model estimates using the December 2019 estimation parameters for interpolation of gold grade. The RPA OK and ID<sup>3</sup> estimations were in agreement and were within less than 6% of the ID<sup>2</sup> estimation at Beartrack. Comparisons to the other domains ranged between 5% and 13% difference.

In RPA's opinion, the difference between the models is reasonable given the variabilities between the estimation methodologies, and the Beartrack Indicated and Inferred Mineral Resource estimates are considered to be reasonable and acceptable.

### 14.2.6.4 Statistical Comparison

Statistics of the block grades are compared with statistics of composite grades in Table 14-18 and Table 14-19 for all blocks and composites within the Beartrack domains. No cyanide grades were estimated into the Moose domain.

**Table 14-18: Statistics of Fire Assays Composite Grades versus Block Grades – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	100		1000	
Descriptive Statistics	Comp	Block	Comp	Block
Number of Samples	275	32,992	126	8,024
Min (g/t Au)	0.000	0.004	0.000	0.000
Max (g/t Au)	3.795	3.182	5.267	4.682
Mean (g/t Au)	0.662	0.554	1.928	2.045
Variance	0.520	0.180	1.640	0.990
SD (g/t Au)	0.724	0.422	1.280	0.993
CV	1.100	0.760	0.660	0.490
Domain	301		302	
Descriptive Statistics	Comp	Block	Comp	Block
Number of Samples	1,140	33,203	3,670	130,367
Min (g/t Au)	0.000	0.010	0.000	0.000
Max (g/t Au)	5.510	3.558	5.918	5.476
Mean (g/t Au)	0.465	0.549	0.657	0.638
Variance	0.170	0.110	0.370	0.180

SD (g/t Au)	0.418	0.334	0.605	0.424
CV	0.900	0.610	0.920	0.660
<b>Domain</b>	<b>3001</b>		<b>3002</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	383	3,635	756	10,817
Min (g/t Au)	0.000	0.287	0.069	0.156
Max (g/t Au)	13.087	11.003	13.990	10.617
Mean (g/t Au)	1.843	1.860	1.648	1.563
Variance	3.740	1.140	2.060	0.510
SD (g/t Au)	1.935	1.070	1.437	0.716
CV	1.050	0.570	0.870	0.460
<b>Domain</b>	<b>401</b>		<b>402</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	2,777	81,301	219	6,298
Min (g/t Au)	0.000	0.001	0.000	0.000
Max (g/t Au)	8.000	6.128	6.205	3.856
Mean (g/t Au)	0.622	0.722	0.491	0.521
Variance	0.620	0.370	0.260	0.090
SD (g/t Au)	0.789	0.606	0.505	0.302
CV	1.270	0.840	1.030	0.580
<b>Domain</b>	<b>4001</b>		<b>4002</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	2,702	46,814	14	65
Min (g/t Au)	0.000	0.160	0.516	0.726
Max (g/t Au)	14.000	11.403	10.180	8.634
Mean (g/t Au)	1.983	1.959	2.390	1.891
Variance	1.940	0.610	7.050	2.550
SD (g/t Au)	1.391	0.784	2.656	1.596
CV	0.700	0.400	1.110	0.840

<b>Domain</b>	<b>600</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	512	18,253
Min (g/t Au)	0.031	0.031
Max (g/t Au)	2.894	2.684
Mean (g/t Au)	0.779	0.747
Variance	0.240	0.110
SD (g/t Au)	0.487	0.338
CV	0.620	0.450

**Table 14-19: Statistics of Cyanide Soluble Composite Grades versus Block Grades – Beartrack (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

<b>Domain</b>	<b>100</b>		<b>1000</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	132	17,076	46	4,530
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	2.955	2.107	0.347	0.230
Mean (g/t Au)	0.120	0.035	0.034	0.044
Variance	0.100	0.010	0.000	0.000
SD (g/t Au)	0.321	0.074	0.061	0.039
CV	2.680	2.090	1.800	0.890
<b>Domain</b>	<b>301</b>		<b>302</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	874	23,153	2,277	105,078
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	3.810	2.012	3.000	2.845
Mean (g/t Au)	0.368	0.327	0.419	0.279
Variance	0.130	0.040	0.260	0.100
SD (g/t Au)	0.355	0.203	0.507	0.311
CV	0.960	0.620	1.210	1.120



<b>Domain</b>	<b>3001</b>		<b>3002</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	353	3,520	606	10,477
Min (g/t Au)	0.000	0.068	0.000	0.000
Max (g/t Au)	4.751	3.309	5.000	3.425
Mean (g/t Au)	1.015	1.050	0.638	0.478
Variance	0.610	0.190	0.620	0.230
SD (g/t Au)	0.782	0.432	0.785	0.476
CV	0.770	0.410	1.230	0.990
<b>Domain</b>	<b>401</b>		<b>402</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	1,851	58,536	189	6,186
Min (g/t Au)	0.000	0.000	0.000	0.000
Max (g/t Au)	5.000	3.786	3.000	1.916
Mean (g/t Au)	0.417	0.267	0.159	0.200
Variance	0.400	0.080	0.080	0.030
SD (g/t Au)	0.629	0.286	0.280	0.171
CV	1.510	1.070	1.760	0.850
<b>Domain</b>	<b>4001</b>		<b>4002</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	2,043	44,156	15	65
Min (g/t Au)	0.000	0.000	0.035	0.093
Max (g/t Au)	5.000	4.782	1.710	0.955
Mean (g/t Au)	0.923	0.605	0.502	0.552
Variance	0.930	0.430	0.270	0.070
SD (g/t Au)	0.964	0.655	0.517	0.270
CV	1.040	1.080	1.030	0.490
<b>Domain</b>	<b>600</b>			
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>		
Number of Samples	0	0		

## 14.2.7 Classification

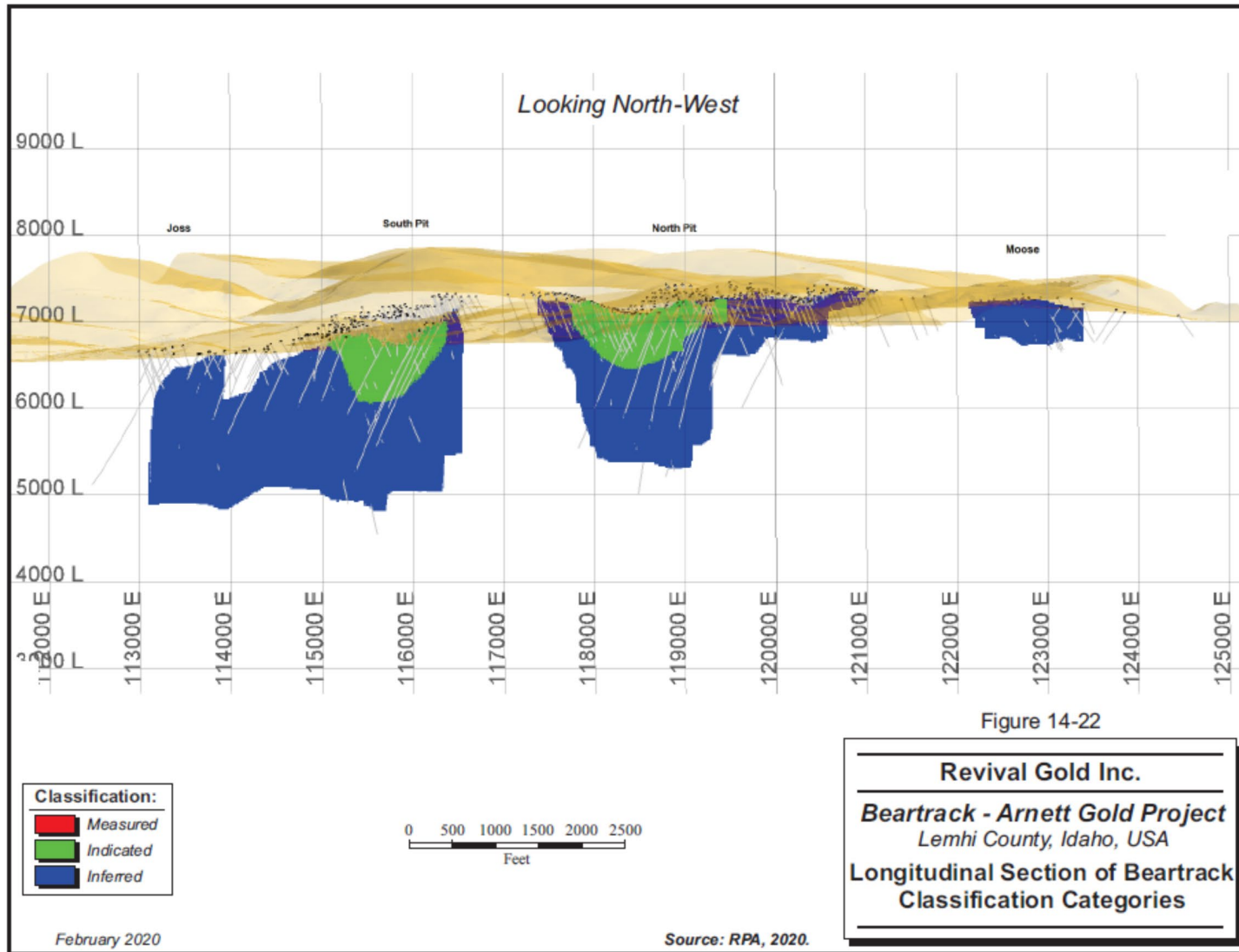
Definitions for resource categories used in this Report are consistent with those defined by CIM (2014) as incorporated by reference in NI 43-101.

The mineralized material for each domain was classified into the Indicated or Inferred Mineral Resource category on the basis of the search ellipse ranges obtained from the variography study, the demonstrated continuity of mineralization, representativeness, quality, and positional accuracy of samples, and density of drill hole information. Indicated and Inferred categories are based on the following parameters:

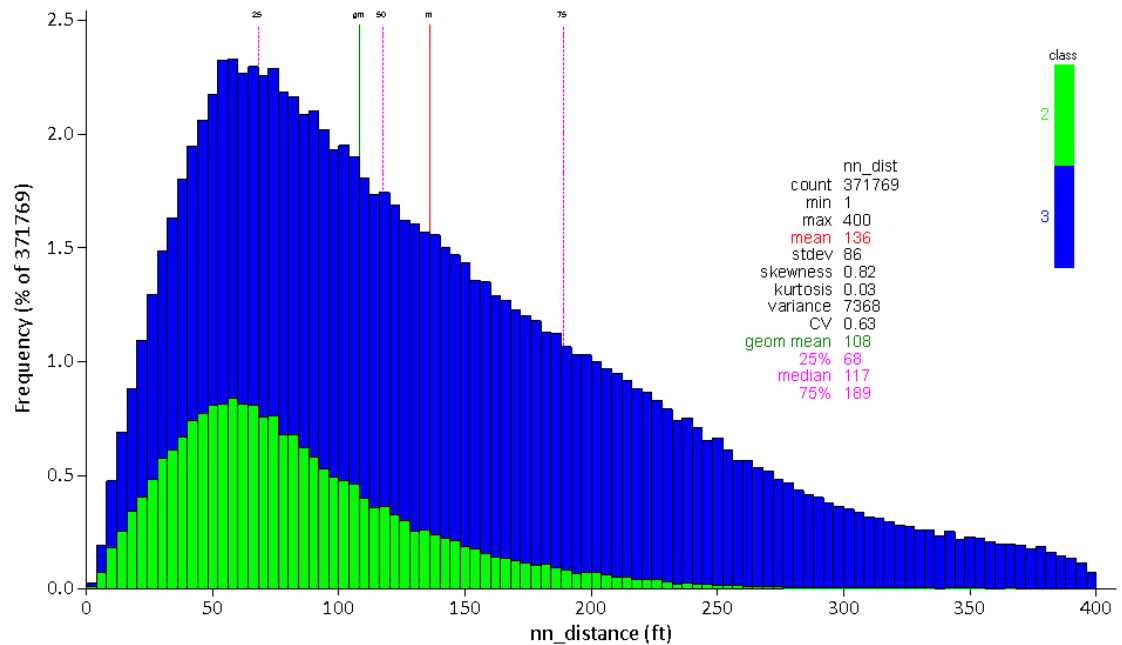
- **Indicated Mineral Resources:** Indicated Mineral Resources are defined by drill hole spacing that is less than 100 ft (30.5 m), estimated within the first and/or second estimation pass and had two or more drill holes in the block grade estimate. The distance was supported based on ranges interpreted from gold variograms at Beartrack and review of corresponding infill RC drilling on both Beartrack and Arnett.
- **Inferred Mineral Resources:** Defined by drill hole spacing that is greater than 100 ft (30.5 m) and a nearest neighbour distance greater than 100 ft (30.5 m) with reasonable continuity assumed between holes. It is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

After the classification was completed, a manual review and smoothing triangulations were applied to the blocks to smooth the boundaries between categories and eliminate any inconsistencies.

Mineral Resources at Beartrack were categorized into Indicated and Inferred categories using a combination of recognized mineralized continuity coupled with drill hole spacing. Blocks which had a nearest neighbour sample within 100 ft (30.5 m) estimated within the first two passes and had two or more holes were considered for Indicated classification. Mineralization continuity was then examined and an Indicated solid was created by RPA and used to code the block model with an Indicated classification. Figure 14-22 is a long section showing the Beartrack deposit with Indicated and Inferred mineralization. Figure 14-23 is a histogram showing the Beartrack classification with respect to the nearest neighbor distance.



**Figure 14-22: Longitudinal Section of Beartrack Classification Categories**



**Figure 14-23: Histograms of Beartrack Classified Blocks versus Distance to the Data**

In RPA’s opinion, the classification appears to be reasonable, and appropriate for the style of mineralization and deposit type. It is likely that definition drilling at Beartrack will upgrade a portion of the Inferred Mineral Resources to Indicated Mineral Resources.

## 14.3 Arnett

### 14.3.1 Geological Interpretation and 3D Solids

Gold mineralization on the Arnett property is associated with a wide-spaced quartz-FeOx (pyrite)-gold veinlets hosted primarily by what is locally referred to as the Cambro-Ordovician crowded porphyry although the alkali granite is mineralized in the Italian Mine and Thompson-Hibbs area. Gold is associated with wide-spread sericitic and potassic alteration, both of which are structurally controlled. Historical gold resources have been defined in five zones, the Haidee Main, Haidee West, Haidee East, Little Chief, and Little Chief Extension. Revival combined the Haidee Main, Haidee West, and Haidee East areas into one larger area simply called the Haidee area, and the Little Chief Extension has been renamed Haidee West.

Initial geological interpretations supporting the estimate were generated by Revival geologist and then audited and updated for completeness and accuracy by RPA. Topographical surfaces, solids, and mineralized wireframes were modelled using Vulcan software. Extension distance

for the mineralized wireframes was halfway to the next hole, or approximately 50 m vertically and horizontally past the last drill intercept.

Mineralized grade domain models were created by Revival geologists and audited by RPA using a grade intercept limit equal to or greater than 1.54 m (5 ft) with a minimum grade of 0.3 g/t Au. RPA considers the selection of 0.3 g/t Au to be appropriate for construction of mineralized wireframe outlines and is consistent with other known deposits in the area. Sample intervals with assay results less than the nominated cut-off grade (internal dilution) were included within the mineralized wireframes if the core length was less than 1.54 m (5 ft) or allowed for modelling of grade continuity.

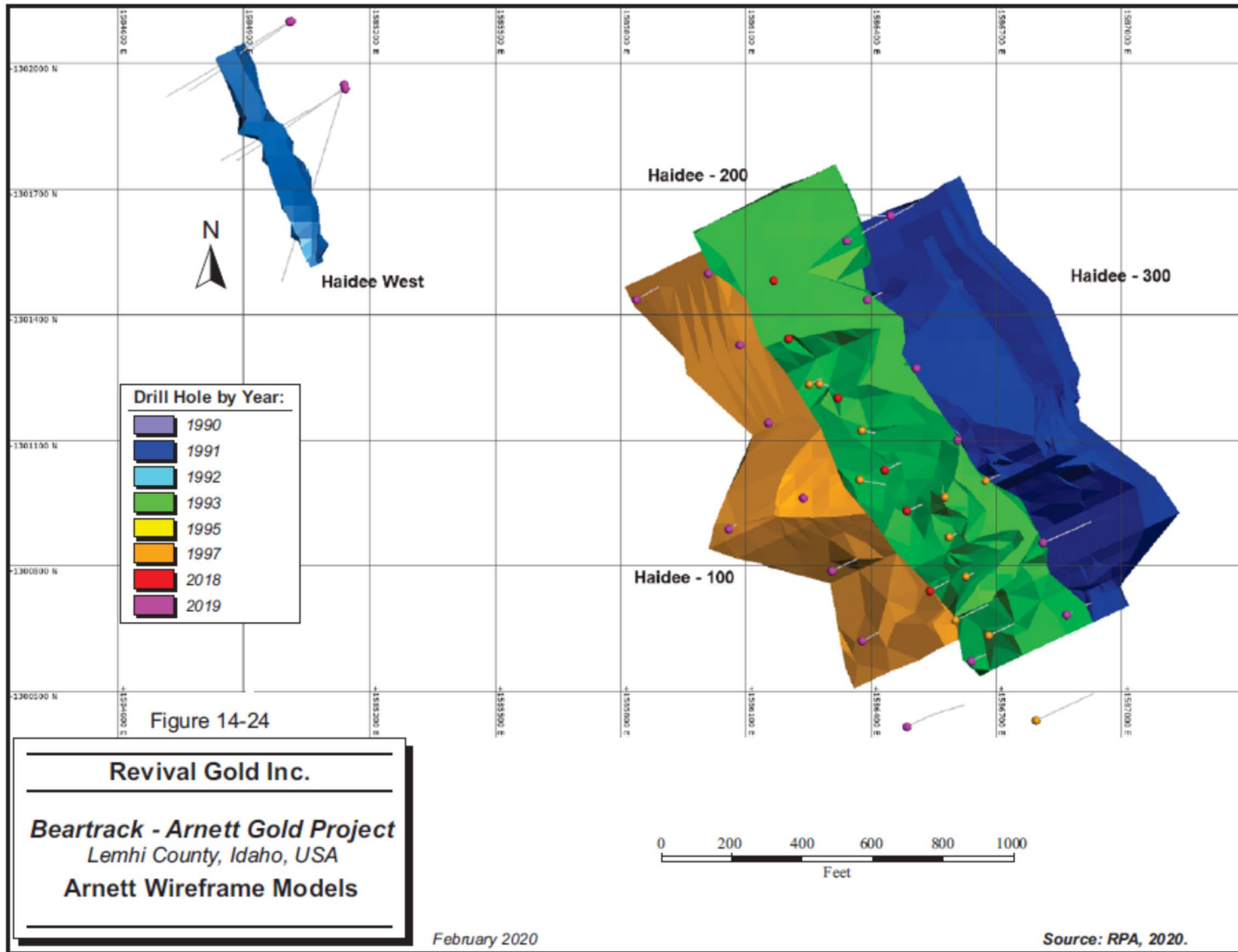
The Haidee deposit within the Arnett project area is defined in the Mineral Resource estimate as a mineralized body with a strike length of approximately 400 m (1,300 ft) in a north-northwest direction and a total width of approximately 300 m (1,000 ft). Mineralization extends from the surface down to 120 m (390 ft) depth, or an elevation of approximately 2,135 m (7,000 ft). Mineralized structures dip moderately (30°) to the southwest. Gold mineralization is controlled by a strong north-northwest trending fracture system exhibiting quartz veins and veinlets in a stockwork of limonite-filled fractures.

A total of four wireframes (domains) were constructed within the Haidee (Haidee - 100, Haidee - 200 and Haidee - 300), and Haidee West (formerly known as Little Chief Extension (400)) areas. Only the domains (100-300) within the Haidee area were used in the resource estimate (Table 14-20) as there is insufficient DD in the Haidee West area to warrant a resource estimate. RPA recommends continuing to drill test mineralization in the Haidee West area along strike in consideration of adding Haidee West to the Mineral Resource at Arnett.

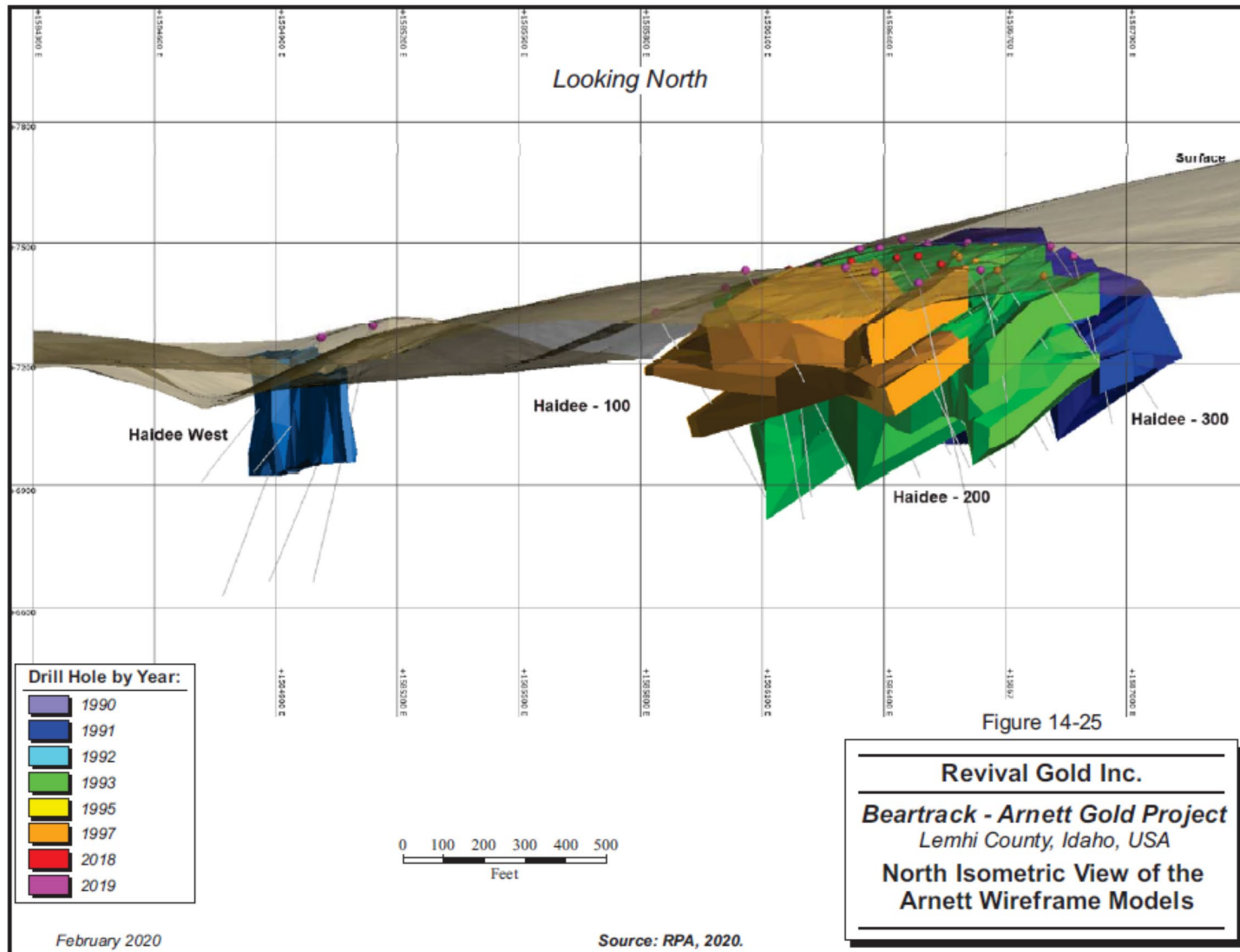
**Table 14-20: Summary of Arnett Wireframe Models (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Area	Zone	Domain Designation	Wireframe Name
Haidee	Haidee - 100	100	haidee_2d_plan_grade_shell_1_v2_Solid_topo.00t
Haidee	Haidee - 200	200	haidee_2d_plan_grade_shell_2_v2_SolidB_topo.00t
Haidee	Haidee - 300	300	haidee_2d_plan_grade_shell_3_v2_Solid_topo.00t
Haidee West	Haidee West	400	lce_2d_plan_grade_shell_1_v2_Solid_topo.00t

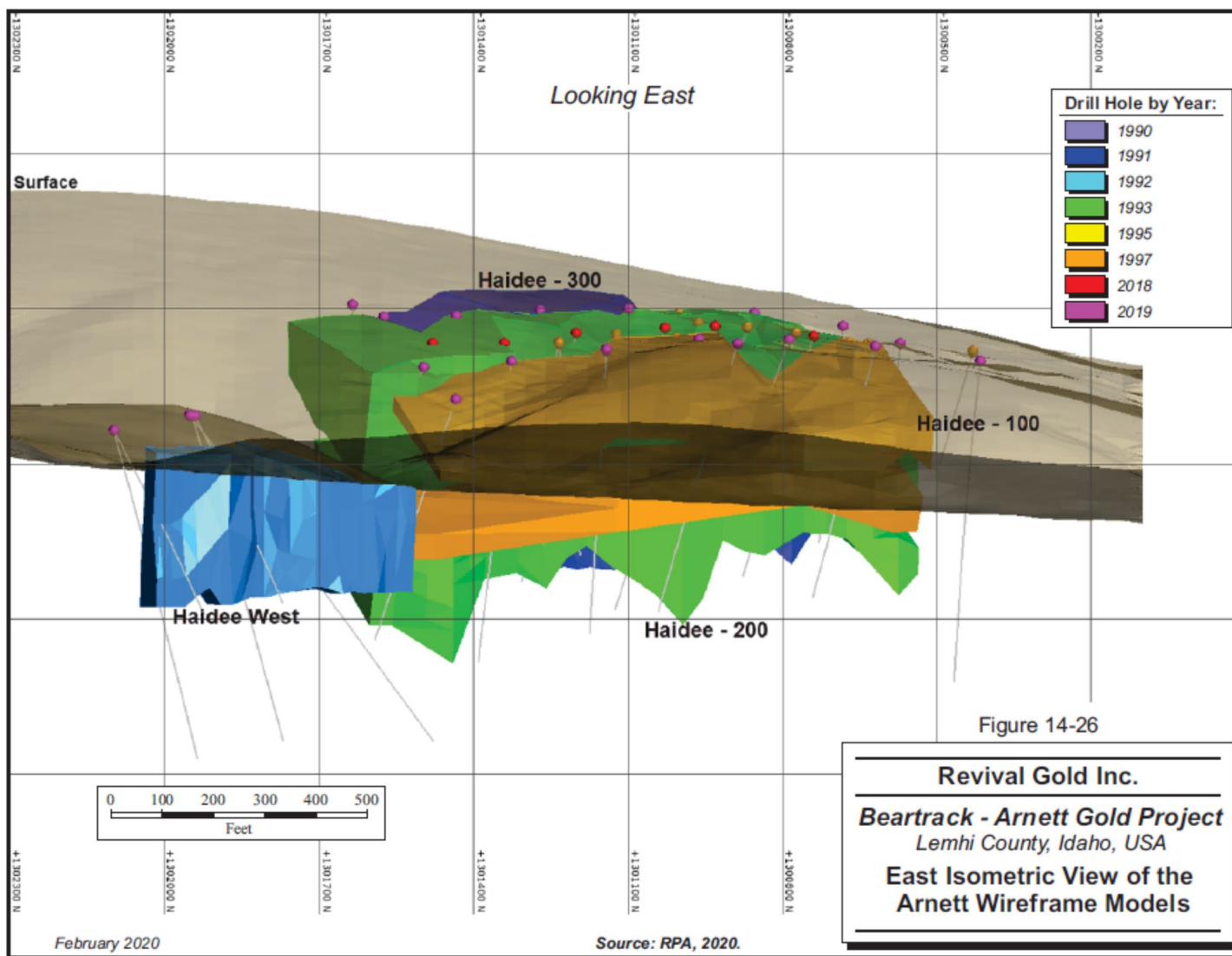
Figure 14-24 shows a plan view and Figure 14-25 and Figure 14-26 show isometric views of the Arnett wireframe models.



**Figure 14-24: Arnett Wireframe Models**



**Figure 14-25: North Isometric View of the Arnett Wireframe Models (Looking North)**



**Figure 14-26: East Isometric View of the Arnett Wireframe Models (Looking East)**

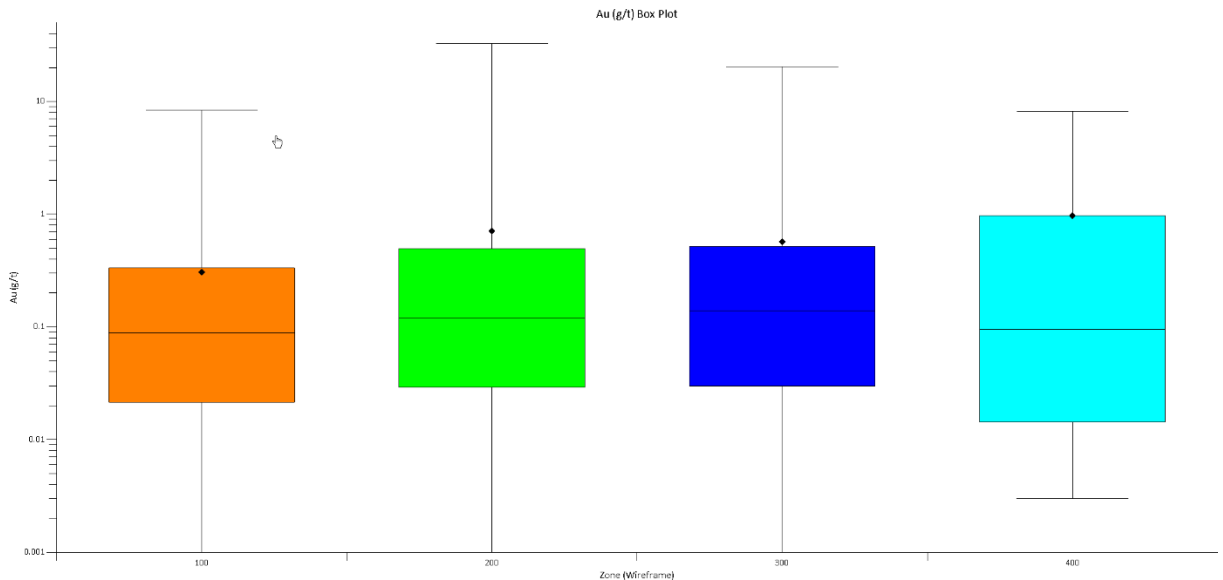


### 14.3.2 Statistical Analysis

The mineralization wireframe models were used to code the drill hole database and to identify samples within the mineralized wireframes. These samples were extracted from the database on a group-by-group basis, subjected to statistical analyses for their respective domains, and then analyzed by means of histograms and probability plots. A total of 1,724 samples were contained within the mineralized wireframes. Table 14-21 and Figure 14-27 present the descriptive and visual statistics for individual zone. The CV is a measure of variability of the data.

**Table 14-21: Summary Statistics of Uncapped Assays – Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	210	0.000	8.340	0.307	0.540	0.732	2.390
200	1,121	0.000	32.742	0.710	4.180	2.045	2.880
300	340	0.000	20.400	0.569	2.950	1.718	3.020
400	53	0.003	8.210	0.967	3.320	1.822	1.880
<b>Total</b>	<b>1,724</b>	<b>0.000</b>	<b>32.742</b>	<b>0.641</b>	<b>3.490</b>	<b>1.867</b>	<b>2.910</b>



**Figure 14-27: Arnett Zone Box Plots**

### 14.3.2.1 Grade Capping/Outlier Restrictions

Where the assay distribution is skewed positively or approaches log-normal, erratic high-grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level.

RPA is of the opinion that the influence of high-grade gold assays must be reduced or controlled and uses a number of industry best practice methods to achieve this goal, including capping of high-grade values. Assessing the influence of outliers involves a number of statistical analytical methods to determine an appropriate capping value including preparation of frequency histograms, probability plots, decile analyses, and capping curves. Using these methodologies, RPA examined the selected capping values for each of the four mineralized domains in the Arnett deposit.

Examples of the capping analysis are shown in Figure 14-28 and applied to the data set for the mineralized domains. High-grade outliers were capped at 8 g/t Au, resulting in a total of 20 (1.8%) capped assay values (Table 14-22). Capped assay statistics by zones are summarized in Table 14-23 and compared with uncapped assay statistics.

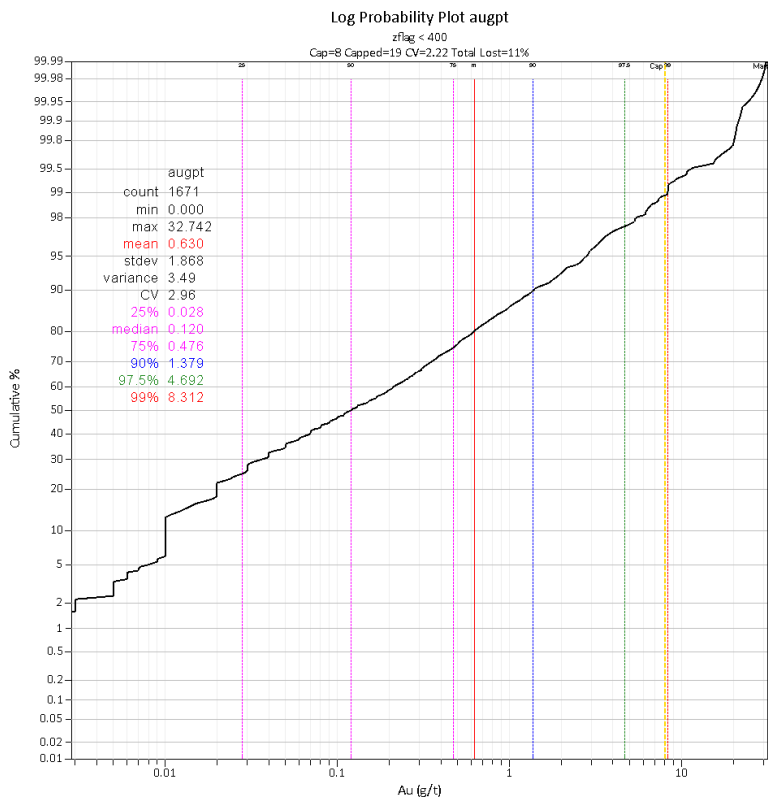
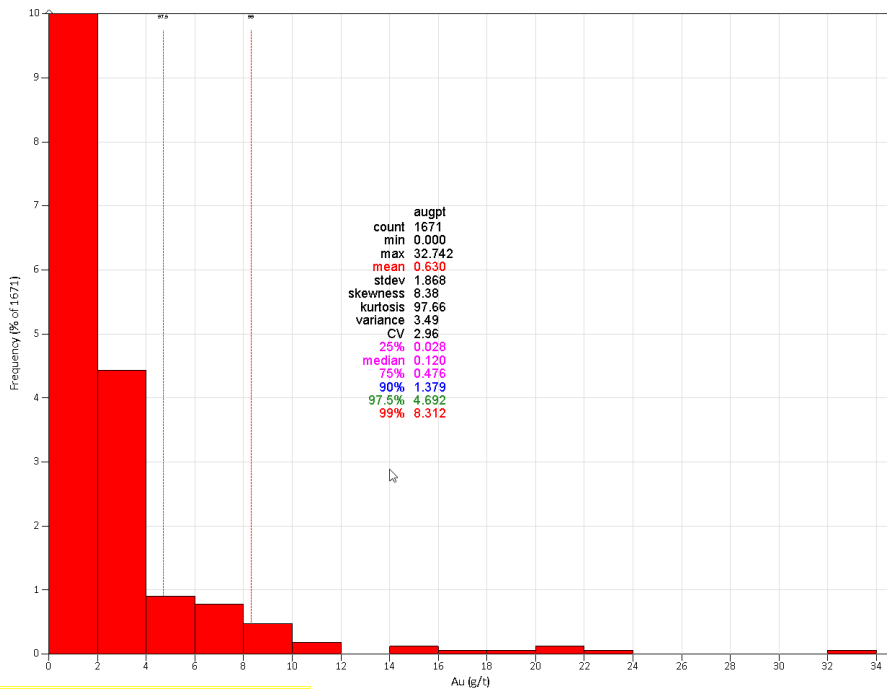
In RPA's opinion, the selected capping values are reasonable and have been correctly applied to the raw assay values for the Arnett Mineral Resource estimate.

**Table 14-22: Capping of Resource Assay Values by Zone – Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Cap Levels (g/t Au)	Number of Assays	Number Assays Capped	% Capped
100	8	210	1	0.48%
200	8	1,121	15	1.34%
300	8	340	3	0.88%
400	8	53	1	1.89%
<b>Grand Total</b>		<b>1,724</b>	<b>20</b>	<b>1.16%</b>

**Table 14-23: Summary Statistics of Uncapped versus Capped Assays – Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

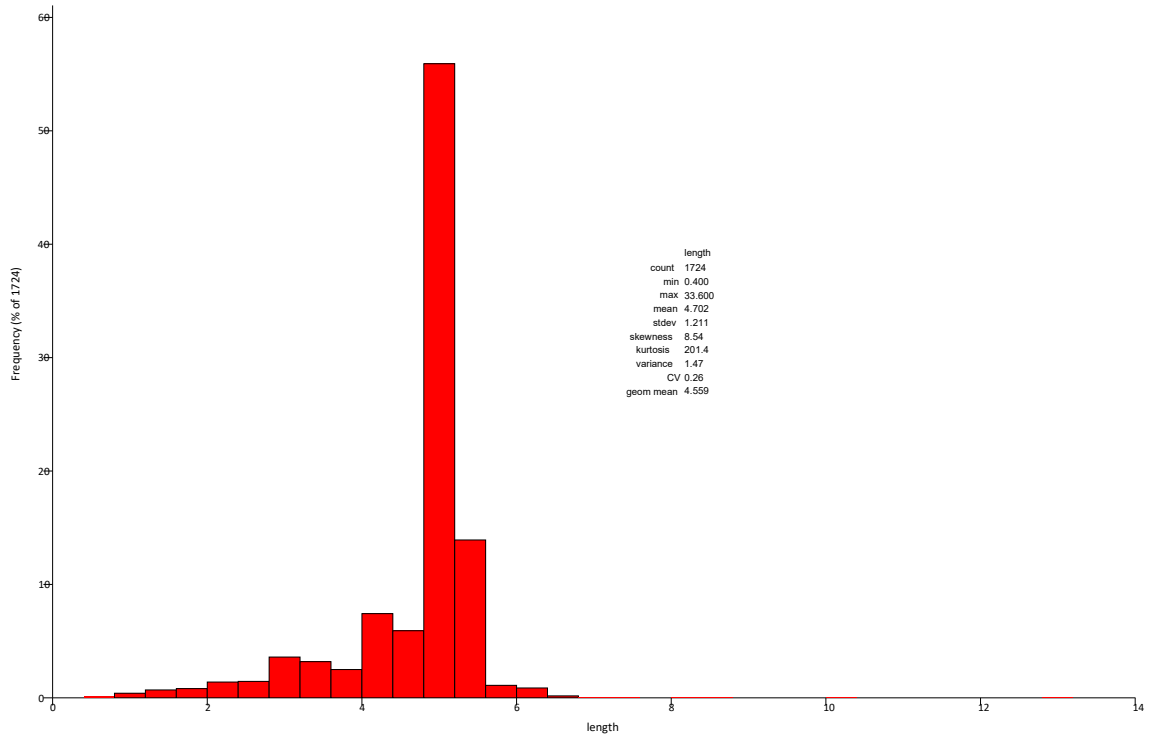
<b>Domain</b>	<b>100</b>		<b>200</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	210	210	1,121	1,121
Min (g/t Au)	0.00	0.00	0.00	0.00
Max (g/t Au)	8.34	8.00	32.74	8.00
Mean (g/t Au)	0.31	0.31	0.71	0.63
Variance	0.54	0.51	4.18	1.86
SD (g/t Au)	0.73	0.72	2.05	1.36
CV	2.39	2.34	2.88	2.17
Number of Caps	0	1	0	15
<b>Domain</b>	<b>300</b>		<b>400</b>	
<b>Descriptive Statistics</b>	<b>Uncapped</b>	<b>Capped</b>	<b>Uncapped</b>	<b>Capped</b>
Number of Samples	340	340	53	53
Min (g/t Au)	0.00	0.00	0.00	0.00
Max (g/t Au)	20.40	8.00	8.21	8.00
Mean (g/t Au)	0.57	0.50	0.97	0.96
Variance	2.95	1.12	3.32	3.26
SD (g/t Au)	1.72	1.06	1.82	1.81
CV	3.02	2.13	1.88	1.88
Number of Caps	0	3	0	1



**Figure 14-28: Histogram and Log Probability of Diamond Drilling Assays – Arnett Haidee (Zones 100, 200 and 300)**

### 14.3.2.2 Composites

Composites were created from the capped raw assay values using the downhole compositing function of the Vulcan modelling software package. The composite lengths used during interpolation were chosen considering the predominant sampling length, the minimum mining width, style of mineralization, and continuity of grade. The raw assay data contains samples having irregular sample lengths. Sample lengths range from 0.12 m to 3.0 m (0.4 ft to 10 ft) within the wireframe models, with 83% of the samples taken at 1.5 m (5 ft) intervals (Figure 14-29). Given this distribution, and considering the width of the mineralization, RPA chose to composite to 3.0 m (10 ft) lengths, which in RPA's opinion is appropriate for Arnett Mineral Resource estimation.



**Figure 14-29: Histogram of Sampling Length – Arnett**

Assays within the wireframe domains were composited starting at the first mineralized wireframe boundary from the collar and resetting at each new wireframe boundary. Assays were capped prior to compositing. Table 14-24 shows the composite statistics by zone.

**Table 14-24: Descriptive Statistics of Composite Values by Domain – Arnett (Revival Gold Inc.- Beartrack-Arnett Gold Project)**

Domain	Count	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Variance	SD (g/t Au)	CV
100	99	0.003	3.715	0.303	0.240	0.494	1.630
200	518	0.000	8.000	0.611	0.960	0.981	1.600
300	164	0.007	7.118	0.516	0.710	0.840	1.630
400	24	0.003	3.590	0.872	1.080	1.037	1.190
<b>Total</b>	<b>805</b>	<b>0.000</b>	<b>8.000</b>	<b>0.562</b>	<b>0.840</b>	<b>0.914</b>	<b>1.630</b>

### 14.3.2.3 Variography

Variograms were of poor to fair quality considering the number of composite data and not adequate to generate meaningful variograms to derive kriging parameters.

### 14.3.3 Block Model

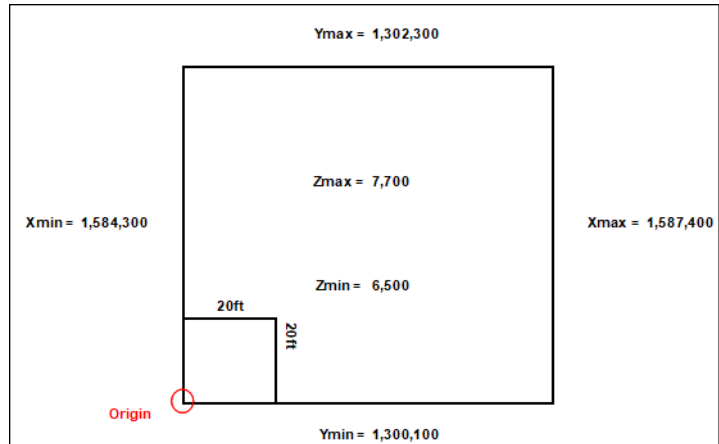
Block models were created by RPA using Vulcan 12.0 to support the Mineral Resource estimate for the gold deposits at Arnett. A parent block size of 20 ft (6.1 m -along strike) by 20 ft (6.1 m - across strike) by 20 ft (6.1 m - bench height) was used, with no sub-blocking.

The model origin for Arnett (lower-left corner at lowest elevation) is at Idaho State Plane coordinates 1,584,300 E, 1,300,100 N and 6,500 FASL. The model fully enclosed the modelled resource wireframes and is oriented with an azimuth of 90°, dip of 0.0°, and a plunge of 0.0°. A summary of the block model extents is provided in Table 14-25.

A number of attributes were created to store such information as bulk density, estimated gold grades, wireframe code, Mineral Resource classification, etc., for each block model area as listed in Table 14-26.

**Table 14-25: Arnett Block Model Dimensions (Revival Gold Inc – Beartrack-Arnett Gold Project)**

<b>Origin</b>	<b>Value</b>
Xmin (ft)	1,584,300
Ymin (ft)	1,300,100
Zmin (ft)	6500
X Extents	3,100
Y Extents	2,200
Z Extents	1,200
<b>Schema</b>	<b>Value</b>
Parent	
DX (ft)	20
DY (ft)	20
DZ (ft)	20
NX	155
NY	110
NZ	60
Sub-Block	
DX (ft)	
DY (ft)	
DZ (ft)	
NX	
NY	
NZ	
<b>Number of Blocks</b>	<b>1,023,000</b>
<b>Model Rotation</b>	<b>Value</b>
Bearing (deg)	90°
Plunge (deg)	0°
Dip (deg)	0°
Project Units	Feet
Coordinate System	Idaho State Plane Central NAD 27



**Table 14-26: Arnett Block Model Parameters and Variables (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Variable	Data Type	Default Value	Description
aufa	Double (Real * 8)	-99	au gpt fire assay inverse distance (ID)
aufa_cap	Double (Real * 8)	-99	au gpt fire assay inverse distance (ID) - Capped
aufa_cap_r	Double (Real * 8)	-99	au gpt fire assay inverse distance (ID) – Capped and HG Restricted Search
aufa_cap_r_dd	Double (Real * 8)	-99	au gpt fire assay inverse distance (ID) - DD-Capped and HG Restricted Search
aufa_cap_r_rc	Double (Real * 8)	-99	au gpt fire assay inverse distance (ID) – RC-Capped and HG Restricted Search
aufa_cap_r_use	Double (Real * 8)	-99	au gpt fire assay inverse distance – DD + RC above water table
aufa_final_gpt	Double (Real * 8)	-99	au gpt final fire assay
aucn_final_gpt	Double (Real * 8)	-99	au gpt final cyanide soluble
density	Double (Real * 8)	-99	tonnage factor
zflag	Integer (Integer * 4)	-99	mineralized domains / wireframes
est_flag_aufa	Integer (Integer * 4)	-99	estimation pass number ID2 aufa
est_flag_aufa_cap	Integer (Integer * 4)	-99	estimation pass number ID2 aufa_cap
est_flag_aufa_cap_r	Integer (Integer * 4)	-99	estimation pass number ID2 aufa_cap_r
est_flag_aufa_cap_r_dd	Integer (Integer * 4)	-99	estimation pass number ID2 aufa_cap_r_dd
est_flag_aufa_cap_r_rc	Integer (Integer * 4)	-99	estimation pass number ID2 aufa_cap_r_rc
est_flag_aufa_cap_r_use	Integer (Integer * 4)	-99	estimation pass number ID2 aufa_cap_r_use
nn	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance	Double (Real * 8)	-99	distance to NN
nn_cap	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance_cap	Double (Real * 8)	-99	distance to NN
nn_cap_r	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance_cap_r	Double (Real * 8)	-99	distance to NN
nn_cap_r_dd	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance_cap_r_dd	Double (Real * 8)	-99	distance to NN
nn_cap_r_rc	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance_cap_r_rc	Double (Real * 8)	-99	distance to NN



Variable	Data Type	Default Value	Description
nn_cap_r_use	Double (Real * 8)	-99	nearest neighbor (NN) aufa
nn_distance_cap_r_use	Double (Real * 8)	-99	distance to NN
nholes	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp	Integer (Integer * 4)	-99	number of samples used in an estimate
nholes_cap	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp_cap	Integer (Integer * 4)	-99	number of samples used in an estimate
nholes_cap_r	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp_cap_r	Integer (Integer * 4)	-99	number of samples used in an estimate
nholes_cap_r_dd	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp_cap_r_dd	Integer (Integer * 4)	-99	number of samples used in an estimate
nholes_cap_r_rc	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp_cap_r_rc	Integer (Integer * 4)	-99	number of samples used in an estimate
nholes_cap_r_use	Integer (Integer * 4)	-99	number of holes used in estimate
nsamp_cap_r_use	Integer (Integer * 4)	-99	number of samples used in an estimate
litho	Integer (Integer * 4)	-99	lithology code
deposit	Integer (Integer * 4)	-99	desposit (1=Haidee-West, 2=Haidee-Central, 3=Haidee-East, 4=Haidee West (LCE))
class	Integer (Integer * 4)	-99	1 =measured, 2= indicated, 3 = inferred
topo	Double (Real * 8)	-99	>0 below, =0 above
water_level	Double (Real * 8)	-99	>0 below, =0 above
open_pit_1300	Double (Real * 8)	-99	\$1300/oz Au Whittle open_pit
open_pit_1450	Double (Real * 8)	-99	\$1450/oz Au Whittle open_pit
open_pit_1500	Double (Real * 8)	-99	\$1500/oz Au Whittle open_pit
oxide	Double (Real * 8)	-99	oxide state (1= oxide, 2= mixed, 3=sulphide)
mill	Integer (Integer * 4)	-99	0=waste, 1=heap, 2=POX
mined	Double (Real * 8)	-99	mined out (>0 mined, =0 remain)
cst_heap	Double (Real * 8)	0	
cst_pox	Double (Real * 8)	0	
rev_heap	Double (Real * 8)	0	
rev_pox	Double (Real * 8)	0	
val_mrg_heap	Double (Real * 8)	0	

Variable	Data Type	Default Value	Description
val_mrg_pox	Double (Real * 8)	0	
aufa_cap_r_use2	Double (Real * 8)	-99	
est_flag_aufa_cap_r_use2	Integer (Integer * 4)	-99	
nholes_cap_r_use2	Integer (Integer * 4)	-99	
nn_cap_r_use2	Double (Real * 8)	-99	
nn_distance_cap_r_use2	Double (Real * 8)	-99	
nsamp_cap_r_use2	Integer (Integer * 4)	-99	

RPA considers the Arnett block model parameters to be acceptable for a Mineral Resource estimate.

#### 14.3.4 Density

Bulk density (SG=specific gravity) measurements are applied to units of variable rock density for tonnage calculations. The number of densities is a direct function of density variability across the mineralization and adjacent waste zones. A tonnage factor expressed in ft<sup>3</sup>/ton is calculated by dividing a constant of 32.04 by the SG value. Dense rocks with high SGs therefore produce low tonnage factors. Vulcan software uses a different density factor to calculate tonnage. It is defined as tons/ft<sup>3</sup> (1/(tonnage factor, ft<sup>3</sup>/ton). The mineralized triangulations are coded for each type of lithology and based on the lithology coding the density factors are assigned to each block using a block calculation file.

Gold mineralization Haidee occurs primarily in the Cambro-Ordovician porphyry (granite) with density values exhibiting a low degree of variability as represented by test results. Ranging from 1.87 t/m<sup>3</sup> to 2.64 t/m<sup>3</sup>, RPA chose to apply an average bulk density of 2.35 t/m<sup>3</sup> to the resource estimate.

#### 14.3.5 Estimation/Interpolation Parameters

For the mineralized domains, search ellipsoid geometry was oriented into the structural plane of the mineralization, as indicated by the oriented core. The interpolation strategy involved setting up search parameters in a series of three estimation runs for each individual domain. Search ellipse dimensions were chosen following a review of drill hole spacing and interpolation efficiency. Each pass search ellipses maintained a 5:5:1 anisotropic ratio. Search ellipses were oriented with the major axis oriented parallel to the dominant northwest trend of the domains. The semi-major axis was oriented horizontally, normal to the major axis (across strike), and the minor axis was oriented with a plunge range of 30° to the southwest and dip of 0°.

The variables for grade were interpolated using ID<sup>2</sup>. Estimates used a minimum of one to three, depending on domain, to a maximum of 12 composites per block estimate. Most domains used a maximum of two composites per drill hole. The sample selection criteria were established through sensitivity testing, comparing the estimated block means of each domain to the composited mean. Hard boundaries were used to limit the use of composites between domains.

All blocks in the domains were populated by pass three.

In order to reduce the influence of very high-grade composites, grades greater than a designated threshold level for the domains were restricted to a search ellipse dimension of 50 ft by 50 ft by 10 ft (15.2 m by 15.2 m by 3.0 m) high yield restriction. The threshold grade levels were chosen from the basic statistics and from visual inspection of the apparent continuity of very high-grades within each domain, which indicated the need to limit their influence to approximately half the distance of the main search. Interpolation parameters are listed in Table 14-27 for the Arnett Mineral Resource domains.

**Table 14-27: Block Estimate Search Strategy by Domain - Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

1st Pass Estimate													
Domain	Estimation Type	Cap (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
100	ID <sup>2</sup>	8	65	30	0	100	100	20	3	10	2	2	5
200	ID <sup>2</sup>	8	65	30	0	100	100	20	3	10	2	2	5
300	ID <sup>2</sup>	8	65	30	0	100	100	20	3	10	2	2	5
400	ID <sup>2</sup>	8	65	30	0	100	100	20	3	10	2	2	5
		High Yield Restriction (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)					
		5	65	30	0	50	50	10					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					
2nd Pass Estimate													
Domain	Estimation Type	Cap (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
100	ID <sup>2</sup>	8	65	30	0	200	200	40	3	10			
200	ID <sup>2</sup>	8	65	30	0	200	200	40	3	10			
300	ID <sup>2</sup>	8	65	30	0	200	200	40	3	10			
400	ID <sup>2</sup>	8	65	30	0	200	200	40	3	10			
		High Yield Restriction (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)					
		5	65	30	0	50	50	10					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					
3rd Pass Estimate													
Domain	Estimation Type	Cap (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)	Min No. Samples	Max No. Samples	Samples per Drill Hole	Min No. Drill Holes	Max No. Drill Holes
100	ID <sup>2</sup>	8	65	30	0	400	400	80	1	10			
200	ID <sup>2</sup>	8	65	30	0	400	400	80	1	10			
300	ID <sup>2</sup>	8	65	30	0	400	400	80	1	10			
400	ID <sup>2</sup>	8	65	30	0	400	400	80	1	10			
		High Yield Restriction (g/t Au)	Bearing (°)	Plunge (°)	Dip (°)	Major (ft)	Semi (ft)	Minor (ft)					
		5	65	30	0	50	50	10					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					
		5	65	30	0	100	100	20					

### 14.3.6 Block Model Validation

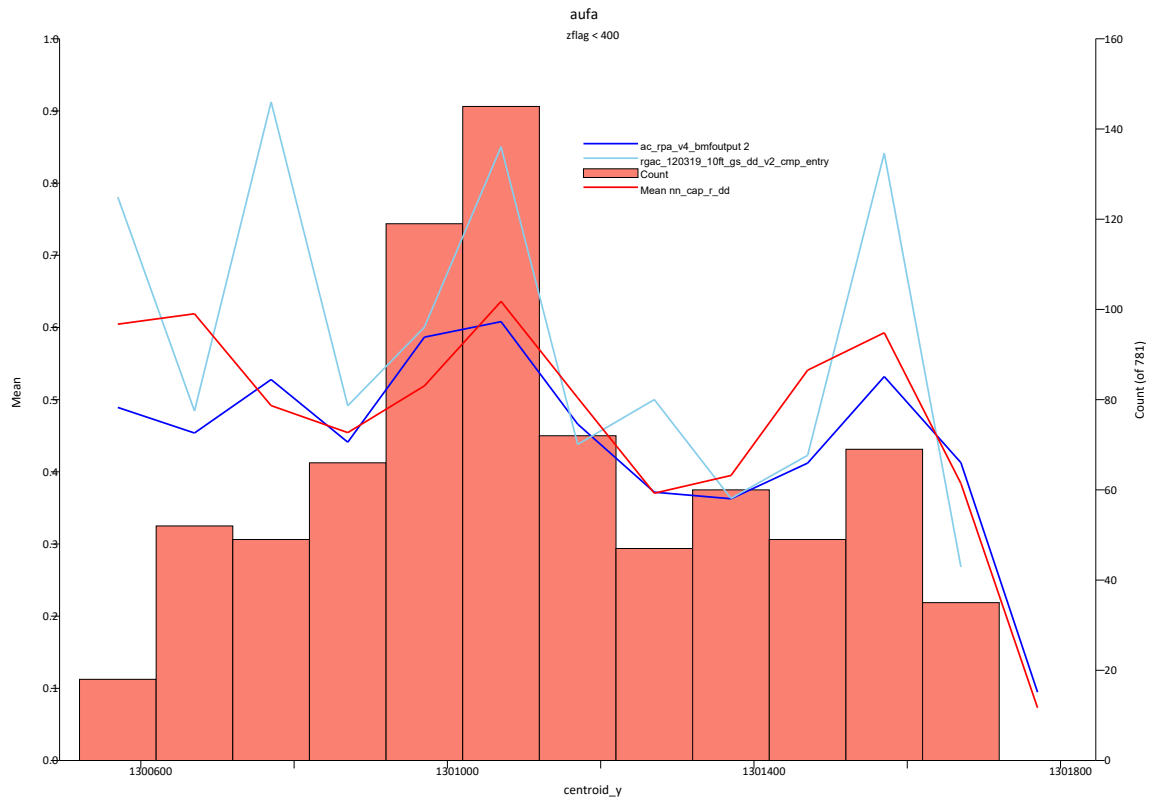
RPA validated the block model results using the following methods:

- Swath plots of composite grades versus and NN grades in the X, Y, and Z (Figure 14-30 through Figure 14-32)
- Volumetric comparison of blocks versus wireframes
- Visual inspection of block versus composite grades on plan, vertical and longitudinal section
- Parallel secondary estimation using NN
- Statistical comparison of block grades with assay and composite grades

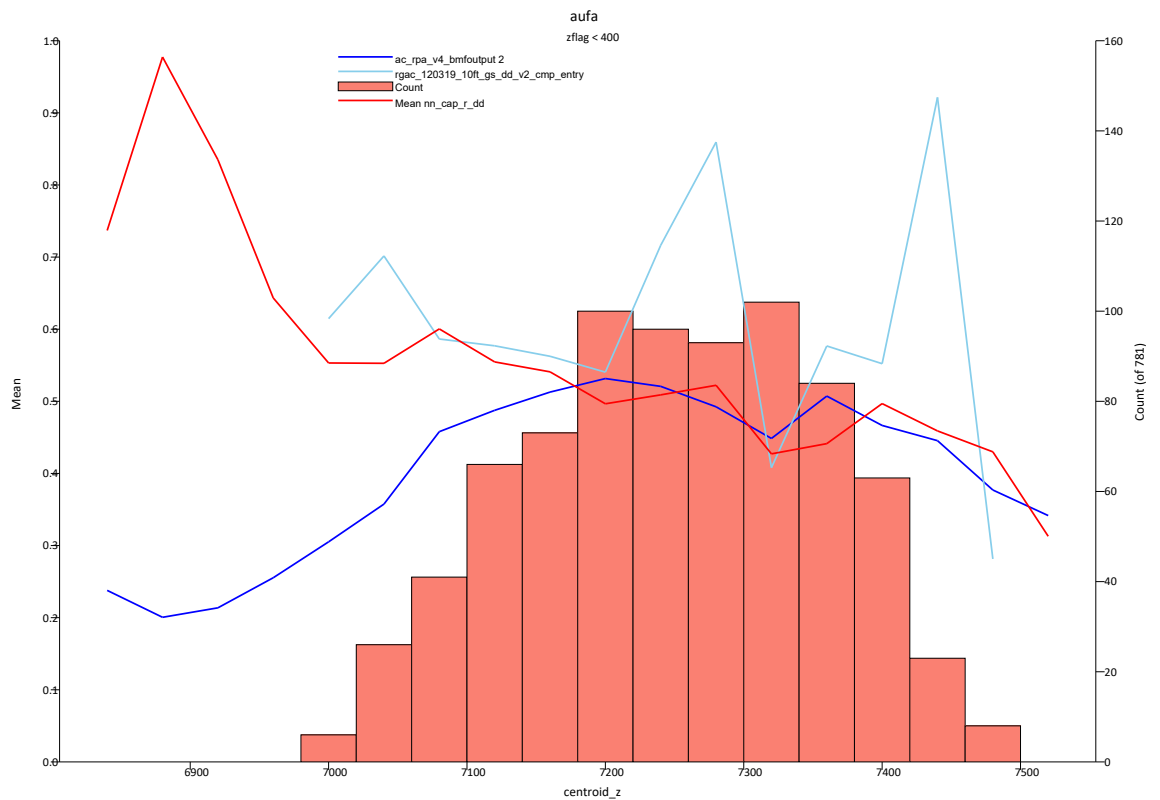
RPA found grade continuity to be reasonable and confirmed that the block grades were reasonably consistent with local drill hole composite grades.



Figure 14-30: East-West (X) Swath Plot of Arnett Haidee Deposit



**Figure 14-31: North-South (Y) Swath Plot of Arnett Haidee Deposit**



**Figure 14-32: Vertical (Z) Swath Plot of Arnett Haidee Deposit**

### 14.3.6.1 Volume Comparison

Wireframe volumes were compared to block volumes for each zone at Arnett. This comparison is summarized in Table 14-28 and results show that there is good agreement between the wireframe volumes, and block model volume with the difference being less than 1%.

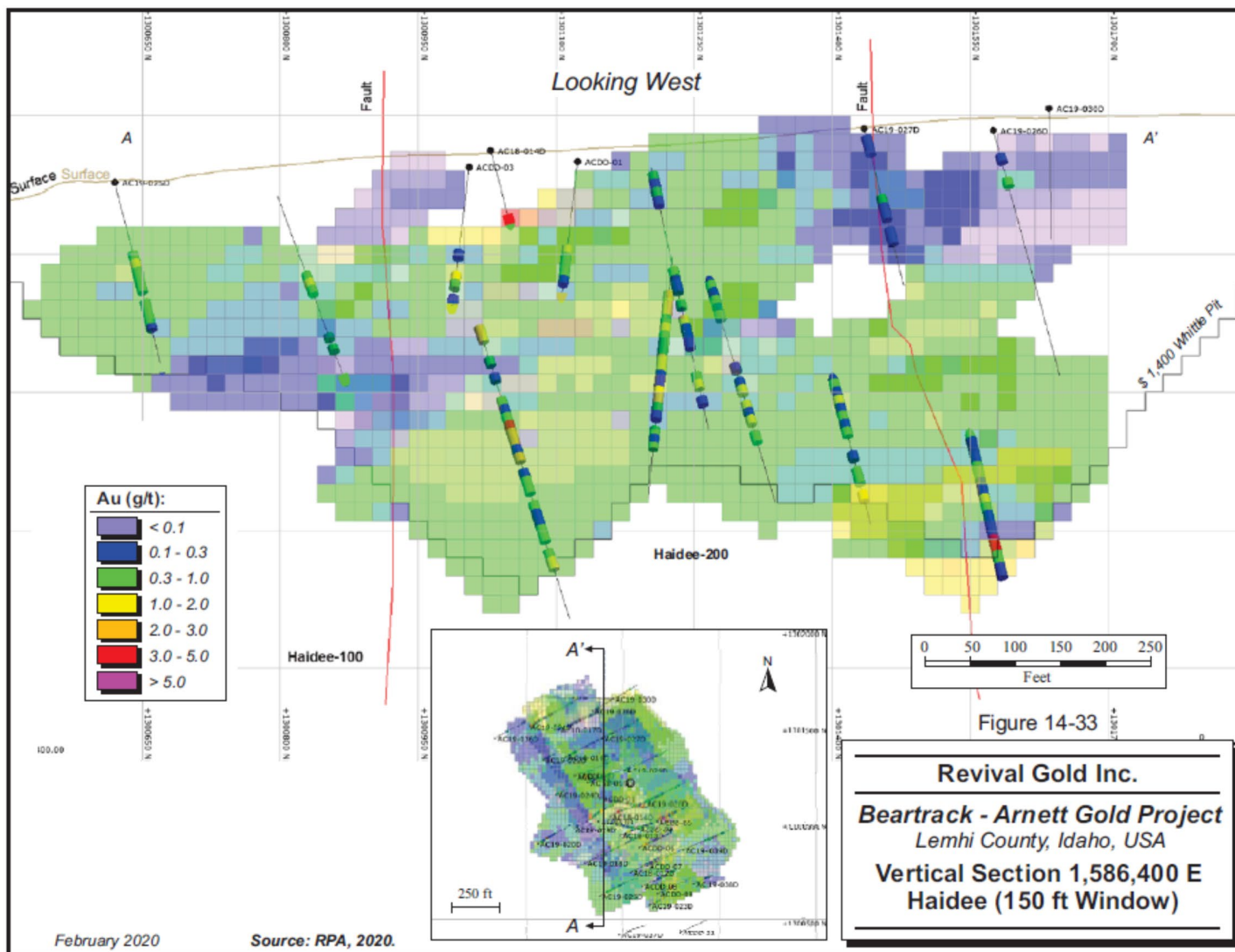
**Table 14-28: Volume Comparison – Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Domain	Wireframe Volume (ft <sup>3</sup> )	Block Model Volume (ft <sup>3</sup> )	% Difference
100	38,655,096	38,664,000	0.02%
200	113,887,230	113,912,000	0.02%
300	56,011,247	55,992,000	-0.03%
400	8,805,679	9,000,000	2.16%
<b>Total</b>	<b>217,359,252</b>	<b>217,568,000</b>	<b>0.10%</b>

#### 14.3.6.2 Visual Comparison

Block grades were visually compared with drill hole composites on cross-sections, longitudinal sections, and level plan views. The block grades and composite grades correlate very well visually within the Arnett deposit. Figure 14-33 and Figure 14-34 are cross sections and Figure 14-35 is a level plan showing blocks and drill hole composites colour coded by grade within the Haidee zone.





**Figure 14-33: Vertical Section 1,586,400E – Haidee (150 ft Window)**

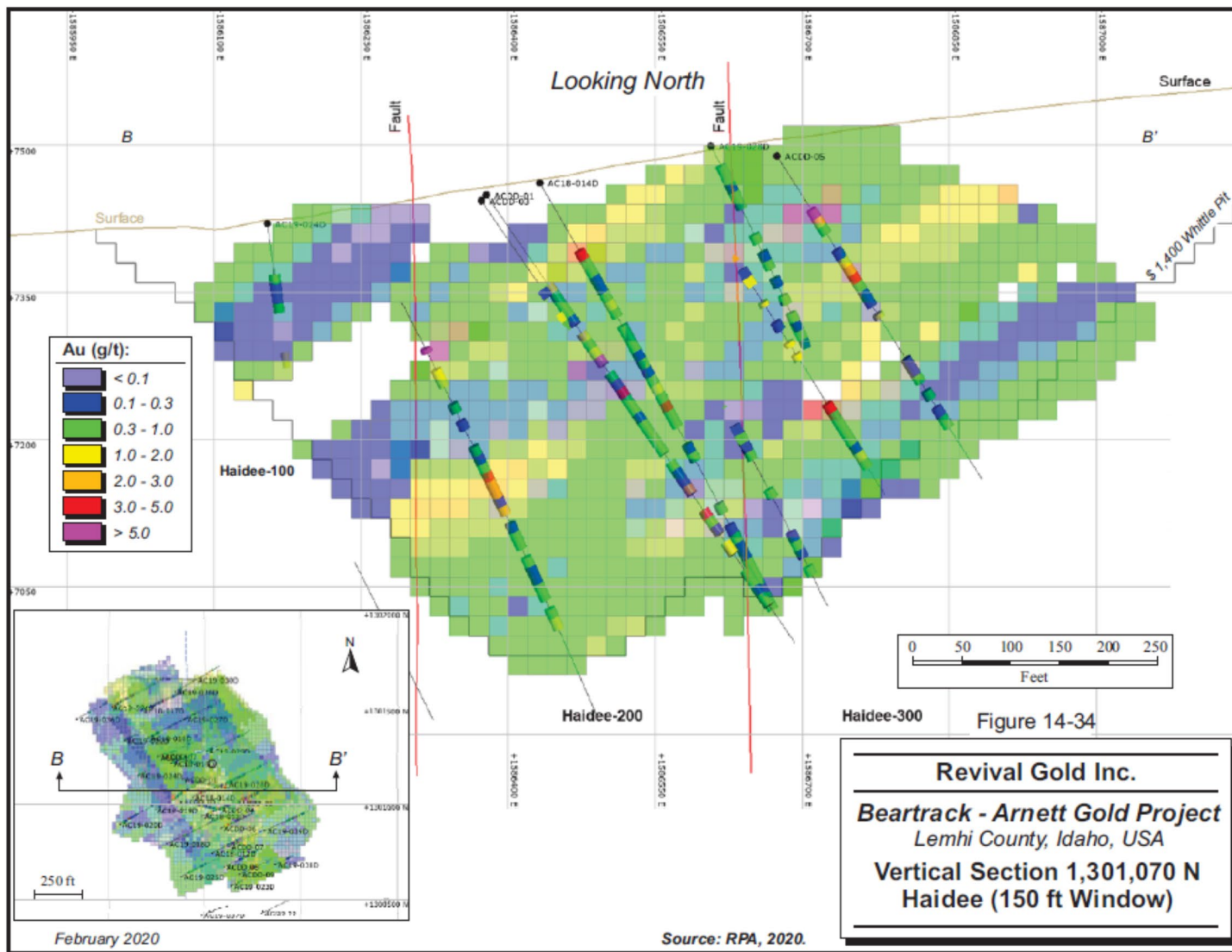


Figure 14-34: Vertical Section 1,301,070N – Haidee (150 ft Window)

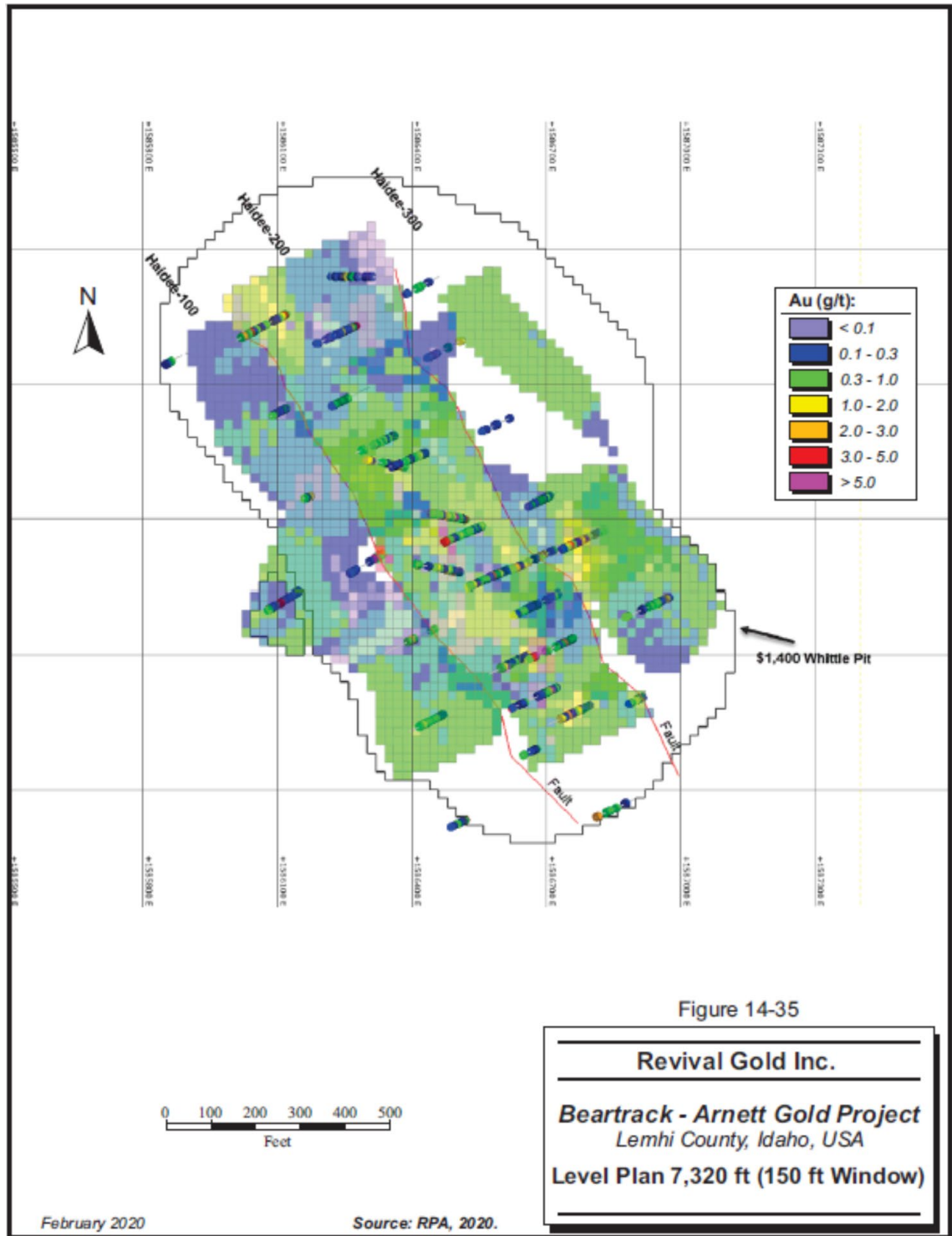


Figure 14-35: Level Plan 7,320 ft – Haidee (150 ft Window)

### 14.3.6.3 Estimation Comparison

As a secondary parallel estimation validation, RPA completed NN block model estimates using the December 2019 estimation parameters for interpolation of gold grade. The RPA NN and ID<sup>2</sup> estimations were in agreement and were within less than 6% of the ID<sup>2</sup> estimation at Arnett.

### 14.3.6.4 Statistical Comparison

Statistics of the block grades are compared with statistics of composite grades in Table 14-29 for all blocks and composites within the Arnett domains.

**Table 14-29: Statistics of Block Grades versus Composite Grades – Arnett (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

<b>Domain</b>	<b>100</b>		<b>200</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	99	4,833	518	14,239
Min (g/t Au)	0.003	0.007	0.000	0.012
Max (g/t Au)	3.715	2.278	8.000	6.525
Mean (g/t Au)	0.303	0.280	0.611	0.561
Variance	0.240	0.040	0.960	0.200
SD (g/t Au)	0.494	0.211	0.981	0.448
CV	1.630	0.760	1.600	0.800
<b>Domain</b>	<b>300</b>		<b>400</b>	
<b>Descriptive Statistics</b>	<b>Comp</b>	<b>Block</b>	<b>Comp</b>	<b>Block</b>
Number of Samples	164	6,999	24	1,125
Min (g/t Au)	0.007	0.020	0.003	0.012
Max (g/t Au)	7.118	6.713	3.590	2.318
Mean (g/t Au)	0.516	0.497	0.872	0.906
Variance	0.710	0.130	1.080	0.120
SD (g/t Au)	0.840	0.358	1.037	0.342
CV	1.630	0.720	1.190	0.380

### 14.3.7 Classification

The classification criteria used at Arnett were similar to those used for Beartrack (see Classification under Beartrack).

The classification criteria were applied to each of the three mineralized domain models individually. The classification was coded into the block model using the wireframe domain models and clipping polygons that were created to define the outline of the material in the Indicated Mineral Resource category (Figure 14-36 and Figure 14-37).

The central corridor of the Haidee-Central domain (Zone 200) was classified as Indicated owing to the closely spaced drilling throughout the length of the zone. In this area of Indicated Mineral Resources, drill hole sections are spaced 50 ft to 100 ft (15.2 m to 30.5 m) apart along strike, vertical holes are spaced approximately 30 ft (10.0 m) along each section, number of holes greater than or equal to two, and distance to nearest neighbour less than 75 ft (22.9 m).

In RPA’s opinion, the classification appears to be reasonable, and appropriate for the style of mineralization and deposit type. It is likely that definition drilling at Arnett will upgrade a portion of the Inferred Mineral Resources to Indicated Mineral Resources.

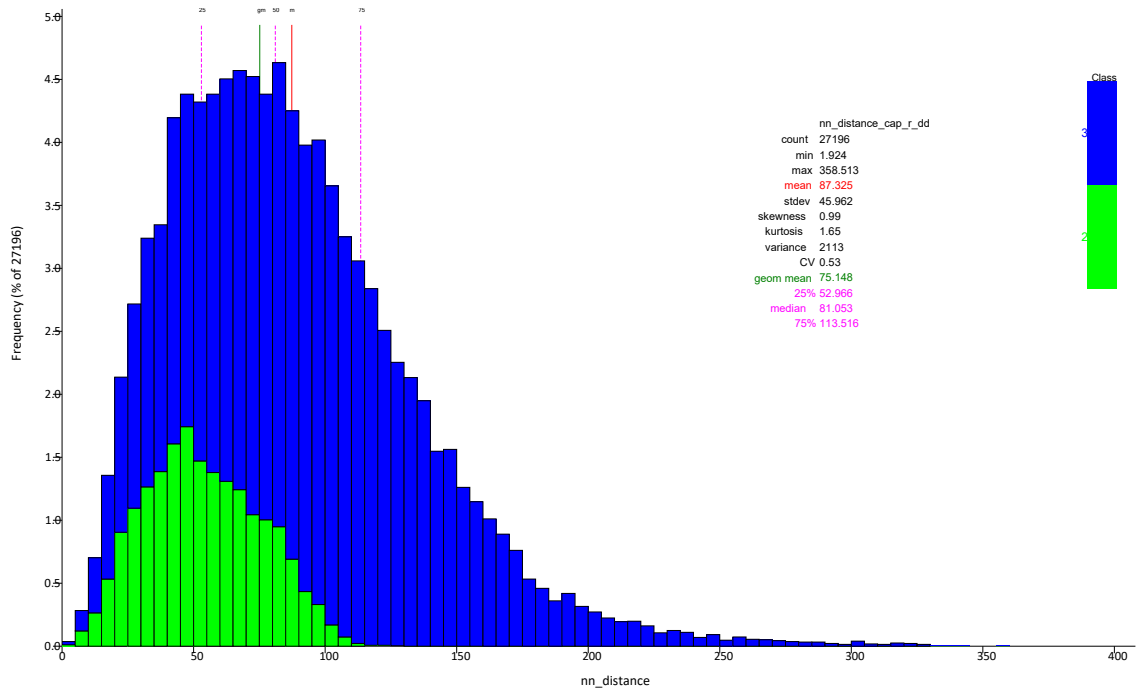
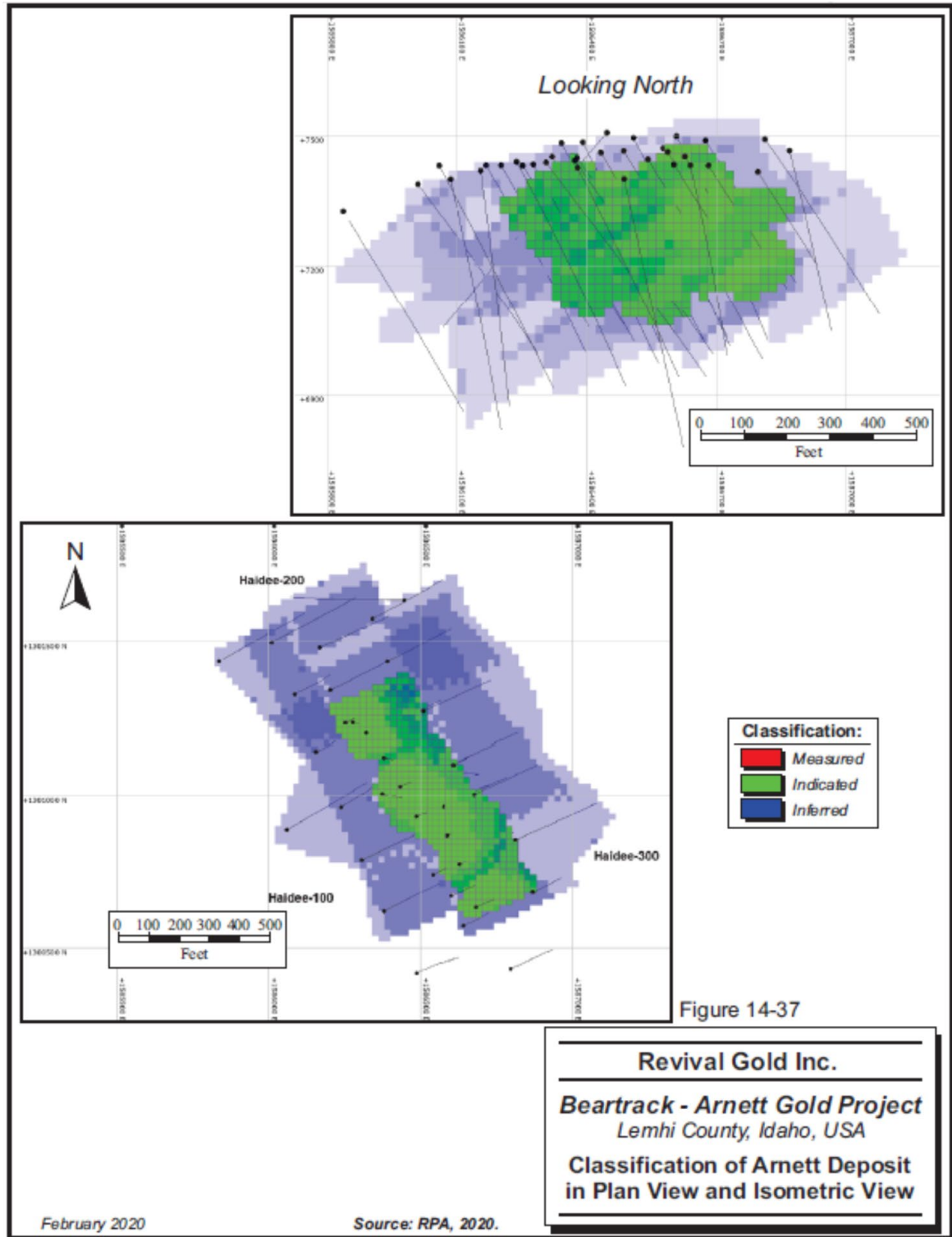


Figure 14-36: Histograms of Arnett Classified Blocks versus Distance to the Data



**Figure 14-37: Classification of Arnett Deposit in Plan View and Isometric View**

## 14.4 Whittle Pit Optimization

The optimized pit shells selected as the basis for reporting open pit constrained mineral resources were created using the Whittle 4X software package. Whittle is a commonly used commercial product that employs various geologic, mining, and economic inputs to determine the pit shell based on the Lerchs-Grossmann 3D optimization method. Table 14-30 and Table 14-31 summarize the key open pit inputs for the Whittle analysis on each of the primary open pit areas at Beartrack and Arnett.

A royalty of 1.25% was not included in the pit optimization. Royalty does not apply to all resources and is limited to a total amount on the property.

**Table 14-30: Beartrack Whittle Pit Optimization Parameters (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Whittle Parameter	Description
Block Dimensions	20 ft x 20 ft x 20 ft (Vulcan)
Re-Blocked Dimensions	40 ft x 40 ft x 40 ft (Whittle)
Origin Coordinates	110,960 ft North; 112,000 ft East; 3,600 ft Elevation
Mining Cost	US\$2.03/ton Mined
Gold Price	US\$1,400/oz
Gold Selling Cost	US\$2.0/oz
Gold Payable	99.90%
Royalty	1.25% (Excluded from NSR)
Recovery POX	94.0% of AuFA Grade
Recovery Heap	85.0% of AuCN Grade
COSTS (US Imperial Units)	
POX Cost	US\$16.61/ton Processed
POX Re-handle Cost	US\$0.09/ton Processed
Heap Cost	US\$2.93/ton Processed
General and Administrative (G&A)	US\$0.90/ton Processed (POX or HEAP)
COSTS (Metric Units)	
POX Cost	US\$18.46/ton Processed
POX Re-handle Cost	US\$0.10/ton Processed

Whittle Parameter	Description
Heap Cost	US\$3.25/t Processed
G&A	US\$1.00/t Processed (POX or HEAP)
Processing Capacity	20,000 tons/d (POX or HEAP)
Slope by rock type (Lithology Code)	Glacial Till / Gravel 37.0° (10)
	Faulted Zone / Backfill 37.0° (30, 70)
	Dikes 37.0° (40)
	Granite / Quartz Monzonite 45.0° (50)
	Yellowjacket 45.0° (60)

**Table 14-31: Arnett Whittle Pit Optimization Parameters (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Whittle Parameter	Description
Block Dimensions	20 ft x 20 ft x 20 ft (Vulcan)
Re-Blocked Dimensions	No Re-Blocking (Whittle)
Origin Coordinates	1,584,300 ft North; 1,300,100 ft East; 6,500 ft Elevation
Mining Cost	US\$2.03/ton Mined
Gold Price	US\$1,400/oz
Gold Selling Cost	US\$2.0/oz
Gold Payable	99.90%
Royalty	1.25% (Excluded from NSR)
Recovery POX	-
Recovery Heap	75.0% of AuFA Grade
COSTS (US Imperial Units)	
POX Cost	-
POX Re-handle Cost	-
Heap Cost	US\$2.93/ton Processed
G&A	US\$0.90/ton Processed (HEAP)
COSTS (Metric Units)	
POX Cost	-



Whittle Parameter	Description
POX Re-handle Cost	-
Heap Cost	US\$3.25/t Processed
G&A	US\$1.00/t Processed (POX or HEAP)
Processing Capacity	20,000 tons/d (HEAP)
Slope by rock type (Lithology Code)	Granite / Quartz Monzonite 45.0 degrees (50)

## 14.5 Cut-off Grade

Cut-off grade (COG) calculation for the December 10, 2019 Mineral Resource estimates included the following:

- A gold price of \$1,400/oz.
- The applicable royalty payments were excluded from cut-off grade calculation. Royalty is not applicable to all resources; it is a limited amount for the property. Considering the reduced impact on the cut-off grade and to be consistent with the pit optimization analysis, royalty was excluded from cut-off grade calculation.
- The process operating costs and on-site (and off-site) metal recoveries by material type, applicable or selected process method, and deposit.

Process and overhead costs for the various processing options were estimated along with recovery. Cut-off grades include mining, G&A, and process costs.

The Beartrack cut-off grade is based on the mining cost as presented in Table 14-32, which includes the cost of routing the material. The re-handle cost was estimated to be US\$0.09/ton (US\$0.10/t) applied to 50% of the POX process. The cut-off grade, expected recoveries, gold price and mining costs were used to calculate a maximum value for each block in the block model. The following calculations were used to assign a mill and leach value to each block at Beartrack. Each block was then designated as either mill, leach, or waste based on the greater value between Mill or Leach or did not meet the cut-off criteria for either process. Note: Mill calculations are applied to fire assays and leach calculations are applied to cyanide soluble assays. For Arnett, all of the mineralization contained in Zones 100, 200, and 300 is oxide material and classified as leach material and therefore the calculation of mill vs. leach was not applied.

Mill:

$$\text{rev\_pox} = (1400 * 0.999 - 2)/31.10348 * \text{aufa\_final\_gpt} * 0.94$$

$$\text{cst\_pox} = 18.46 + 1.0 + 0.10 + 2.25$$

$$\text{val\_mrg\_pox} = \text{rev\_pox} - \text{cst\_pox}$$

Leach

$$\text{rev\_heap} = (1400 * 0.999 - 2) / 31.10348 * \text{aucn\_final\_adjust\_gpt} * 0.85$$

$$\text{cst\_heap} = 3.25 + 1.0 + 2.25$$

$$\text{val\_mrg\_heap} = \text{rev\_heap} - \text{cst\_heap}$$

The Arnett cut-off grade estimates are shown in Table 14-33 at a gold price of \$1,400/oz and an average recovery value for the leach process.

Additionally, a cut-off grade was applied to the underground resources at Beartrack. Table 14-34 represents an incremental mining scenario which would be supported by surface mining operations. All material viewed as underground resources is considered mill material and average recoveries were applied as such.

**Table 14-32: Beartrack Open Pit Cut-off Grade Parameters (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Description	Units	Mill	Leach
Gold Price	\$/oz	1,400	1,400
Gold Selling Cost	\$/oz	2	2
Gold Payable	%	99.90%	99.90%
Recovery	%	94.0% AuFA	85.0%AuCN
COSTS (US Imperial Units)			
Mining Cost	\$/ton processed	2.03	2.03
Process Operating Cost	\$/ton processed	16.61	2.93
G&A Cost (20,000 tons per day)	\$/ton processed	0.9	0.9
Re-Handle Cost	\$/ton processed	0.09	-
<b>Sub-Total Operating Cost</b>	<b>\$/ton processed</b>	<b>19.63</b>	<b>5.86</b>
COSTS (Metric Units)			
Mining Cost	\$/t processed	2.25	2.25
Process Operating Cost	\$/t processed	18.46	3.25
G&A Cost	\$/t processed	1	1
Re-Handle Cost	\$/t processed	0.1	-
<b>Sub-Total Operating Cost</b>	<b>\$/t processed</b>	<b>21.81</b>	<b>6.5</b>



Description	Units	Mill	Leach
Cut-Off Grade (US Imperial Units)	oz/ton Au	0.014	0.0046
<b>Cut-Off Grade (Metric Units)<sup>1</sup></b>	<b>g/t AuFA</b>	<b>0.517</b>	
	<b>g/t AuCN</b>		<b>0.170</b>

**Table 14-33: Arnett Open Pit Cut-off Grade Parameters (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Description	Units	Leach
Gold Price	\$/oz	1,400
Gold Selling Cost	\$/oz	2
Gold Payable	%	99.90%
Recovery	%	75% AuFA
COSTS (US Imperial Units)		
Mining Cost	\$/ton mined	2.03
Process Operating Cost	\$/ton processed	2.93
G&A Cost	\$/ton processed	0.9
Re-Handle Cost	\$/ton processed	0
<b>Sub-Total Operating Cost</b>	<b>\$/ton</b>	<b>5.86</b>
COSTS (Metric Units)		
Mining Cost	\$/t mined	2.25
Process Operating Cost	\$/t processed	3.25
G&A Cost	\$/t processed	1
Re-Handle Cost	\$/t processed	0
<b>Sub-Total Operating Cost</b>	<b>\$/t</b>	<b>6.5</b>
Cut-Off Grade (US Imperial Units)	oz/ton Au	0.0052
<b>Cut-Off Grade (Metric Units)<sup>2</sup></b>	<b>g/t AuFA</b>	<b>0.193</b>
	<b>g/t AuCN</b>	

**Table 14-34: Underground Mining Costs and Cut-off Grade (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Item	Units	Incremental
Gold Price	US\$/oz	1,400
Process Recovery	%	95
Operating Costs		
Mining	\$/t	35.00
Processing	\$/t	18.30
G&A	\$/t	0.50
<b>Total</b>	<b>\$/t</b>	<b>53.80</b>
Cut-Off Grade	g/t Au	1.26

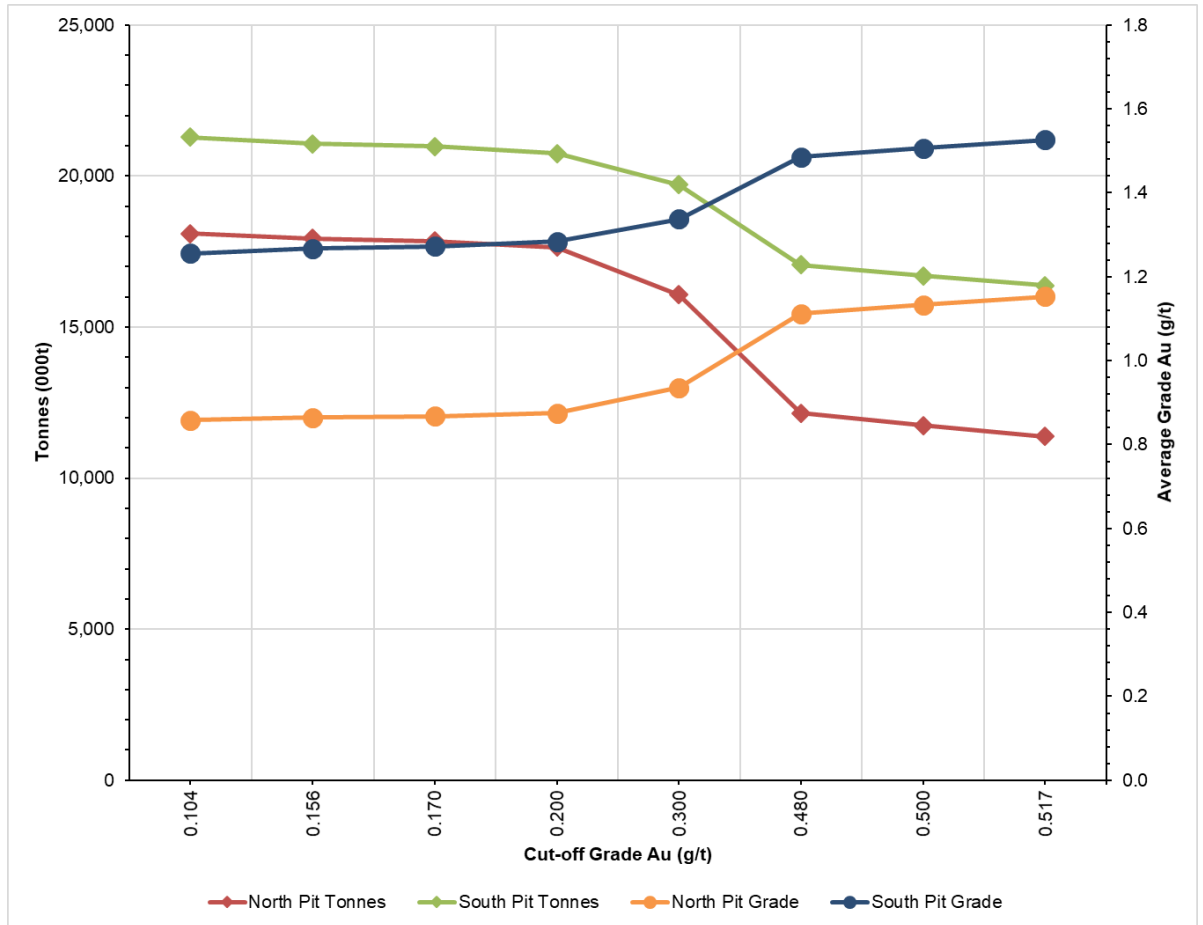
Table 14-35 to Table 14-37 and Figure 14-38 to Figure 14-40 show the sensitivity of the Beartrack and Arnett block models to various cut-off grades. RPA notes that, although there is some sensitivity of average grade and tonnes to cut-off grade, the contained metal is less sensitive.

Additional studies of open pit mining selectivity will be required for future stages of the Project. Current open pit Mineral Resources are reported using a block destination and cut-off grade. The application of a block destination and cut-off grade as part of the mining selectivity of the loading may not represent loading equipment selectivity. All blocks contained in mineralized dig polygons will be classified as mill or leach in the short-term planning. This methodology will better represent the two mineralized processing materials going to mill or leach, providing information on the amount transitional resource material included in each polygon.

In addition, RPA recommends a review of the topography and physical geography of the Arnett and Beartrack areas to identify potential locations and/or constraints for infrastructure, stockpiles (heap leach and mill), low-grade stockpiles, waste stockpiles, process facilities, and tailings management facilities as appropriate to assist in guiding future environmental and engineering efforts. RPA further recommends: 1) complete additional hydrogeology studies to determine open pit dewatering parameters at South Pit; 2) consider drilling geotechnical holes at Arnett to confirm assumptions for pit slopes; and 3) develop water sampling program at lower detection limits to more accurately model future IDPDES water discharge concentrations.

**Table 14-35: Beartrack Deposit Pit Constrained Indicate Mineral Resource Sensitivity to Cut-off Grade (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

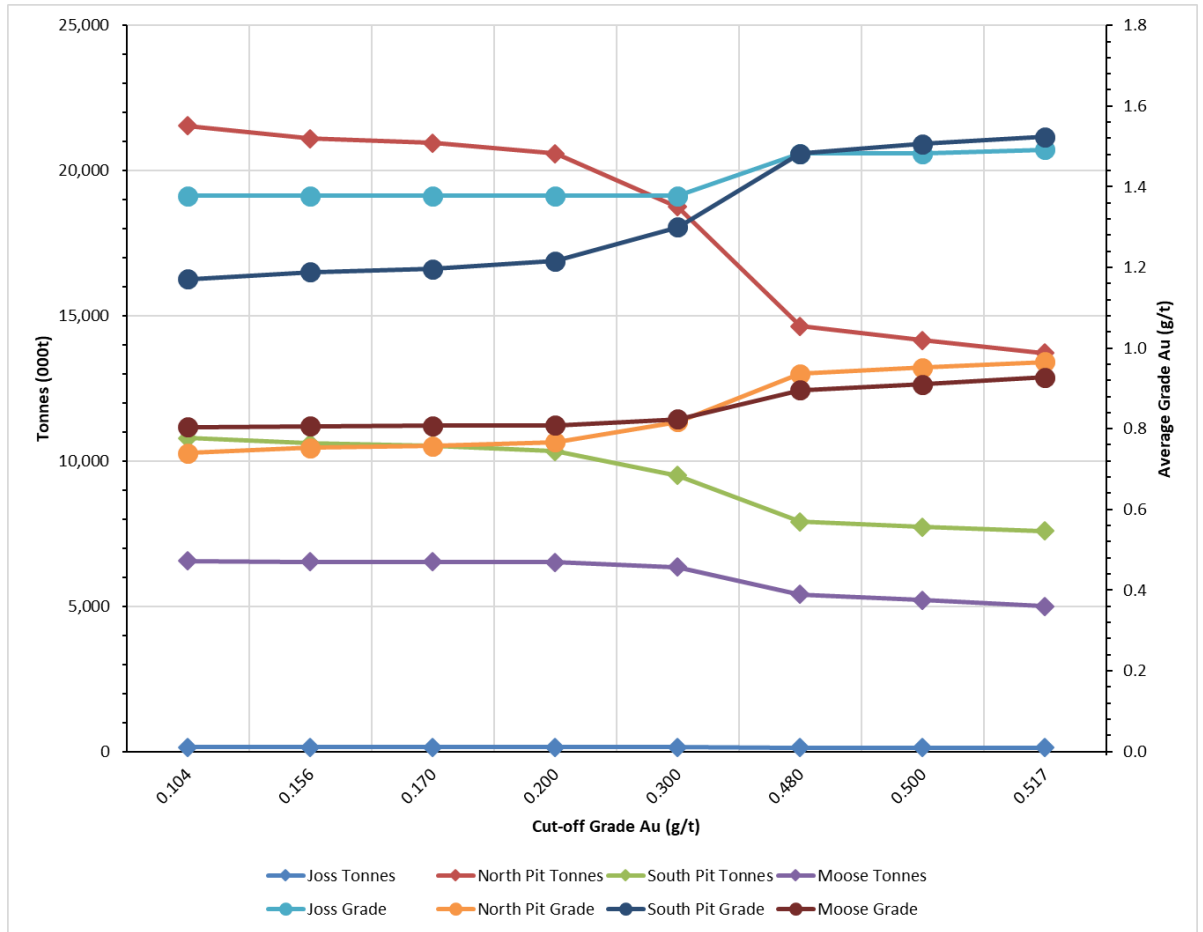
Cut-off Grade (g/t Au)	North Pit			South Pit		
	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)
0.104	18,090,200	0.858	499,100	21,279,800	1.256	859,300
0.156	17,936,900	0.864	499,000	21,060,100	1.267	859,100
<b>0.17</b>	17,852,700	<b>0.867</b>	499,000	20,973,000	<b>1.272</b>	859,000
0.2	17,645,700	0.875	498,300	20,746,100	1.284	858,100
0.3	16,076,000	0.936	497,900	19,711,700	1.338	857,600
0.48	12,147,900	1.112	496,600	17,054,600	1.485	856,300
0.5	11,747,600	1.133	483,700	16,698,100	1.506	847,800
0.517	11,379,600	1.153	434,200	16,372,800	1.526	814,200



**Figure 14-38: Beartrack Deposit Pit Constrained Indicated Mineral Resource Tonnes and Grade at Various Cut-off Grades**

**Table 14-36: Beartrack Deposit Pit Constrained Inferred Mineral Resource Cut-off Grade (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Cut-off Grade (g/t Au)	Joss			North Pit			South Pit			Moose		
	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)
0.104	141,800	1.377	6,300	21,539,000	0.740	512,300	10,783,500	1.171	406,000	6,556,400	0.804	169,500
0.156	141,800	1.377	6,300	21,103,900	0.752	510,500	10,602,500	1.189	405,300	6,533,500	0.806	169,400
<b>0.17</b>	141,800	<b>1.377</b>	6,300	20,947,800	<b>0.757</b>	509,700	10,526,300	<b>1.196</b>	404,900	6,525,000	<b>0.807</b>	169,300
0.2	141,800	1.377	6,300	20,581,500	0.767	507,500	10,327,500	1.216	403,700	6,512,600	0.808	169,300
0.3	141,800	1.377	6,300	18,754,600	0.817	492,600	9,495,100	1.300	396,900	6,340,700	0.823	167,800
0.48	127,500	1.482	6,100	14,634,400	0.936	440,500	7,906,900	1.483	376,900	5,405,600	0.895	155,600
0.5	127,500	1.482	6,100	14,153,000	0.951	432,900	7,723,800	1.506	374,000	5,216,300	0.910	152,600
0.517	126,300	1.492	6,100	13,711,300	0.966	425,700	7,586,900	1.524	371,800	4,998,400	0.928	149,100

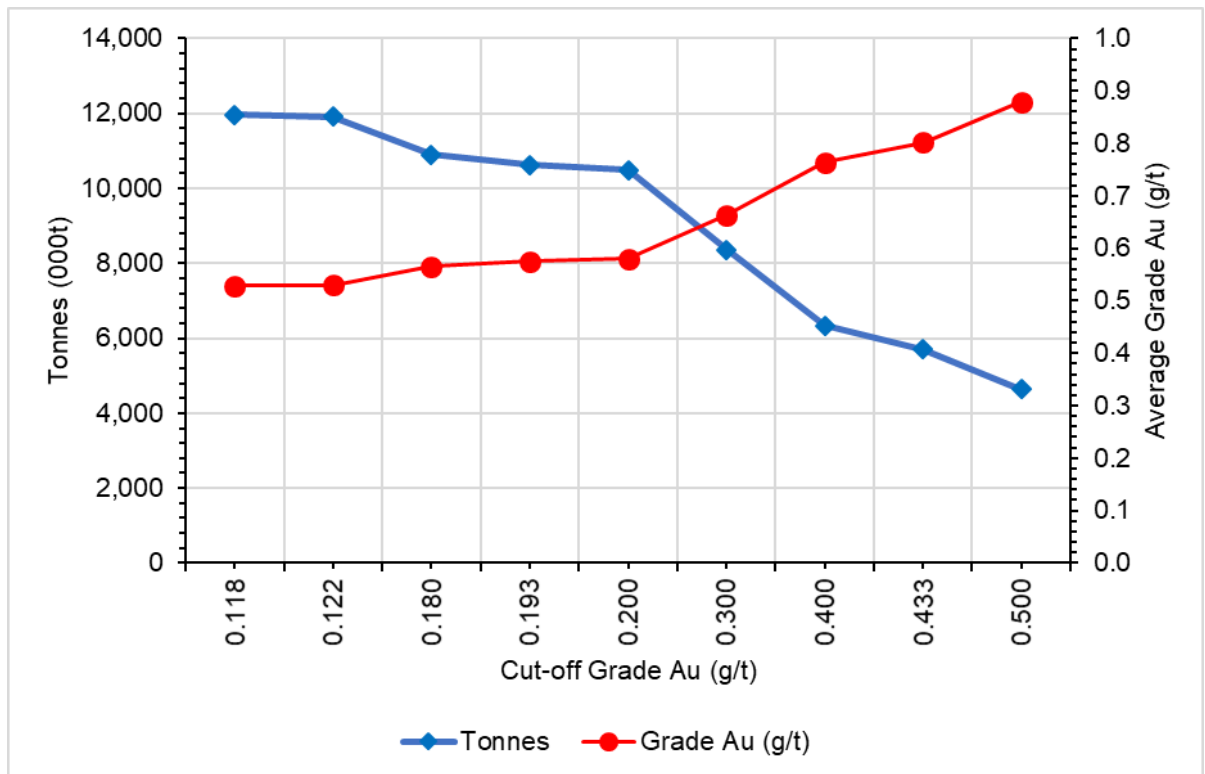


**Figure 14-39: Beartrack Deposit Pit Constrained Inferred Mineral Resource Tonnes and Grade at Various Cut-off Grades**



**Table 14-37: Arnett Deposit Inferred Mineral Resource Sensitivity to Cut-off Grade (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Cut-off Grade (g/t Au)	Tonnes (t)	Grade (g/t Au)	Metal (oz Au)
0.1178	11,966,500	0.5282	203,220
0.1219	11,912,700	0.5301	203,010
0.1800	10,895,800	0.5652	198,000
<b>0.1930</b>	<b>10,631,400</b>	<b>0.5746</b>	<b>196,410</b>
0.2000	10,492,800	0.5796	195,540
0.3000	8,357,800	0.6636	178,310
0.4000	6,330,500	0.7640	155,500
0.4325	5,706,200	0.8021	147,150
0.5000	4,645,500	0.8790	131,290



**Figure 14-40: Arnett Inferred Mineral Resource Tonnes and Grade at Various Cut-off Grades**

## 14.6 Mineral Resource Reporting

The December 10, 2019 Mineral Resources for Beartrack and Arnett are reported as per the Mineral Resource estimation methodologies and classification criteria detailed in this Report. Table 14-38 summarizes the Mineral Resources. There are no Mineral Reserves estimated on the property.

The estimation methodology is consistent with standard industry practice and the Beartrack-Arnett Indicated and Inferred Mineral Resource estimate is considered to be reasonable and acceptable.

**Table 14-38: Mineral Resource Estimate – December 10, 2019 (Revival Gold Inc. – Beartrack-Arnett Gold Project)**

Classification	Deposit	Domain	Leach			Mill			Leach + Mill		
			Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)
<b>Open Pit Resources</b>											
Indicated	Beartrack	301	4,300	0.46	63,400	100	1.83	5,900	4,400	0.49	69,300
		302	2,800	0.51	45,800	4,000	0.82	105,300	6,800	0.69	151,100
		3001	500	1.17	18,900	1,100	2.06	72,900	1,600	1.78	91,800
		3002	200	0.85	5,500	3,000	1.66	160,400	3,200	1.61	165,900
		401	3,100	0.60	59,300	3,700	0.95	112,700	6,800	0.79	172,000
		402	700	0.54	12,200	700	0.86	19,400	1,400	0.70	31,600
		4001	300	0.99	9,500	9,600	1.98	611,100	9,900	1.95	620,600
		4002	0	0.00	0	16	2.72	1,400	16	2.72	1,400
	Total Beartrack		11,900	0.56	214,600	22,216	1.52	1,089,100	34,116	1.19	1,303,700
	Arnett	200	2,500	0.65	51,900	0	0.00	0	2,500	0.65	51,900
	Total Arnett		2,500	0.65	51,900	0	0.00	0	2,500	0.65	51,900
<b>Total Indicated</b>			<b>14,400</b>	<b>0.58</b>	<b>266,500</b>	<b>22,216</b>	<b>1.52</b>	<b>1,089,100</b>	<b>36,616</b>	<b>1.15</b>	<b>1,355,600</b>
<b>Inferred</b>											
	Beartrack	100	6	1.04	200	100	1.83	5,900	106	1.79	6,100
		301	300	0.45	4,400	100	0.54	1,700	400	0.47	6,100
		302	7,500	0.53	128,200	9,100	1.01	294,200	16,600	0.79	422,400
		3001	39	0.96	1,200	12	1.56	600	51	1.10	1,800
		3002	8	1.17	300	1,200	1.21	46,800	1,208	1.21	47,100



Classification	Deposit	Domain	Leach			Mill			Leach + Mill		
			Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)	Tonnes (000 t)	Gold Grade (g/t Au)	Contained Metal (oz Au)
		401	2,000	0.50	32,300	1,800	0.84	48,300	3,800	0.66	80,600
		402	100	0.61	2,000	300	0.77	7,400	400	0.73	9,400
		4001	8	1.17	300	4,600	2.00	295,600	4,608	2.00	295,900
		4002	0	0.00	0	16	1.36	700	16	1.36	700
		600	0	0.00	0	5,000	0.93	149,100	5,000	0.93	149,100
	Total Beartrack		9,961	0.53	168,900	22,228	1.19	850,300	32,189	0.98	1,019,200
	Arnett	100	1,200	0.40	15,300	0	0.00	0	1,200	0.40	15,300
		200	3,800	0.61	74,500	0	0.00	0	3,800	0.62	74,500
		300	3,200	0.53	54,600	0	0.00	0	3,200	0.53	54,600
	Total Arnett		8,200	0.55	144,500	0	0.00	0	8,200	0.55	144,500
<b>Total Inferred</b>			<b>18,161</b>	<b>0.54</b>	<b>313,400</b>	<b>22,228</b>	<b>1.19</b>	<b>850,300</b>	<b>40,389</b>	<b>0.90</b>	<b>1,163,700</b>
<b>Underground Resources</b>											
Inferred	Beartrack										
		1000	0	0.00	0	3,600	2.35	272,100	3,600	2.35	272,100
		4001	0	0.00	0	3,100	2.00	199,200	3,100	2.00	199,200
<b>Total Inferred</b>			<b>0</b>	<b>0.00</b>	<b>0</b>	<b>6,700</b>	<b>2.19</b>	<b>471,300</b>	<b>6,700</b>	<b>2.19</b>	<b>471,300</b>

Notes:

1. Effective date of December 10, 2019. CIM (2014) definitions were used for Mineral Resource classification.
2. Qualified Persons:  
Mark B. Mathisen, C.P.G., Ryan Rodney, C.P.G.  
Mineral Resources were tabulated for model blocks with positive net value located within an optimized conceptual pit.
3. The price, recovery, and cost data translate to a breakeven gold cut-off grade of approximately 0.52 g/t Au for mineral resources amenable

to the mill option and open pit mining; and 0.17 g/t Au for the mineral resources amenable to the leach option and open pit mining at Beartrack; a breakeven gold cut-off grade of approximately 1.26 g/t Au for the incremental underground mill option at Beartrack, and approximately 0.19 g/t Au for the leach option and open pit mining at Arnett. The cut-off grades include considerations of metal price, process plant recovery, mining, processing, and general and administrative costs. A gold price US\$1,400 per ounce was used in the estimation. Additional details below.

4. Tonnes are based on bulk density of each lithologic unit ranging at Beartrack from 2.0 t/m<sup>3</sup> to 2.75 t/m<sup>3</sup>. An average bulk density of 2.35 t/m<sup>3</sup> was used at Arnett.
5. Leachability is yet to be determined and further metallurgical studies are required to fully understand the behaviour of transitional and sulfide ores when mixed with readily leachable oxide materials. Leach material defined by cyanide soluble grade leach characteristics.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. Rounding may result in apparent discrepancies between tonnes, grade, and contained metal content. The geological model supporting the mineral resource model is based on interpretations based on drilling and mapping which may change with more data. The metallurgical sampling data may not be representative of the material as a whole or may have significant variations locally in the metallurgical characteristics that could affect cost or recoveries.
8. The cut-off grade for the open pit mill resource assumes a 20,000 tpd flotation mill with pressure oxidation of flotation concentrate followed by cyanidation of the concentrate and the flotation tailings, with gold recovery of 94%, pit slopes of 37-50%, mining costs of \$2.25 per tonne, re-handle costs of \$0.10 per tonne, G&A costs of \$0.50-\$1.00 per tonne and a mill processing cost of \$18.46 per tonne.
9. The cut-off grade for the mineral resources amenable to underground mining and mill processing assumes a 3,000 tpd, ramp-access, mechanized mine with a bulk mining method and mining cost of \$35.00 per tonne.
10. The cut-off grade for the mineral resources amenable to open pit mining and heap leach processing assumes recoveries of 85% of cyanide soluble gold at Beartrack and 75% of contained gold at Arnett. Pit slopes of 37-50%. Mining costs were assumed to be \$2.25 per tonne, G&A costs of \$0.50-\$1.00 per tonne and heap leach processing costs of \$3.25 per tonne processed.



## 15.0 Mineral Reserve Estimates

This section is not relevant to this Report.

## 16.0 Mining Methods

### 16.1 Overview

The Beartrack Arnett Preliminary Economic Assessment (PEA) has been partly based on Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves.

The Beartrack Arnett PEA considers mining two deposits: Beartrack and Arnett. Beartrack is a brownfield operation with two open pits: Beartrack North Pit and Beartrack South Pit. Arnett is a greenfield operation located approximately 8 km (5 mi) from Beartrack. Beartrack will be mined first followed by Arnett.

The PEA assumes conventional open pit mining using a owner-operated equipment fleet, with mineralized material from both deposits treated at the Beartrack site. The mining operations will have a seven-year life, with half a year of pre-production (PP1).

### 16.2 Pit Optimization

The pit shells that define the ultimate pit limit, as well as the internal phases, were derived using the Lerchs–Grossmann (LG) pit optimization algorithm. This process considers the information stored in the geological block model, pit slope angles, commodity prices, mining and processing costs, process recovery, and the sales costs for the metal produced. The geotechnical assumptions used in the pit design may vary in future assessments and could materially affect the strip ratio, or mine access design.

Table 16-1 summarizes the primary optimization inputs. Beartrack comprises two open pits and three material types: oxide, transition, and sulphide. Arnett has one open pit that contains oxide mineralization only. The Beartrack North Pit currently includes sulphide backfill that will be mined and placed in the waste rock facility. The Arnett pit optimization was updated during the study to assess the impact of trucking Arnett mineralized material to Beartrack for processing as opposed to processing the material at the Arnett site. Metal prices and operational costs that are pit optimization inputs for Beartrack and Arnett are different.

A block model for each deposit are defined with a block size of 6.1 m x 6.1 m x 6.1 m (20 ft x 20 ft x 20 ft). The models were reblocked in the vertical direction, from 6.1 m (20 ft) to 7.6 m (25 ft) to match the historical bench height. The reblocked models containing gold grades, calculated tonnage, oxidation types, resource classification, and net smelter return (NSR) values, were imported into the optimization software. The optimization run was completed using Indicated and Inferred Mineral Resources to define the optimal mining limits. Measured Resources are not present in the block models.

For each deposit, the optimization run included 21 pit shells defined according to different revenue factors, where a revenue factor of 1 is the base case or the break-even pit shell at a \$1,400/oz gold price for Beartrack and \$1,500/oz gold price for Arnett. A pit-by-pit analysis was conducted to evaluate the contribution of each incremental shell to the NPV at a discount rate of 5% and an optimal pit shell selected (Figure 16-1 and Figure 16-2). For Beartrack, the selected pit shell is pit shell 13, which corresponds to revenue factor 0.88, and a gold price of \$1,232/oz (Figure 16-3). For Arnett, the selected pit shell is pit shell 14, which corresponds to revenue factor 0.92, and a gold price of \$1,380/oz (Figure 16-4).

For Beartrack, the selected pit shell represents a reduction of 9.9 Mt (11.0 Mton) of waste and 2.5 Mt (2.8 Mton) of mineralized material when compared to the base case and increases the NPV by 1%.

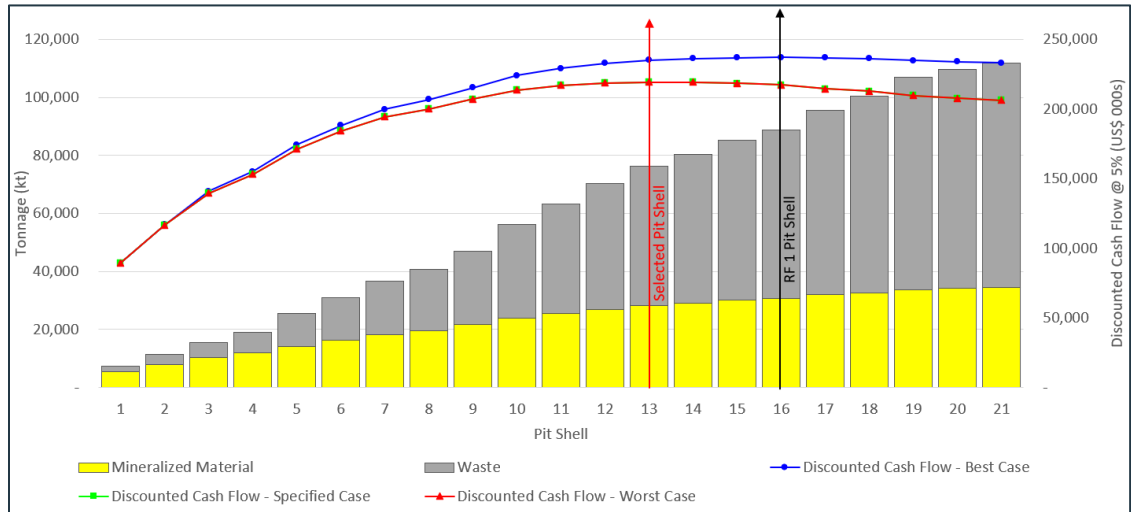
The Arnett selected pit shell achieves a reduction of 0.8 Mt (0.9 Mton) of waste and 0.2 Mt (0.3 Mton) of mineralized material when compared to the base case and slightly increases the NPV by 0.1%.



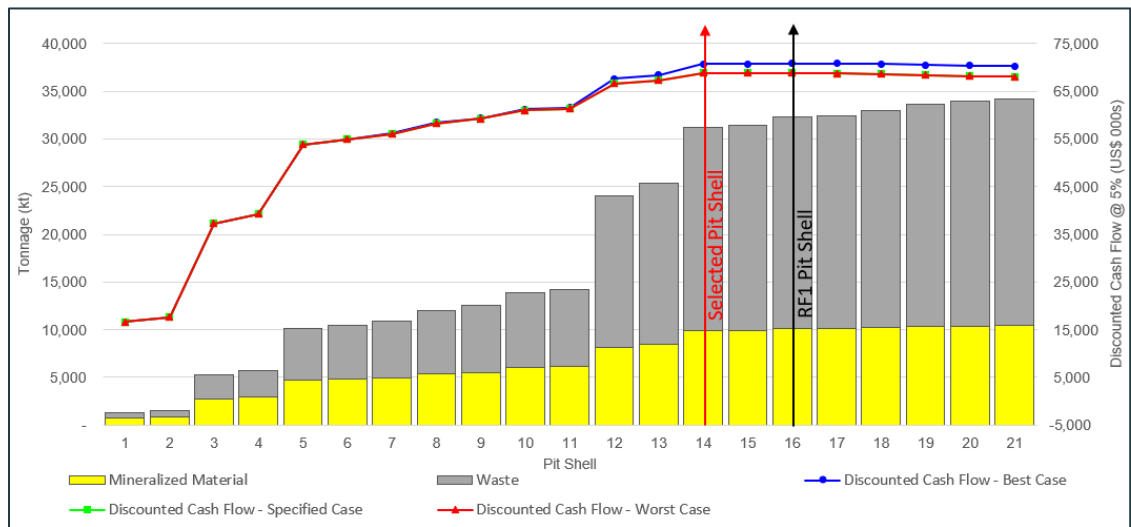
**Table 16-1: Pit Optimization Parameters**

Item	Units	Beartrack North Pit	Beartrack South Pit	Arnett
Gold price	\$/oz	1,400	1,400	1,500
Discount rate	%	5	5	5
Processing rate	t/d	10,886	10,886	10,886
Dilution	%	N/A	N/A	N/A
Mining losses	%	N/A	N/A	N/A
Process recovery - Leaching				
Oxide	%	90% AuCN	90% AuCN	80% AuFA
Transitional	%	90% AuCN	90% AuCN	N/A
Sulphide	%	90% AuCN	90% AuCN	N/A
Operating Cost				
Base mining cost – Waste	\$/t	2.14	2.14	1.85
Mining cost reclaim backfill	\$/t	1.66	N/A	N/A
Process cost - Leaching				
Incremental haul	\$/t processed	0.46	0.46	1.65
Oxide	\$/t processed	3.25	3.25	3.76
Transitional	\$/t processed	4.57	4.57	N/A
Sulphide	\$/t processed	4.57	4.57	N/A
Sustaining capital	\$/t processed	0.40	0.40	1.10
G&A cost	\$/t processed	1.66	1.66	1.09
Closure cost	\$/t processed	0.55	0.55	0.55
Royalty	%NSR	N/A	N/A	N/A
Payable Gold	%	99.9%	99.9%	99.9%
Treatment and refining cost	\$/oz	2.00	2.00	2.00
Overall slope angles (OSA)				
Default	degrees	45	45	N/A
Glacial till / gravel	degrees	38	38	N/A
Faulted zone / backfill	degrees	37	37	N/A
Dikes	degrees	37	37	N/A
Granite / quartz monzonite	degrees	45	45	45
Yellowjacket	degrees	45	45	N/A

Note: Values used for optimization are indicative and final values may differ slightly as the Project is defined.



**Figure 16-1: Beartrack – Pit by Pit Analysis**



**Figure 16-2: Arnett – Pit by Pit Analysis**

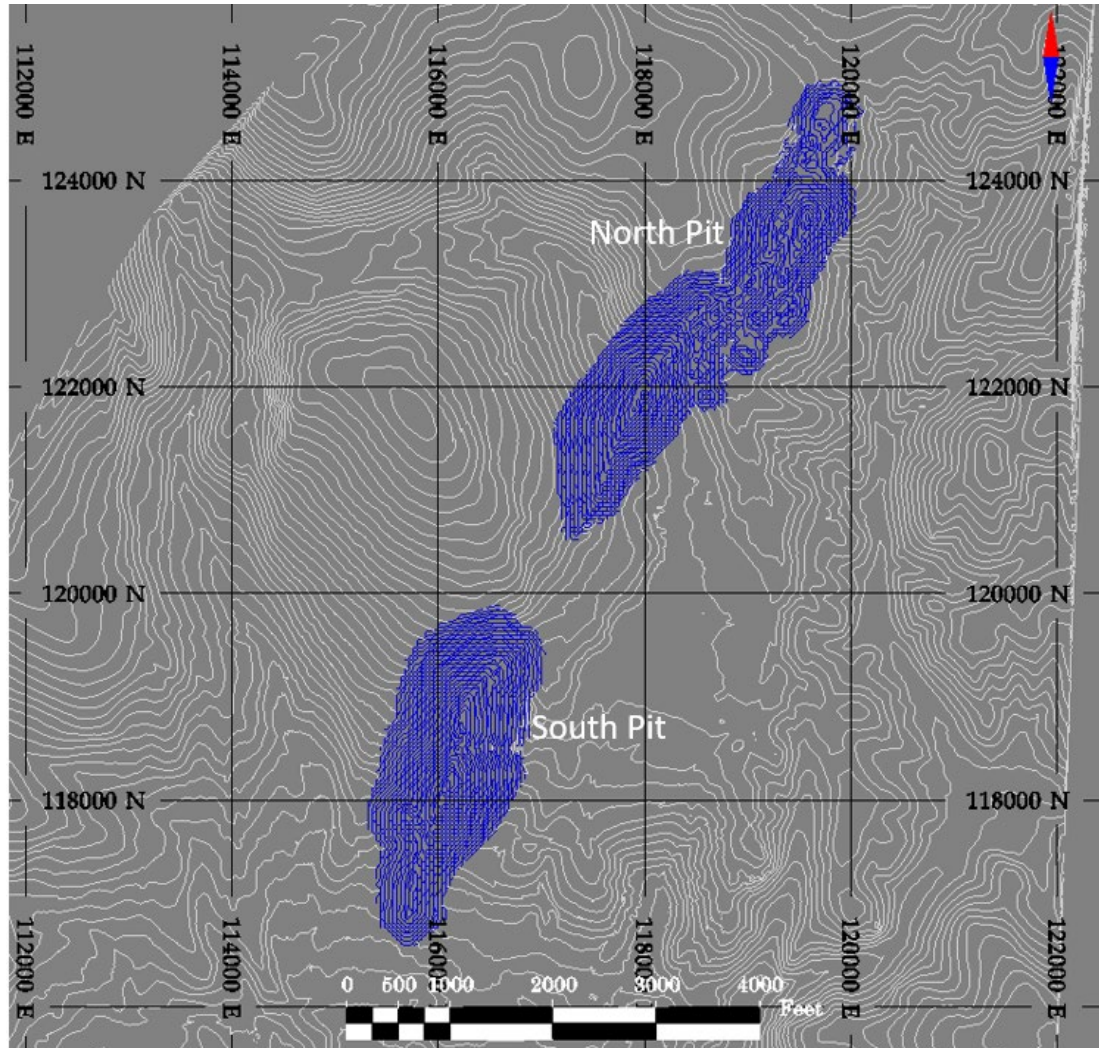
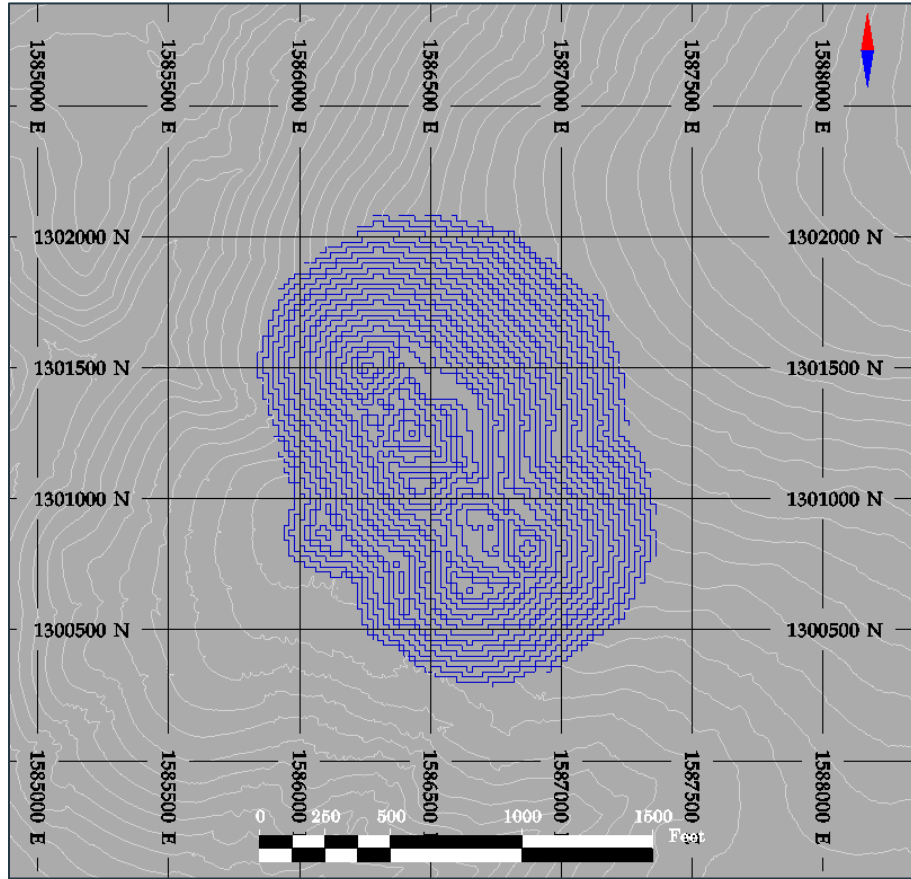


Figure 16-3: Beartrack - Selected Pit Shell (Source: Wood, 2020)



**Figure 16-4: Arnett - Selected Pit Shell (Source: Wood, 2020)**

### 16.3 Subset of Mineral Resource Estimate within the PEA Mine Plan

Pit shell 13 for Beartrack and pit shell 14 for Arnett were used to design the final pits and obtain the subset of the Mineral Resource estimate in Section 14 that was used as the basis for the PEA mine plan and is shown in Table 16-2.

**Table 16-2: Subset of Mineral Resource Estimate in the PEA Mine Plan**

Deposit	Classification	Material Type	Tonnes (Mt)	AuCN (g/t)	AuFA (g/t)	Contained Gold (koz)
Beartrack	Indicated	Oxide	6.11	0.598	0.648	127.4
		Transitional	3.09	0.726	1.182	117.6
		Sulphide	3.65	0.554	1.802	211.4
		<i>Total</i>	12.85	0.617	1.104	456.4
	Inferred	Oxide	5.52	0.613	0.533	94.5
		Transitional	1.72	0.586	0.949	52.5
		Sulphide	1.97	0.458	1.421	90.2
		<i>Total</i>	9.22	0.575	0.801	237.2
Waste	<i>Total</i>	61.09				
Arnett	Indicated	Oxide	2.38	-	0.647	49.5
	Inferred	Oxide	5.75	-	0.567	104.9
	Waste	<i>Total</i>	24.46			
Total	Indicated	<b>Total</b>	<b>15.23</b>	<b>0.520</b>	<b>1.033</b>	<b>505.9</b>
	Inferred	<b>Total</b>	<b>14.96</b>	<b>0.354</b>	<b>0.711</b>	<b>342.1</b>
	Waste	<b>Total</b>	<b>85.56</b>			

Notes to Accompany Subset of Mineral Resource Estimate within the PEA Mine Plan Table:

- Mineral Resources within the PEA Mine Plan were estimated assuming open pit mining methods and include the dilution resulting from reblocking from a 6.1 m (20 ft) x 6.1 m (20 ft) x 6.1 m (20 ft) to a 6.1 m (20 ft) x 6.1 m (20 ft) x 7.6 m (25 ft) block size. Beartrack waste material includes sulphide backfill located in the North Pit that will be mined and placed in the waste rock facility.
- Input assumptions to the pit shells that constrain the Beartrack estimate include metal price of \$1,400/oz Au, fixed process recovery of 90% (AuCN), mining cost of \$2.14/t (\$1.94/ton), a backfill reclaim cost of \$1.66/t (\$1.51/ton), an incremental material haulage cost of \$0.46/t (\$0.42/ton), and processing operating costs of \$3.25/t (\$2.95/ton) for oxide material and \$4.57/t (\$4.15/ton) for transitional and sulphide material. In addition, G&A costs were estimated at \$1.66/t (\$1.51/ton), sustaining capital costs at \$0.40/t (\$0.36/ton) and closure costs at \$0.55/t (\$0.50/ton). No royalty was included. Variable overall slope angles were applied by lithology.
- Input assumptions to the pit shells that constrain the Arnett estimate include metal price of \$1,500/oz, fixed process recovery of 80% (AuFA), mining cost of \$1.85/t (\$1.68/ton), an incremental material haulage cost of \$1.50/t (\$1.65/ton), and processing operating cost of \$3.76/t (\$3.41/ton). In addition, G&A costs were estimated at \$1.09/t (\$0.99/ton), sustaining capital costs at \$1.10/t (\$1.00/ton) and closure costs at \$0.55/t (\$0.50/ton). No royalty was included. An overall slope angle of 45 degrees was used.
- Tonnes, grades and contained metal content may not sum due to rounding.

## 16.4 Mine Design

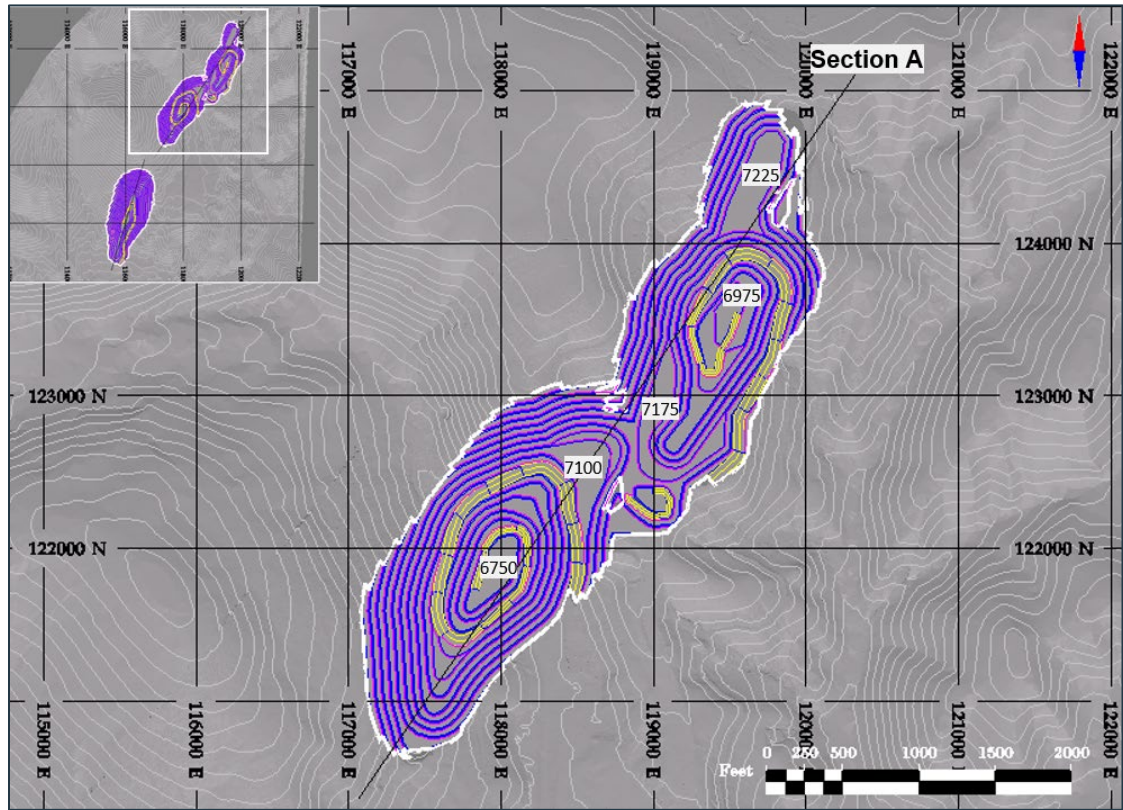
The Project has been designed as a conventional truck-shovel operation with 62 t (68 ton) trucks and 10 m<sup>3</sup> (13 yd<sup>3</sup>) shovels. To balance stripping requirements while satisfying the process plant requirements, the pit design includes five phases for Beartrack: two phases in the North Pit and three in the South Pit. For Arnett, the pit design includes two nested phases.

The design parameters are summarized in Table 16-3.

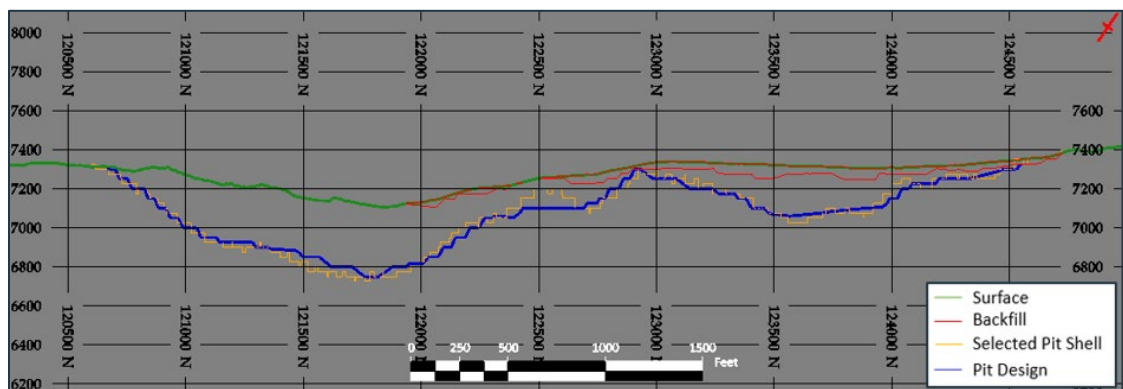
**Table 16-3: Mine Design Parameters**

Parameter	Units	Beartrack North Pit	Beartrack South Pit	Arnett
Inter-ramp angle				
Default	degrees	45	45	45
Glacial till / gravel (Code 10)	degrees	38	38	
Faulted zone / backfill (Code 30 & 70)	degrees	37	37	
Dikes (Code 40)	degrees	37	37	
Granite / quartz monzonite (Code 50)	degrees	45	45	
Yellowjacket (Code 60)	degrees	45	45	
Bench face angle	degrees	70	70	70
Bench height	m	7.6	7.6	7.6
Catch bench spacing	bench	2	2	2
Road gradient	%	10	10	10
Road width, two lanes	m	21.3	21.3	21.3

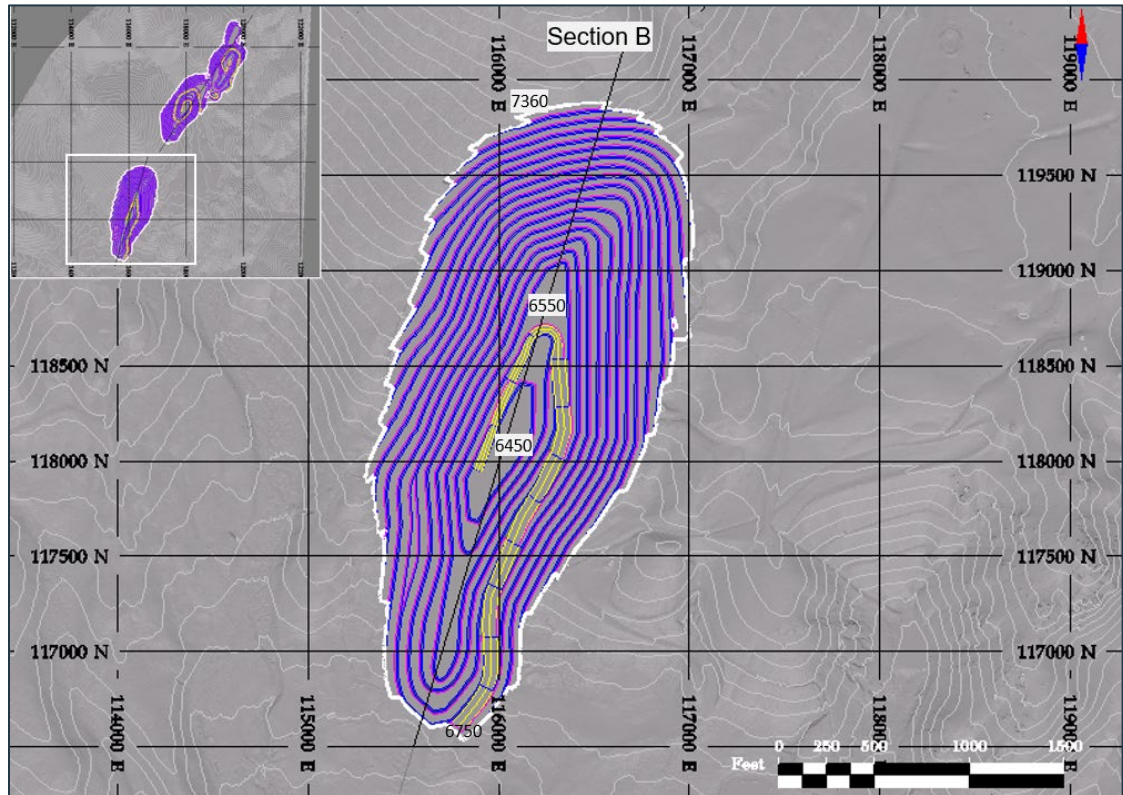
The smoothed final pit designs contain approximately 15.9 Mt (17.5 Mton), 6.2 Mt (6.8 Mton) and 8.1 Mt (9.0 Mton) of mineralized material for Beartrack North Pit, Beartrack South Pit and Arnett, respectively. The Project contains a combined total of 30.2 Mt (33.3 Mton) of mineralized material and 85.6 Mt (94.3 Mton) of waste for a resulting stripping ratio of 2.8:1. Within the 30.2 Mt (33.3 Mton) of mineralized material the average grade is 0.873 g/t (0.025 oz/ton) AuFA. Figure 16-5, Figure 16-7, and Figure 16-9 show the ultimate pit designs for Beartrack North Pit, Beartrack South Pit, and Arnett, respectively. Figure 16-6, Figure 16-8, and Figure 16-10 are cross-sections through the pits comparing the mine design to the selected pit shell.



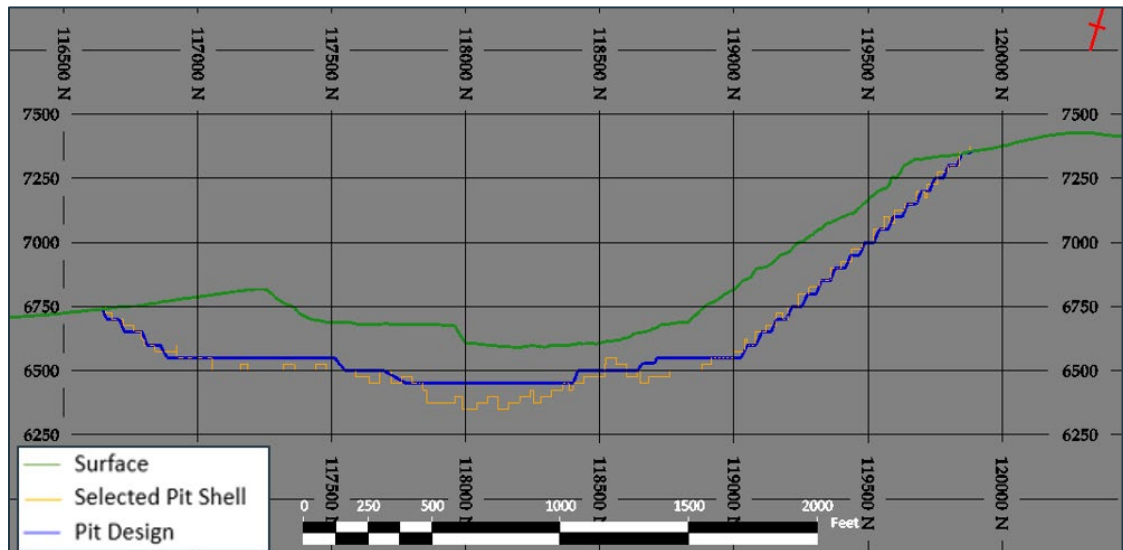
**Figure 16-5: Ultimate Pit Design – Beartrack North Pit (Source: Wood, 2020)**



**Figure 16-6: Section A Showing Mine Design and Selected Pit Shell – Beartrack North Pit (Source: Wood, 2020)**

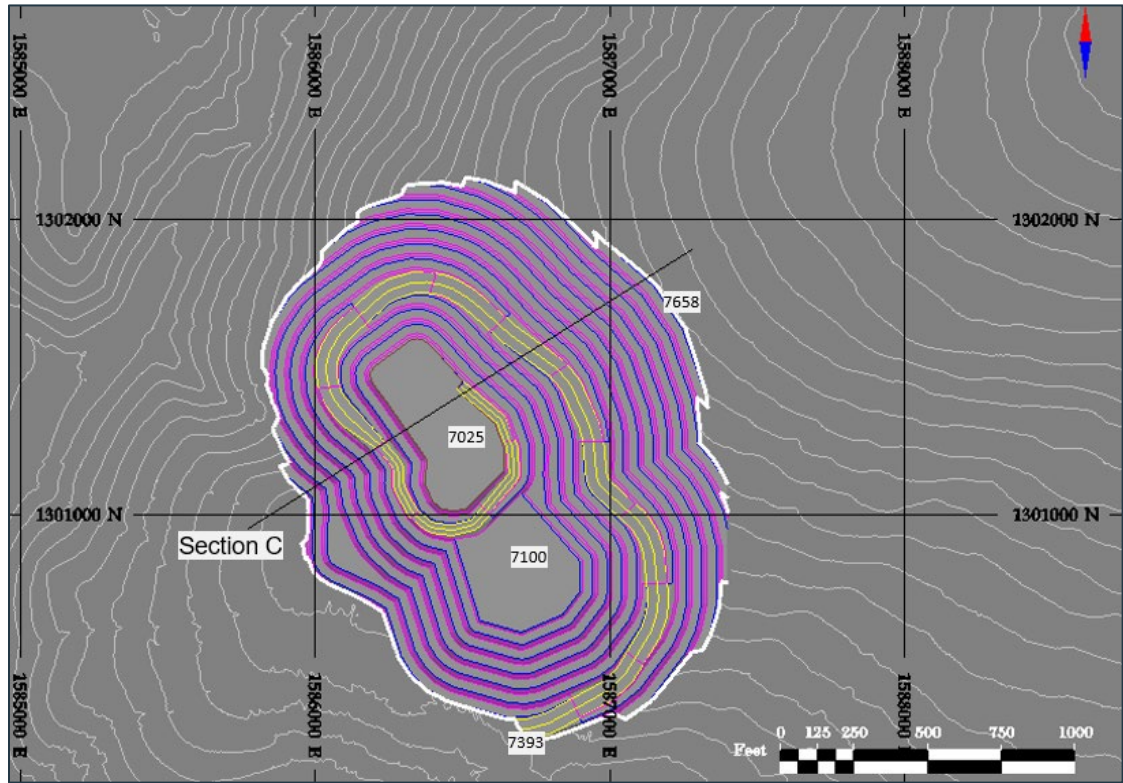


**Figure 16-7: Ultimate Pit Design – Beartrack South Pit (Source: Wood, 2020)**

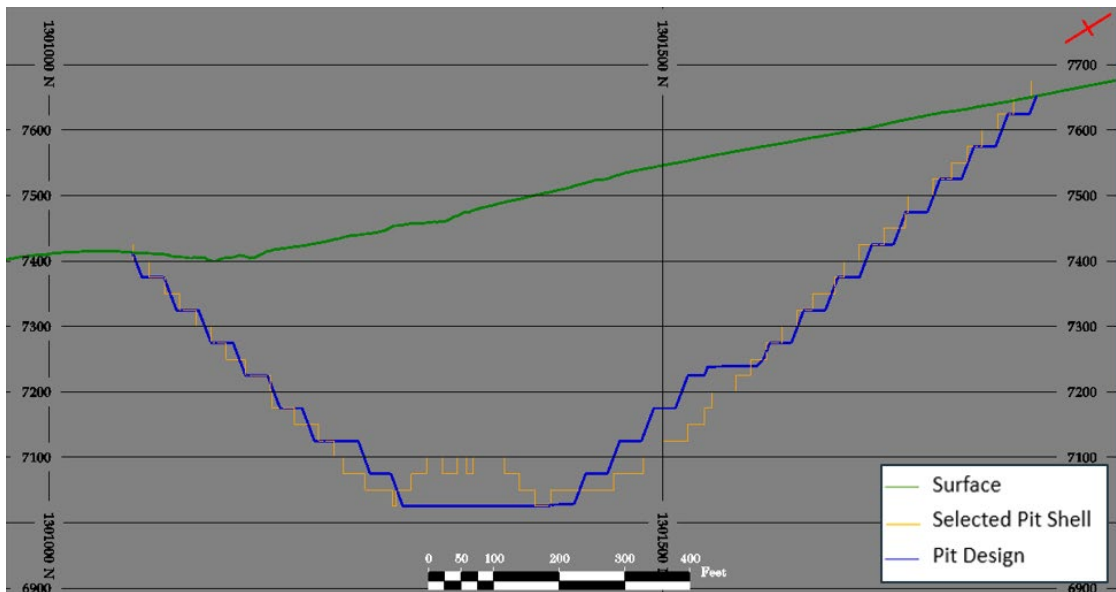


**Figure 16-8: Section B Showing Mine Design and Selected Pit Shell – Beartrack South Pit (Source: Wood, 2020)**





**Figure 16-9: Ultimate Pit Design – Arnett (Source: Wood, 2020)**



**Figure 16-10: Section C Showing Mine Design and Selected Pit Shell – Arnett (Source: Wood, 2020)**

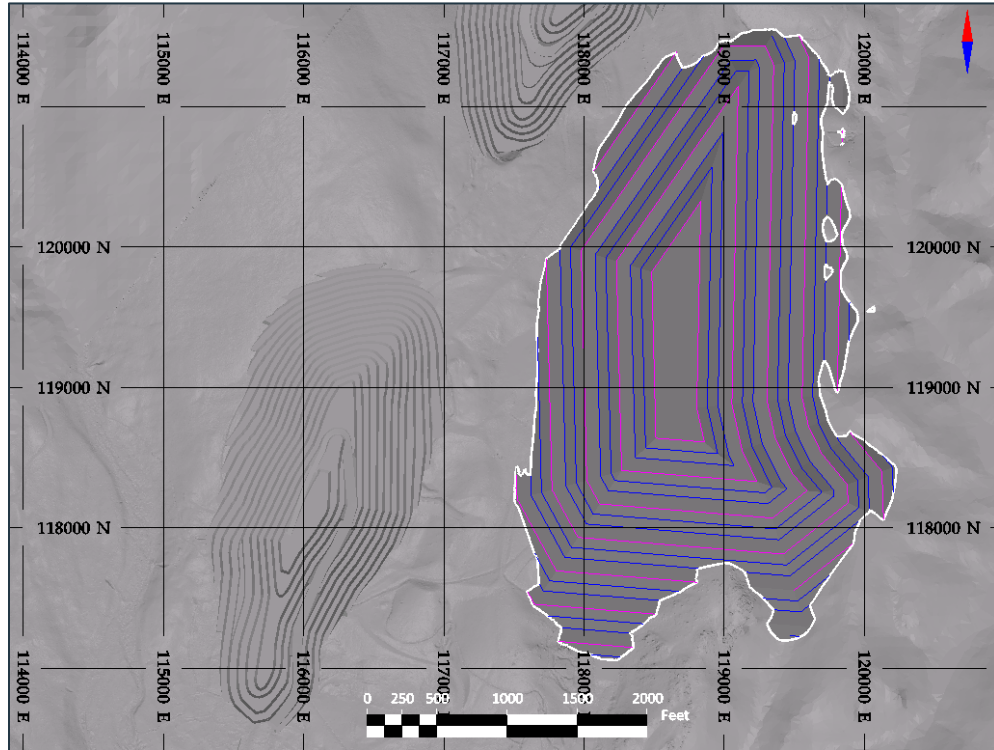
## 16.5 Waste Rock Facilities

The Beartrack Waste Rock Facility (WRF) has been designed for a capacity of approximately 33 Mm<sup>3</sup> (1,151 Mft<sup>3</sup>), which will accommodate the required 33 Mm<sup>3</sup> (1,151 Mft<sup>3</sup>) or equivalent to 61.1 Mt (67.3 Mton) of waste rock. The Arnett WRF has been designed for a capacity of approximately 14 Mm<sup>3</sup> (489 Mft<sup>3</sup>), which will fit the required 14 Mm<sup>3</sup> (477 Mft<sup>3</sup>) or equivalent to 24.5 Mt (27 Mton) of waste rock. A 30% swell factor was used for estimating volumes.

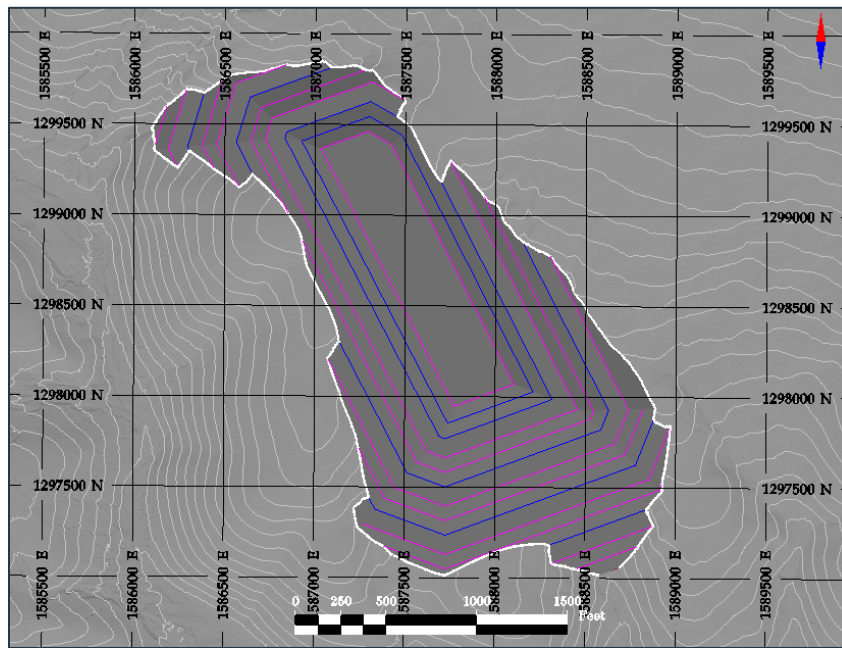
The design and construction of the WRFs should ensure physical and chemical stability during and after mining activities. To achieve this, the WRF will be constructed in bottom-top sequence, with an overall WRF slope angle of 2.5H:1V or 21.8° and catch benches every 30.48 m (100 ft) in elevation. Dumped material has been assumed to form an angle of repose of 33.6°.

Beartrack waste rock is mostly potentially acid generating (PAG) and, consequently, it will be closed via capping and covering. The Beartrack WRF will be placed on top of the existing waste dump, which will have a water collection system at its toe. Arnett contains only oxides, therefore the waste rock is considered non acid generating (NAG).

Figure 16-11 shows the WRF outline for Beartrack and Figure 16-12 shows the WRF outline for Arnett.



**Figure 16-11: Waste Rock Facility - Beartrack (Source: Wood, 2020)**

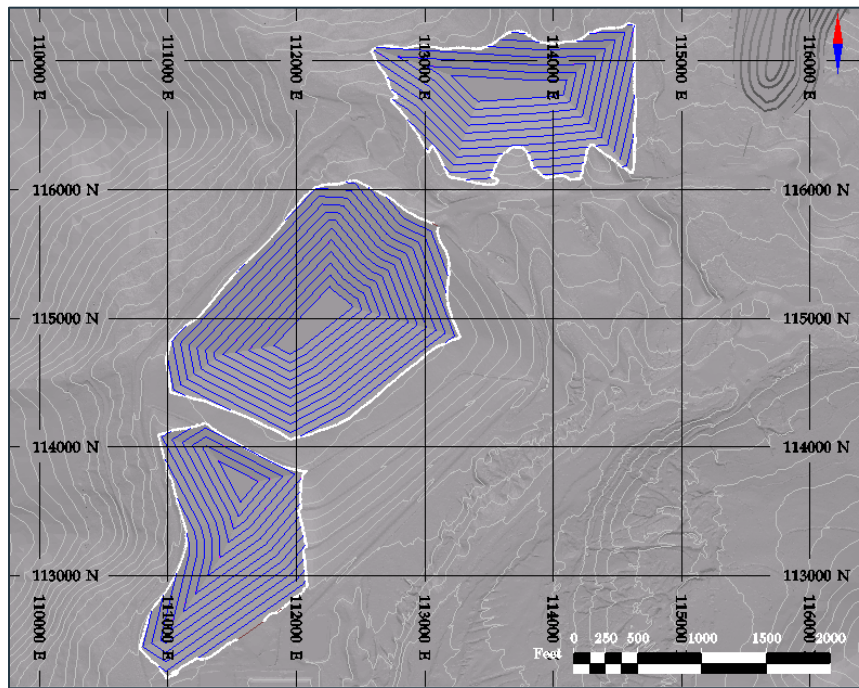


**Figure 16-12: Waste Rock Facility – Arnett (Source: Wood, 2020)**

## 16.6 Heap Leach Pads

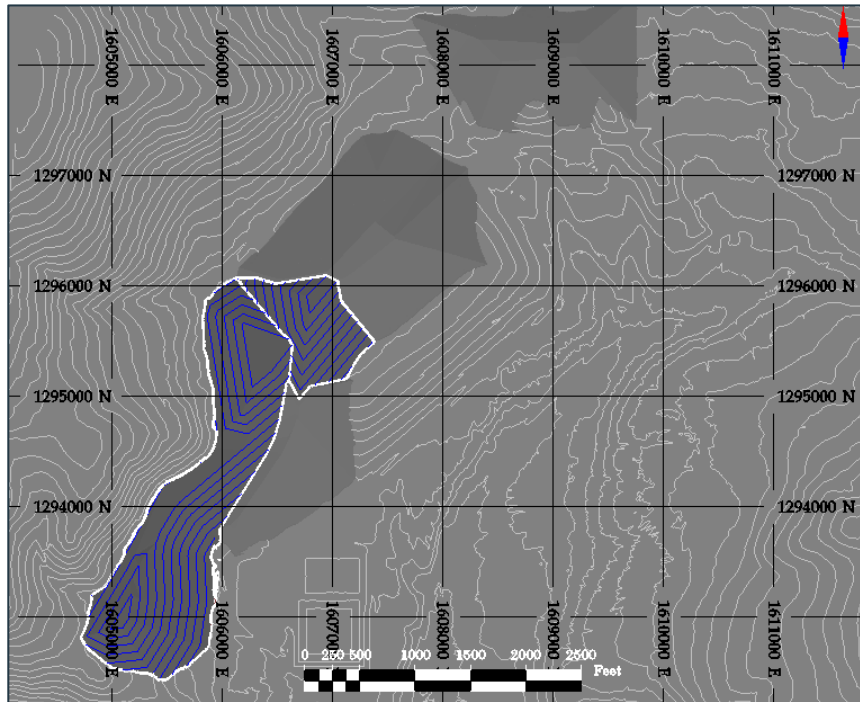
Three heap leach pads (HLP) are constructed in a phased approach at Beartrack. A combination of all three material types are crushed and placed on the pads for leaching. Interliners are used between lifts to isolate material which have the potential to become acid generating. Arnett mineralized material is truck hauled to the Beartrack site, where it is leached on a dedicated Arnett HLP. Interliners are not required as the Arnett material is non acid generating. Additional HLP design details are included in Section 17.

Figure 16-13 and Figure 16-14 show the leach pads for heap leachable material from Beartrack and Arnett, respectively.



*Note: Figure in Local Mine Coordinates.*

**Figure 16-13: Heap Leach Pads – Beartrack (Source: Wood, 2020)**



Note: Figure in Idaho State Plane Central NAD 27 coordinates. Arnett leach pads are overlapping partially Beartrack leach pads.

**Figure 16-14: Heap Leach Pads – Arnett (Source: Wood, 2020)**

## 16.7 Production/Throughput Rates

The Beartrack deposit is mined in five phases (two phases in the North Pit and three in the South Pit) while the Arnett deposit is mined in two phases. The schedule is developed in yearly periods. The operating phases are sequenced to balance the mining rate and bench advance rate while delivering 4.38 Mt/yr (4.83 Mton/yr) of mineralized material to the leach pads. The North Pit and South Pit are mined simultaneously to allow the mining of higher grade material earlier in the mine plan. Arnett is mined after Beartrack is depleted. The scheduling constraints set the maximum mining capacity at 16.3 Mt/yr (18 Mton/yr), processing rate at 4.38 Mt/yr (4.83 Mton/yr) of mineralized material and bench advance rate at 13 benches in each phase.

## 16.8 Production Schedule

The production schedule is based on the Indicated and Inferred Mineral Resources captured by the final pit designs and supports a seven-year mine life, with half a year of pre-production.

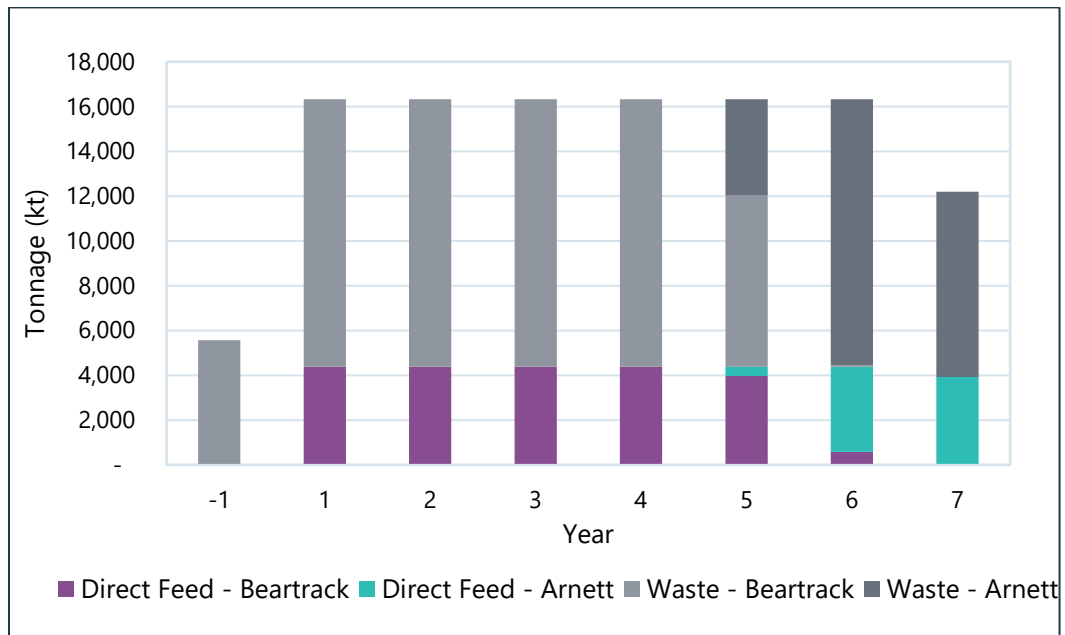
The production schedule includes a total of 30.2 Mt (33.3 Mton) of mineralized material with an average grade of 0.873 g/t (0.025 oz/ton) AuFA, and 85.6 Mt (94.3 Mton) of waste. The



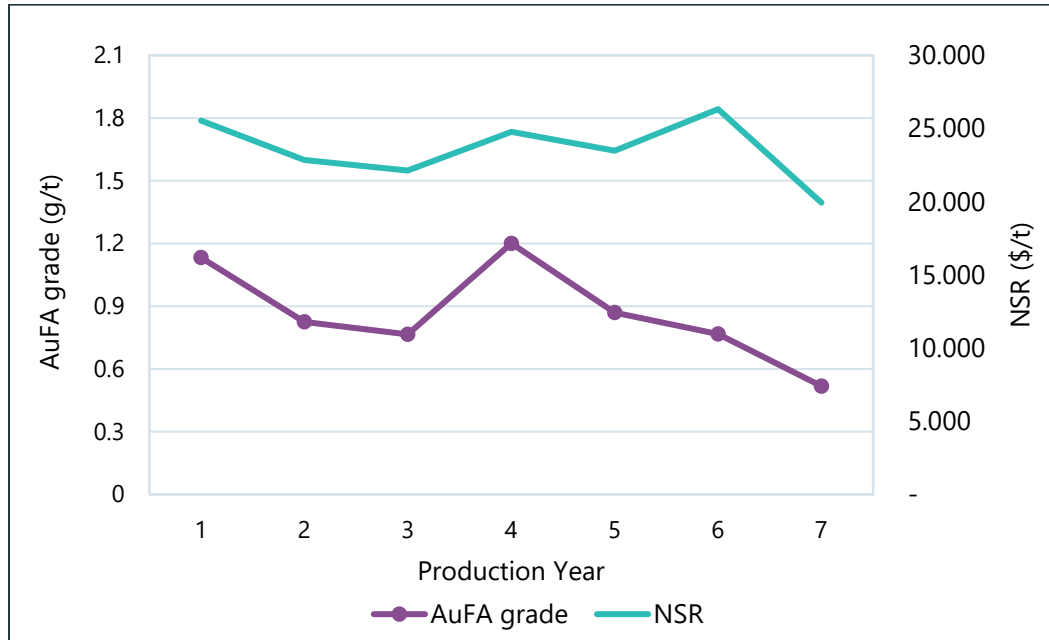
yearly LOM schedule is shown in Table 16-4 and Figure 16-15. Figure 16-16 shows the scheduled AuFA grades.

**Table 16-4: Production Schedule**

Description	Units	Total	PP1	Y1	Y2	Y3	Y4	Y5	Y6	Y7
<b>Total Feed by Deposit</b>										
Beartrack	kt	22,068	-	4,380	4,380	4,380	4,380	3,971	578	-
Arnett	kt	8,129	-	-	-	-	-	409	3,802	3,918
<b>Total Direct Feed</b>	<b>kt</b>	<b>30,198</b>	<b>-</b>	<b>4,380</b>	<b>4,380</b>	<b>4,380</b>	<b>4,380</b>	<b>4,380</b>	<b>4,380</b>	<b>3,918</b>
<b>Waste</b>										
Beartrack	kt	61,095	5,571	11,949	11,949	11,949	11,949	7,654	72	-
Arnett	kt	24,460	-	-	-	-	-	4,295	11,877	8,288
<b>Total Waste</b>	<b>kt</b>	<b>85,555</b>	<b>5,571</b>	<b>11,949</b>	<b>11,949</b>	<b>11,949</b>	<b>11,949</b>	<b>11,949</b>	<b>11,949</b>	<b>8,288</b>
<b>Total Material</b>	<b>kt</b>	<b>115,753</b>	<b>5,571</b>	<b>16,329</b>	<b>16,329</b>	<b>16,329</b>	<b>16,329</b>	<b>16,329</b>	<b>16,329</b>	<b>12,206</b>
<b>Total Feed by Oxidation</b>										
<b>Oxide</b>	kt	19,762	-	1,836	2,579	2,711	1,814	2,853	4,051	3,918
<b>Transitional</b>	kt	4,815	-	1,116	796	823	1,046	874	159	-
<b>Sulphide</b>	kt	5,621	-	1,428	1,005	845	1,520	653	171	-
<b>Total Feed by Classification</b>										
<b>Indicated</b>	kt	15,234	-	1,647	200	2,335	4,146	3,994	2,300	612
<b>Inferred</b>	kt	14,964	-	2,733	4,180	2,044	234	386	2,081	3,306
<b>Total Feed Grade</b>										
<b>AuFA grade</b>	g/t	0.873	-	1.133	0.824	0.765	1.200	0.870	0.766	0.518
<b>NSR</b>	\$/t	23.63	-	25.53	22.86	22.13	24.76	23.48	26.32	19.93



**Figure 16-15: Mining Schedule by Destination**



**Figure 16-16: Scheduled AuFA Feed Grade**



## 16.9 Mining Equipment

The operation is assumed to use a conventional owner-operated truck fleet loaded by a combination of shovels, supported by a Front End Loader (FEL). The truck fleet will consist of rigid-frame off-Highway trucks for waste stripping and for mining the mineralized zones. The trucks will be diesel powered with a maximum combined capacity of 16.3 Mt/yr (18 Mton/yr), operating on 7.6 m (25 ft) benches. The loading fleet will also be diesel powered. During Yr 6, when the haulage distance increases due to trucking Arnett leach material to Beartrack, a contractor is used and will supply five additional trucks.

Equipment requirements were estimated on an annual basis. Equipment sizing and numbers were based on the mine plan, the operational factors considered a 24 hour per day seven day a week work schedule.

The LOM major equipment fleet requirements are summarized in Table 16-5.

**Table 16-5: Major Equipment Requirements**

Major Equipment	PP1	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Primary Production Drill	2	3	3	3	3	3	3	3
Hydraulic Shovel	2	2	2	2	2	2	2	2
Front End Loader (FEL)	-	1	1	1	1	1	1	1
Off-Highway Truck	7	13	13	13	13	13	18	13

### 16.9.1 Blasting

Two types of explosive will be used:

- Heavy ANFO blend (HA) will be used for wet material, with a specific gravity of 1,230 kg/m<sup>3</sup> (77 lb/ft<sup>3</sup>).
- ANFO will be used for dry material, with a specific gravity 800 kg/m<sup>3</sup> (50 lb/ft<sup>3</sup>).

It has been assumed that the relation of wet:dry material is 30:70%. It is assumed that a medium strength rock will be mined. Based on Beartrack's historical information, a powder factor of 0.25 kg/t (0.50 lb/ton) was used for mineralized material and for waste.

### 16.9.2 Drilling

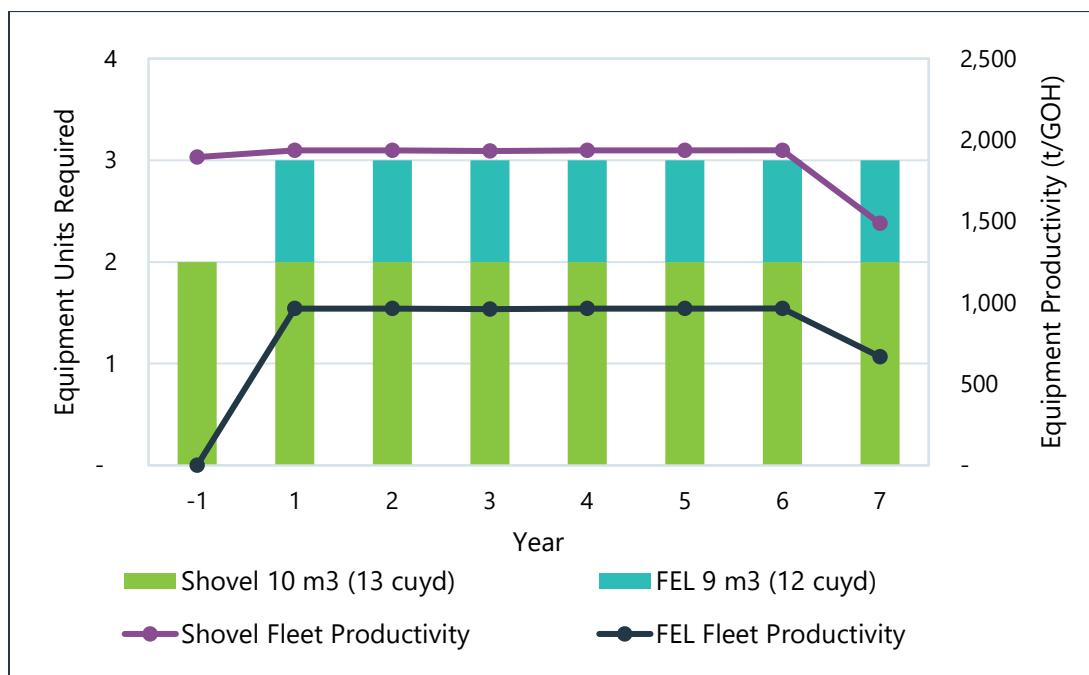
Throughout the mine life, drilling is required for both grade control and blasting. Drilling requirements have been estimated using the blast hole designs together with estimated drill penetration rates. There were no unconfined compressive strength test results available at the

Report's effective date; however, from historical Beartrack data, it has been assumed that the rock has soft to moderate strength.

Three top head hammer (THH) drills with a 121 mm (4¾ in.) bit are required at peak production.

### 16.9.3 Loading

The primary loading units selected are two 10 m<sup>3</sup> (13 yd<sup>3</sup>) hydraulic shovels. To assist the shovels, one 9 m<sup>3</sup> (12 yd<sup>3</sup>) FEL is scheduled from Yr 1. Loading requirements and combined fleet productivities are shown in Figure 16-17.



**Figure 16-17: Loading Requirements and Productivities**

### 16.9.4 Hauling

The primary hauling unit selected for mineralized material and waste mining is a mechanical drive rigid-frame off-Highway truck with a wet payload capacity of 62 t (68 ton), assuming a standard body with a full set of liners. The dry capacity has been estimated at 60 t (66 ton), assuming 3% moisture and carry back.

Truck requirements were estimated on a period by period basis. Haul segment distances were estimated by phase from each bench to the pit exit and to the WRF centroid or crushing plant. Assuming 2% rolling resistance for haul roads, travel speeds were estimated from the manufacturer's performance curves, and applied to each haul segment to estimate travel time.

Truck requirements by period are shown in Table 16-6 for 62 t (68 ton) trucks, together with the average one-way haul distance, average fuel consumption, and average truck productivity.

Five trucks are projected to be commissioned during pre-production. Over the next year, the fleet ramps up to 11 units. The truck fleet will reach its peak of 12 units in Year 2, keeping steady until Year 4, and dropping progressively thereafter with 6 units required in Year 8.

**Table 16-6: Truck Requirements and Performance**

	<b>Trucks Required (Units)</b>	<b>Average one-way Haul Distance (m)</b>	<b>Average Fuel Burn (lt/GOH)</b>	<b>Average Truck Production (t/GOH)</b>	<b>Tonnes Moved (kt)</b>	<b>Hours Operated (hr)</b>
PP1	7	1,309	38.04	257	5,571	21,690
Y1	13	1,826	49.65	200	16,329	81,682
Y2	13	1,887	43.03	200	16,329	81,682
Y3	13	2,006	49.13	199	16,329	81,906
Y4	13	1,290	41.90	236	16,329	69,196
Y5	13	1,841	44.96	200	16,329	81,682
Y6	18	3,391	49.51	144	16,329	113,098
Y7	13	3,545	50.27	149	12,206	81,906
<b>Total</b>		<b>2,164</b>	<b>46.37</b>	<b>194</b>	<b>115,753</b>	<b>612,841</b>

## 16.9.5 Support

Support equipment will include track dozers, motor graders, small hydraulic excavators, fuel trucks and water trucks.

Requirements for support equipment over the LOM are provided in Table 16-7.

**Table 16-7: Support Equipment Requirement**

<b>Support Equipment</b>	<b>PP1</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>
Dozer	3	3	3	3	3	3	3	3
Motor Grader	2	2	2	2	2	2	2	2
Water Truck	1	1	1	1	1	1	1	1
Fuel Truck	0	0	0	0	0	1	1	1

## 16.9.6 Auxiliary Equipment

To support mine maintenance and mine operation activities, a fleet of auxiliary equipment is required. The fleet will consist of small fuel/lube trucks, small water trucks, skid steers, backhoes, cranes, forklifts, telehandlers, flatbed trucks, lighting plants, pickups, crew buses, mining and geology software, a heavy ANFO truck, survey equipment, and pumps.

## 16.10 Geotechnical

Beartrack geotechnical parameters were based on Golder's geotechnical report (1990) and on a memorandum issued by Revival comparing Golder's recommendation with the actual pit slopes achieved during operation. Beartrack pit slope angles are variable by lithology. No information was available for Arnett. Arnett's geotechnical parameters were based on a benchmarking with similar operations.

## 16.11 Pit Dewatering

Regional dewatering at Beartrack is required ahead of mining to dewater both the North and South Pits. The existing South Pit lake will be drawn down as part of the dewatering effort. A regional dewatering program for the Arnett Pit is likewise assumed due to the water table encountered during exploration drilling.

## 16.12 Comments on Section 16

The QP notes:

- Arnett was designed in Idaho State Plane Central NAD 27 coordinates. Beartrack was designed in Local Mine Coordinates. For future stages, Wood recommends standardizing coordinates for both deposits.
- The Beartrack and Arnett resource models are in imperial units; consequently, mine optimization, planning, scheduling, and designs were done in imperial units and converted to metric for reporting.
- Approximately 50% of the total estimated gold ounces in the PEA mine plan is in the Inferred category
- Further geotechnical studies must be conducted for Beartrack and Arnett with the objective of verify the pit slope angles assumed during this study.
- Hydrological studies are required for Beartrack and Arnett to support the geotechnical studies and to provide inputs to a regional dewatering program.

## 17.0 Recovery Methods

The Beartrack mine site is a brownfield site for which oxide materials were leached for gold via a heap leach pad and treated via an ADR plant. The Project involves the expansion of the Beartrack heap leach pads to process a combination of oxide, transitional and sulphide mineralized material from the Beartrack North and South Pits. The development of the Arnett pit will see an additional oxide leach pad at the Beartrack site.

The Beartrack Arnett PEA operations will consist of a gold recovery facility that will process a nominal throughput of 4.38 Mt/yr (4.83 Mton/yr). Although historical test work conducted for Beartrack and Arnett to explore the process options of heap leaching and milling, for this PEA Wood was directed by Revival to explore only the heap leaching option for processing Beartrack and Arnett material.

The process circuit is located at Beartrack and will include a modular crushing plant (consisting of a primary jaw crusher and secondary cone crusher), heap leaching, carbon in column (CIC) units, ADR plant and refining circuits. Arnett ROM mineralized material will be hauled to the processing facility at Beartrack. Following the mine plan/schedule, the modular crushing plant is fed mineralized material mined from Beartrack for the first five years followed by mineralized material from Arnett for the remaining two years of mine life.

The existing Beartrack pad will be expanded to accommodate the additional material from both Beartrack and Arnett. The Arnett pad will be constructed partially overlapping the Beartrack pad; however, it will be maintained independently with HDPE liners to prevent the Arnett solution flow from entering the mixed oxide/sulphide material of the Beartrack pads. The leaching solution of all the pads is collected in a PLS solution pond, then pumped to the ADR plant for gold recovery.

### 17.1 Process Design Criteria

The process design criteria was developed based on the following:

- Wood's crushing calculations using BRUNO Process Simulation Software
- Preliminary mine plan
- Material characteristics from test work
- Recovery estimates

A summary of the plant process design criteria is found in Table 17-1.

Preliminary engineering and design of the processing plant has been undertaken for complete crushing, leaching, and recovery systems.

**Table 17-1: Summary of Criteria used for the Design of the Processing Circuit**

	Parameter	Units	CO Design
Plant Feed Rate	Crushing plant capacity factor	%	85
	Crushing plant run time	%	85
	Annual Processing Rate	t/yr	4,380,000
	Daily Processing Rate	t/d	12,000
	Final Product Size (P80)	mm	50
	Primary Leaching Cycle	days	60
Head	Head Gold Grade, Average	g/t Au	0.55
	Pregnant Heap Leach Solution Grade	g/t Au	0.45
	Gold Adsorbed/day (CIC)	g/d Au	7,003
	Overall Au Recovery from CIC	%	93

## 17.2 Process Plant Overview

The process plant consists of:

- A modular crushing plant, inclusive of a primary jaw crushing and secondary cone crushing circuits and sets of conveyors and stackers (1)
- Beartrack heap leach pad expansion for Beartrack mixed, oxide/transition/sulphide material
- Beartrack heap leach pad expansion for Arnett oxide material
- Beartrack refurbished existing CIC units (6)
- Beartrack refurbished acid wash and stripping circuits
- Beartrack refurbished carbon regeneration circuit
- Beartrack new electrowinning and gold room smelting to doré

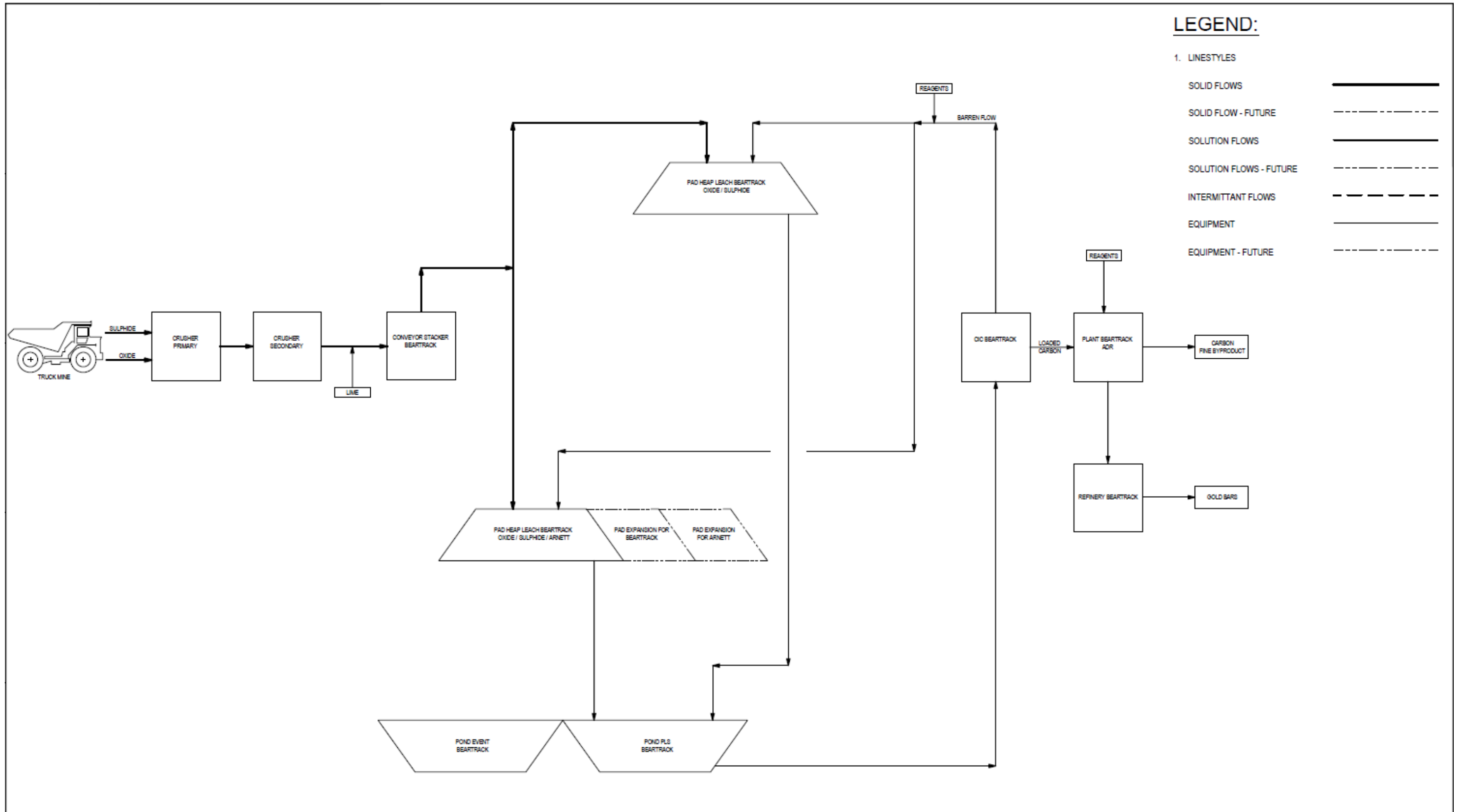


Figure 17-1: Overall Process Flow Diagram

Run of Mine (ROM) feed from both Beartrack and Arnett will be transported with 62 t (68 ton) payload haul trucks from the pits and dumped into a coarse ore hopper.

The material will then be fed to a vibrating grizzly feeder, where the oversize material is sent to the primary jaw crusher. The material will then be processed in the primary jaw crusher and discharged to the primary crusher discharge conveyor belt, combining with the undersize material of the vibrating grizzly feeder.

The crushed material will be sent to the secondary vibrating conveyor feed belt and discharged to the secondary vibrating screen of the secondary crushing circuit. The oversize material of the secondary vibrating screen will be sent to the secondary crusher conveyor feed belt and then fed to the secondary cone crusher, with the discharge sent to the crushed product conveyor belt. The undersize crushed material of the secondary vibrating screen is also sent to the crushed product conveyor belt, combining with the crushed product of the secondary cone crusher. The crushed product is then sent through a series of five horizontal grasshopper conveyors to a series of 15 grasshopper conveyor ramps and then to a horizontal feed conveyor and ultimately to a radial stacker, which will distribute the crushed material to stack on the heap leach pads. Lime for pH control will be added to the material on the crushed product conveyor belt from one silo (one for Beartrack) equipped with a bin activator, variable speed rotary valve, screw feeder and dust collector.

Primary and secondary dry material handling operations will have dedicated dust control systems (which will operate via the vibrating sack method to avoid the use of air) and will discharge the collected fines back to the conveyors.

A diverter gate at the discharge of the crushed product conveyor belt will feed the crushed material to an emergency stockpile conveyor belt and subsequently to an emergency stockpile should there be an issue at the stackers downstream. Once the downstream issue is resolved, a loader will be used to re-handle the crushed material back to the crushed product conveyor belt via the emergency stockpile hopper and emergency stockpile feeder.

The stacking of the four heap leach pads at Beartrack will follow the single lift methodology. The Beartrack and Arnett pads will be stacked via radial stackers. The total capacity of each of the Beartrack (Pads 1, 2 and 3) and Arnett (Pad 4) heap leach pads is approximately 4.38 Mt/yr (4.83 Mton/yr) assuming a heap bulk density of 1.7 t/m<sup>3</sup> (106 lb/ft<sup>3</sup>).

Leach solution will be distributed to the heap by an irrigation system which is pumped from a tank containing barren solution discharge from the ADR plant. Anti-scalent is continuously added to the leach solutions to reduce the potential for scaling within the irrigation system. Each lift will have a requirement of 60 days.

The Beartrack operating and event ponds will be continuously used in addition to an emergency event pond.



The Beartrack heap leach pads (Pads 1, 2 and 3) process a combination of oxide, transitional and sulphides mineralized material. The Arnett heap leach pad (Pad 4) will process only oxide material. Beartrack and Arnett heap leach pads will collect its pregnant leachate (over the 60 days per lift) via its respective PLS tank which will then pump the pregnant solution to the Beartrack CIC units. Barren carbon introduced at the top of the CIC, flows counter current to the pregnant solution, thus adsorbing gold. Beartrack will use six existing CIC units (to be refurbished) all with the same tank diameter and consist of a single stage with an active carbon per stage of 3 t. The barren solution collected in the Beartrack barren tank (generated from the CIC units) is pumped to the Beartrack or Arnett heap leach pad via its irrigation system. This is completed within the 60 days allotted per lift. The remaining gold recovery process will take place in the ADR facility located at Beartrack.

Loaded carbon from the Beartrack CIC unit is sent to the acid wash train consisting of one existing (to be refurbished) acid wash vessel. Acid wash is conducted with a 5% hydrochloric acid solution recirculated for about one to two hours from the bottom of the vessel to the top.

After neutralization with caustic and rinsing, the acid washed carbon is then pumped to the existing (to be refurbished) stripping circuit. One strip per day per vessel is achieved with one strip vessel using a common heating and strip solution tank.

Once gold has been desorbed, the carbon will be pushed under pressure for regeneration in one horizontal reactivation kiln. Reactivated carbon (along with fresh carbon) is reintroduced into the CIC circuit via the carbon handling circuit.

Gold eluate from the stripping circuit is sent to electrowinning (EW) cells to produce a gold precipitate sludge. Loaded cathodes will be pressure-washed in place to produce a sludge containing the precious metals. The sludge will be filtered, dried, and then mixed with fluxes and smelted on-site to produce doré bars.

Barren solution from the EW circuit is recycled to the stripping circuit with a 15% bleed back to the Beartrack barren solution tank.

Beartrack will have two effluent treatment plants, one for cyanide destruction and the other for acid rock drainage (ARD). Arnett will have one effluent treatment plant to remove total suspended solids (TSS) generated from the runoff water produced from the Arnett Pit.

## 17.3 Unit Operations

Unit operations are summarized in Table 17-2.

**Table 17-2: Summary of Unit Operations for Beartrack and Arnett**

Description	Unit	Crush Design
<b>Crushing</b>		
Nominal throughput, ROM	Mt/y	4.38
Crushing plant capacity factor	%	85
Crushing plant hourly throughput	t/hr	588
Crushing plant run time	%	85
Crushing plant daily throughput	t/d	12,000
Primary crushing product size (P80)	mm	148
Secondary crushing product size (P80)	mm	50
<b>Heap Leach Pads</b>		
Heap under irrigation, average	t/d	12,000
Heap cycle active	day	60
HL material under irrigation	t	720,000
Area under irrigation	m <sup>2</sup>	69,477
Application rate	L/h/m <sup>2</sup>	10
Flow rate to heaps	m <sup>3</sup> /h	695
Total solution to heaps per cycle	m <sup>3</sup>	1,000,500
Pregnant heap leach solution gold grade (approximate)	g/t	0.45
<b>Existing CIC</b>		
Number of tanks	#	6
Number of stages	#	1
Tonnes per stage	t	3
Column Diameter	m	3.2
Carbon Expansion	%	50
Column Height	m	2.7
Solution Upflow Velocity	m/min	1.44
Gold recovered annually	kg/yr	2,556
<b>Acid Wash</b>		
Loaded carbon	t/d	3
Number of acid wash vessel @ 3.3 st cap.	#	1

Description	Unit	Crush Design
Ratio H/D below freeboard	#	6
Proportion of carbon acid washed	%	100
Hydrochloric acid strength	%	5
<b>Stripping</b>		
Stripping method		ZADRA
No. of carbon strip vessels	#	1
Carbon strip vessel capacity	t	3
Ratio H/D below freeboard	#	6
Carbon strip NaOH concentration	%	2
Strip solution NaCN concentration	%	0.2
Stripping temperature	°C	150
No. of batches per vessel per day	#/d	1
<b>Carbon Regeneration</b>		
Type		Indirect
Method of Heating		Electric
Proportion of carbon regenerated	%	100
Kiln Availability	%	92.5
Kiln desired temperature	°C	650 to 750
Regeneration time at temperature	min	30
Stripping carbon Regen capacity	t/d	4
No. of kilns required	#	1
Carbon consumption due to kilns	kg/t	3
<b>Fine Carbon Recovery</b>		
Max. flow	m <sup>3</sup> /h	34
Solid conc. Underflow	% solids w/w	15
Fine carbon plant recovery	%	75
Carbon, recovered in fine carbon plant	kg/d	8
Filter per week	#/week	1
Filter area	m <sup>2</sup>	5.51
<b>Electrowinning (EW)</b>		

Description	Unit	Crush Design
Total volume of pregnant solution from stripping	m <sup>3</sup> /day	90
Residence time pregnant solution	hr	2
Volume pregnant tank	m <sup>3</sup>	7.5
Gold from carbon	kg/d	7.2
Number of cells	#	1
Required area for cathode	m <sup>2</sup>	0.4
Required number of cells in parallel	#	1
Minimum number of EW cells in operation	#	1
Number of parallel trains	#	1
Number of EW cells in series	#	1
Total number of cells	#	1
Lowest estimated gold recovery	%	96

## 17.4 Modular Crushing Plant

The primary and secondary crushing sections will be utilized only at Beartrack.

Each primary equipment will operate at a maximum of 85% of its nameplate capacity to account for trucks deliveries (crusher waiting), delays through rock breaker (trucks waiting), surges between circuits and other small delays (conveyor pull cords, shift changes etc.). In this case, the crushing plant is limited by the secondary crusher.

The run time (availability) is 85%.

The primary crushing circuit consists of:

- One VF52X20 – 1V vibrating grizzly feeder at a rate of 588 t/hr (648 ton/hr) and feeder oversize of 58%
- One 250 kW C160 - 47X63 primary jaw crusher operating at an average rate of 341 t/hr (376 ton/hr)

Run of Mine (ROM) feed will be dumped into a coarse ore bin, which has two times the loading capacity of a haul truck. The dump pocket will have an agglomerative dust suppression water spray system. The material is then fed to a vibrating grizzly feeder, where the overflow material (greater than 102 mm (4 in.)) is sent to the primary jaw crusher. The primary crusher discharge conveyor belt at the crusher exit will be equipped with a dust collector to collect any fines and returned to the conveyor. Primary crushing product is expected at a P80 of 148 mm (5.82 in.).

Crushed material from the primary jaw crusher will be conveyed to the primary crusher discharge conveyor belt and then discharged to the secondary vibrating screen feed conveyor belt of the secondary crushing circuit. The undersize crushed material of the vibrating grizzly feeder is also sent to the primary crusher discharge conveyor belt, combining with the crushed product of the primary jaw crusher.

The crushed material from the secondary vibrating screen feed conveyor belt will be added to the secondary crushing circuit at an average solids rate of 588 t/hr (648 ton/hr).

The secondary crushing circuit consists of:

- One (1) secondary vibrating screen MF Double Deck Banana Screen (MF 4261-2) operating at:
  - Top deck: Screen deck cut size of 90 mm (3.54 in.); the oversize will feed the secondary cone crusher while the undersize is feeding the bottom deck.
  - Bottom deck: Screen deck cut size of 76 mm (2.99 in.), the oversize will feed the secondary cone crusher cone, while the undersize is the final product.
- One (1) 600 kW MP800 secondary cone crusher operating at an average rate of 304 t/hr (335 ton/hr).

Crushed product from the secondary cone crusher will gravity feed onto the crushed product conveyor belt at a rate of 304 t/hr (335 ton/hr) (max 358 t/hr (394 ton/hr)) along with the undersize of the secondary vibrating screen at a rate of 284 t/hr (313 ton/hr) (max 334 t/hr (369 ton/hr)). The crushed product conveyor belt at the secondary cone crusher exit will be equipped with a dust collector to collect any fines.

The crushed product (size of 50.8mm (2 in.)) at a rate of 588 t/hr (648 ton/hr) (max 692 t/hr (763 ton/hr)) is sent via the crushed product conveyor belt to a series of five horizontal conveyor grasshoppers then to a series of 15 grasshopper conveyor ramps followed by a horizontal feed conveyor feed and ultimately to a radial stacker which will stack the crushed material on the heap leach pads.

Lime for pH control is added to the material on the crushed product conveyor belt at a rate of 2 kg/t (4 lb/ton) for oxide material and 6 kg/t (12 lb/ton) for sulphide material, from one silo (located at Beartrack with a holding capacity: 100 t (110 ton)) equipped with bin activator, variable speed rotary valve, screw feeder and dust collector.

There is a diverter gate at the entrance of the crushed product conveyor belt, which will feed the crushed material to an emergency stockpile feed conveyor belt and subsequently to an emergency stockpile should there be an issue in the process downstream. Once the downstream issue is resolved, a loader is used to transfer the crushed material back to the crushed product conveyor belt via the emergency stockpile hopper and emergency stockpile feeder.

## 17.5 Heap Leach Pads

The Project will have four heap leach pads: three pads (Pads 1, 2 and 3) consisting of a combination of oxide, transitional and sulphides mineralized material from Beartrack and one pad (Pad 4) with stacked mineralized oxide material from Arnett. Beartrack heap leach pads are constructed/expanded to create an oxide/sulphide material mix pad for the first five years. Hauling of the Arnett oxide ROM material to Beartrack will take place for the remaining two years of mine life. The mineralized material from Arnett is processed through the Beartrack crushing circuit and the crushed material is placed between Beartrack Pads 2 and 3 to construct the Arnett oxide heap leach pad (Pad 4). The mineralized material from Arnett and Beartrack are kept separated through the use of HDPE liners to prevent the acidification of the solution permeating through the mixed oxide/sulphide material.

The stacking rate on the Beartrack and Arnett pads is the same at 4.38 Mt/yr (4.83 Mton/yr).

The total Beartrack pad capacity is approximately 22.1 Mt (24.3 Mton) (over a 5-years) with a heap bulk density of 1.7 t/m<sup>3</sup> (106.13 lb/ft<sup>3</sup>). There will be a total of 11 lifts over the life of each Beartrack pad with a primary heap cycle of 60 days. All three Beartrack pads will be stacked via a radial stacker.

It is not planned to segregate the oxide, transitional and sulphide material types on the Beartrack pads. They will be processed simultaneously. The transitional and sulphide mineralized material have the potential to produce acid in the pad. To prevent this, from taking place, it is planned to use inter-lift liners within the pads. An inter-lift liner is an HDPE membrane with a drainage system and overliner. The positioning and timing of this inter-lift liner placement will be determined after further laboratory tests are conducted to establish the relationship in between gold recovery, lime addition and the resistance to acid formation. For the purposes of this PEA, a provision for an inter-lift liner has been included midway in the pad and on the final lift of the pad.

In addition, raincoats (thin HDPE liners) will be placed over non-active areas of the pad to limit water infiltration which will assist in reducing the formation of acid and divert clean water away from the pad. These measures have been considered in the operating costs and the water management plan of the pads.

The total capacity of the Arnett pad is approximately 8.1 Mt (9.0 Mton) (over a 3-year period) with a heap bulk density of 1.7 t/m<sup>3</sup> (106.13 lb/ft<sup>3</sup>). There will be a total of 11 lifts over the life of the Arnett pad with a primary heap cycle of 60 days and stacked via a radial stacker.

The irrigation system consists of a series of HDPE pipelines, gradually reducing in size, with drip emitters used to reduce airborne contaminants and to prevent water ponding on the pads. Water ponding is a cause of evaporation as well as an environmental concern for birds who may consider this a source of water. Where there is potential for erosion of the pad slopes, it is

customary practice to place the HDPE pipes into a culvert to prevent fluidization of the mineralized material out of containment should a leak occur in the pipeline.

The barren leach solution is distributed to the pads by a parallel arrangement of high-flow, high head pumps. The barren leach solution used for the irrigation system draws from the barren solution tank containing barren solution discharge from the Beartrack CIC section. The solution application rate is projected to be 10 L/hr/m<sup>2</sup> (0.004 gpm/ft<sup>2</sup>), and the nominal solution pumping rate is 695 m<sup>3</sup>/hr (3,060 gpm). Anti-scalent polymer is continuously added to the leach solutions to reduce the potential for scaling within the irrigation system.

There will be one collection system with all pads collecting its pregnant leachate via the PLS tank PLS which will then pump the pregnant solution to the Beartrack CIC units at a solution grade of approximately 0.45 g/t of (0.0131 oz/ton) and rate of 695 m<sup>3</sup>/hr (3,060 gpm). This tank resides in the PLS pond.

The barren solution from the Beartrack CIC unit is collected in the Beartrack tank barren solution which is directed back to the irrigation system.

## 17.6 Beartrack Operating and Emergency PLS Pond

The Beartrack operating PLS pond is sized using the 1:10 year three-month spring freshet precipitation of 493 mm (19 in.), assuming a run-off coefficient of 100% and the overall contact area of all heap leach pads at Beartrack and Arnett.

It is anticipated that the ponds will be empty for most of the year, with the exception of the spring freshet, when a significant amount of water enters the pad. To account for this, the ponds will have floating balls to prevent birds from landing in the water. The water balance shows the spring freshet, and the summer precipitation causes an annual surplus of water in the pad. A portion of the barren solution is treated via the effluent treatment plant for cyanide detox during the summer months to evacuate the excess water.

Beartrack will have an emergency PLS pond which is sized considering the 1:100 year 24-hour storm event with a maximum precipitation of 77 mm (3 in.) and the overall contact area of all heap leach pads at Beartrack and Arnett.

The combined required volume of both the PLS operating and emergency ponds is 340,183 m<sup>3</sup> (89,900,846 gal) which is comparable in size to the existing ponds capacity of 348,126 m<sup>3</sup> (92,000,000 gal). Wood suggests readjusting the divider berm in between the two ponds to balance their function.

## 17.7 ADR Facility

The ADR facility consists of the adsorption of the precious gold on active carbon (CIC), acid washing of the carbon, stripping the carbon with a strong caustic/cyanide solution at elevated temperature and regenerating the carbon at high temperature before reuse.

### 17.7.1 Adsorption – Beartrack Carbon in Column (CIC) Process

The CIC process utilizes the flow of solution through a series of fluidized bed columns to maximize adsorption of the carbon.

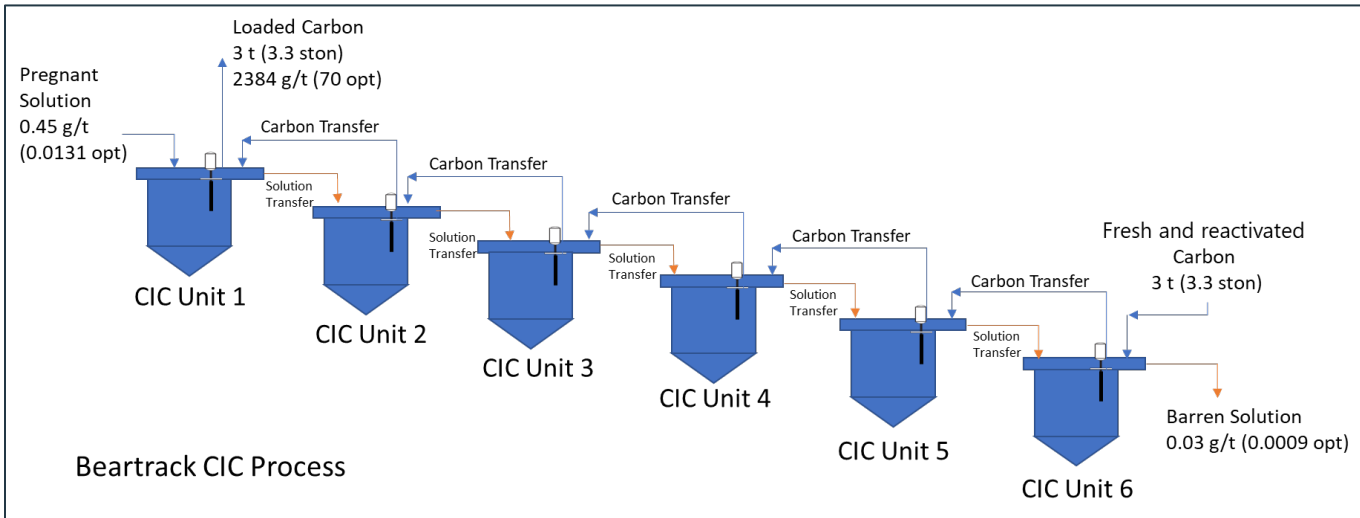
The existing system employs six CIC open top units in series, each with a volume of 21.4 m<sup>3</sup> (756.3 ft<sup>3</sup>). The total flow from the PLS tank to the CIC unit is 695 m<sup>3</sup>/hr (3,060 gpm). It is planned that these columns will be refurbished.

Each existing CIC unit has a superficial velocity of 1.44 m/min (4.7 ft/min). Wood has verified that the superficial velocity for the CIC is well within the acceptable range for operation.

The reactivated carbon is initially added to CIC unit 6 with the pregnant solution (from the PLS tank) pumped to the CIC unit 1. A combination of fresh and reactivated carbon (pumped from the carbon handling area) added to CIC unit 6 will advance counter-current to the pregnant solution flow. Periodically, a carbon advance pump will be required to transfer the carbon from CIC unit 6 through to CIC unit 1. Leached gold is adsorbed onto activated carbon suspended in the CIC units. When the migrating carbon reaches CIC unit 1, it will be loaded with gold and then pumped (via a recessed impeller pump – due to its low contact with carbon) to acid washing. The resulting barren solution then reports to the barren solution tank.

Each CIC unit will have the capacity of 3 t (3.3 ton) of loaded carbon. The loaded carbon transferred from the CIC circuit to the next stage in carbon treatment is 3 t/d (3.3 ton/d), with a loaded carbon grade of 2,384 g/t (70 oz/ton) and an annual gold recovery of 2,556 kg (82,183 oz). The remaining gold recovery process will take place in the ADR facility. Table 17-2 is a visual overview of the Beartrack CIC carbon loading process.





**Figure 17-2: Beartrack CIC Process**

## 17.7.2 Carbon Treatment

### 17.7.2.1 Acid Wash

A total of 3 t/d (3.3 ton/d) of loaded carbon is fed to a loaded carbon screen where the overflow is gravity fed to the existing acid wash vessel with a capacity of 4 t (4.4 ton) and a height to diameter ratio of 2. It is planned that the acid wash circuit will be refurbished. The fine carbon from the underflow of the loaded carbon screen is fed to the carbon handling system. All loaded carbon is acid washed by an acidic solution containing 5% hydrochloric acid. After four hours of acid wash operation, the loaded carbon is discharged and pumped to the strip vessels. Due to the potential metals leached from the sulphide mineralized material, it is planned to acid wash 100% of the carbon.

### 17.7.2.2 Stripping

Stripping involves removing the gold from the activated carbon by reversing the adsorption process that occurs in the CIC circuit. Using high temperatures and pressures while circulating a concentrated cyanide/caustic solution, the gold cyanide complex will be induced to desorb the gold from the carbon and return to solution. The desorption process is also referred to as 'Zadra stripping'. The existing strip process at Beartrack has one strip vessel with a capacity of 4 t (4.4 ton). It is planned that the stripping circuit will be refurbished. The desorption process will require a control of 3 t (3.3 ton) of carbon stripped per day and 15 bed volume (BV) (90 m<sup>3</sup>/d (3,178 ft<sup>3</sup>/d) net solution circulated per day. A bed volume is the volume occupied by the

bulk carbon in the vessel. The existing strip vessel at Beartrack is capable of meeting the daily requirements of 3.0 t (3.3 ton) per day for the current Project.

The carbon stripping process requires the following:

1. 1 hr to fill the carbon tanks with washed loaded carbon
2. 1 hr to preheat the washed loaded carbon in the vessel with a solution of NaCN (0.1%) and NaOH (1%) to 150oC (300oF)
3. 9 hrs to strip the gold from the carbon in the strip vessel (the stripping process)
4. 0.5 hr to cool down
5. 0.5 hr to transfer the stripped carbon to the carbon regeneration circuit.

This average gold production is based on one strip per day; however, it is possible to accelerate the cycle to produce up to 1.5 strips per day during periods of high grade.

### 17.7.2.3 Carbon Reactivation (Regeneration) and Handling

The stripped carbon is discharged from the strip vessels to the existing Beartrack carbon regeneration circuit consisting of one carbon dewatering screen and one 6 t/d (6.6 ton/d) regeneration kiln. It is planned that the carbon regeneration circuit will be refurbished with the exception of a new regeneration kiln. The dewatered carbon (along with the fresh carbon, from a 500 kg (1,102 lb) supersack) will be sent to the carbon regeneration kiln, and the screen undersize to the fines carbon plant. The process of thermal regeneration involves heating the carbon to 650-750°C (1,202-1,382°F) for 10-20 mins (typically one zone of the kiln) to regenerate the pores and active sites of the carbon and ensure the most active absorption. As the contaminants from the sulphides are expected to be high, it is planned to regenerate 100% of the carbon.

The hot regenerated carbon is quenched with water then pumped to the screen carbon sizing of the fine carbon plant. The oversize of the screen (good carbon) will then be stored in the barren transfer carbon tank and, when needed, sent to the CIC units.

The fines carbon plant will treat water containing fine carbon material from the various sump pumps of the carbon circuits, the underflow from the acid wash vibrating screen, the strip vessel drains, and underflow from the feed kiln vibrating screen. All carbon fines will enter the carbon sizing screen of the fine carbon handling plant as it is often seen that good carbon, dumped from vessels during maintenance activities, is often mixed with carbon fines. The underflow of the carbon screen is thickened via the fine carbon water tank. Thickened underflow material will be pumped through a fines carbon filter press and the carbon captured will be collected in tote bags. The fine carbon water tank will be designed with a surge capacity that allows for the absorption of surges from the intermittent carbon transfers and sump pumps flows. In turn, the clean supernatant water from the fine carbon water tank will be used in the process plant

as a fine carbon water that is used for the transfers. The excess water is sent to the barren solution tank.

### **17.7.3 Electrowinning and Refining**

Pregnant solution from the strip vessel is pumped to the refinery for electrowinning (EW) to produce gold sludge. It is planned that the electrowinning and refining equipment will be new equipment.

The pregnant solution will be pumped through one 3.5 m<sup>3</sup> (123.6 ft<sup>3</sup>) electrowinning cell. The resulting barren solution (collected in the EW tails collection tank) is pumped back into the stripping solution tank for reuse with a periodic 15% bleeding from the circuit to the barren solution tank.

Periodically, rich sludge will be washed off the steel cathodes in the electrowinning cells using high pressure water into the sludge holding tank. The sludge will be drained, filtered, dried, mixed with fluxes and smelted in an induction furnace to produce gold doré. This process will take place within a secure and supervised area. The gold doré will be stored in a vault to await shipment off-site.

## **17.8 Beartrack and Arnett Effluent Treatment Plants**

Due to the excess water determined to be generated from the Beartrack heap leach pads and given the acidic nature of the sulphide material mined at Beartrack, both a cyanide destruction and acid rock drainage (ARD) plant is required at Beartrack.

Arnett will require an effluent treatment plant to remove the total TSS generated from the runoff water produced from the Arnett Pit.

### **17.8.1 Beartrack Cyanide Detoxification Plant**

The detoxification processes will be used to reduce the concentration of toxic constituents in tailings streams and process solutions, either by dilution, removal, or conversion to less toxic chemical form (i.e. for toxic cyanide species). The objective is to produce an effluent that meets limits or guidelines that have been set to conform with the environmental requirements of the Project.

The Beartrack heap leach pads will generate excess water and thus a cyanide destruction effluent treatment plant is required.

A cyanide detox effluent treatment plant with a capacity of 147 m<sup>3</sup>/hr (648 gpm) was determined using the following assumptions:

- Volume of water produced for three months spring freshet (freshet precipitation of 493 mm (19 in.), assuming a run-off coefficient of 100% and the overall contact area of all four heap leach pads.
- Treatment period of the effluent of 150 days
- Plant availability of 95%

The effluent treatment plant will be composed of a SO<sub>2</sub>/air stage cyanide destruction process followed by a precipitation step assisted by ferric sulfate.

### 17.8.2 Beartrack Effluent Treatment Plant Acid Rock Drainage

Acid mine/rock drainage (ARD) occurs naturally within some environments as part of the rock weathering process usually within rocks containing an abundance of sulphide materials. As water encounters the sulphur, it creates sulphuric acid. The sulphuric acid then dissolves and leaches out the metals that are in the mineralized material, creating high concentrations of dissolved metals such as iron, arsenic, and cadmium. As the water is exposed to oxygen, it oxidizes. When this occurs, all the oxygen in the water is consumed, making the water uninhabitable for aquatic life. Moreover, the rust and heavy metals in the water make it unusable to all wildlife that depends on that water source for survival. The unsettling rust colour of the water also serves to make acid mine drainage.

The ARD effluent treatment plant has been sized based on the volume of water produced for the 1:10 year three-month spring freshet as well as the total contact area for the combined Beartrack North Pit, South Pit and the waste rock facility.

An ARD effluent treatment plant of capacity of 161 m<sup>3</sup>/hr (710 gpm) was determined using the following information:

- Volume of water produced for three months spring freshet (freshet precipitation of 493 mm (19 in.) and the total contact area for the combined Beartrack North Pit, South Pit and the Waste rock facility. The ratio of ARD collected versus the precipitation of the North and South Pits is 80% whereas for the Beartrack Waste rock facility is 60%.
- Treatment period of the effluent of 150 days
- Plant availability of 95%

Effluent treatment plant consists of a precipitation stage and the Actiflo settling stage.

### 17.8.3 Arnett Effluent Treatment Plant for Total Suspended Solids Removal

The Water Management Plan for Arnett indicates the necessity for an effluent treatment plant for the runoff water collection of the Arnett Pit. The effluent treatment plant for TSS removal was sized based on the 1:100-year, 24-hour event as well as the total surface area of the pit.

An assumed treatment rate of 182 m<sup>3</sup>/hr (adopted from the existing Pall Filtration plant at the Beartrack Mine Site) was determined for the capacity of the Arnett TSS removal effluent treatment plant using the following information:

- Volume of water produced for the 1:100-year, 24-hour event (precipitation of 77 mm (3 in.) and the total contact area for the Arnett Pit.
- Treatment period of the effluent of 4 days
- Plant availability of 95%

The treatment plant will consist of one stage using the Actiflo settling system.

## 17.9 Requirements for Energy, Water and Process Materials

The site will provide enough power for the process equipment contained in the modular crushing plant and ADR facility. Refer to Section 18 for further information.

The pit dewatering wells (Beartrack North and South Pits) will provide more than adequate amount of water for the crushing and ARD facility.

### 17.9.1 Reagents

The reagent preparation area will include receiving systems, mixing and holding tanks, and metering systems for flocculant, caustic, cyanide, copper sulphate, sodium metabisulfite, calcium hypochlorite, anti-scalant, lime and hydrochloric acid. These systems will be in individually contained areas forming part of the plant main building, with easy access by delivery trucks.

The required reagent consumable is shown on Table 17-3 for Beartrack and Table 17-4 for Arnett. Beartrack will require a larger consumption of reagents in comparison to Arnett mainly due to the sulphidic nature of the heap leach pads 1 and 3, and their use in the effluent treatment plants for cyanide detoxification and ARD.

**Table 17-3: Reagent Consumption of Beartrack**

Main Consumables Unit Cost	kg/t	Yearly Consumption (t/yr)
Lime (Oxide - Pad 2)	2.0	4,380
Lime (Sulphide - Pad 1 and 3)	6.0	13,140
NaCN (Oxide - Pad 2)	0.053	224
NaCN (Sulphide - Pad 1 and 3)	0.205	449
HCl for AW	0.034	150
Caustic for AW	0.008	38
Diesel - Stripping Solution Heating	0.048	239
Cyanide, Stripping	0.002	10
Caustic, Stripping	0.022	99
Lime (Effluent Treatment Plant Cyanide Detox)	0.001	4,015
CuSO4 (Effluent Treatment Plant Cyanide Detox)	0.003	20
SMBS (Effluent Treatment Plant Cyanide Detox)	0.09	569
Ferric Sulphate (Effluent Treatment Plant Cyanide Detox)	0.04	52
Flocculant (Effluent Treatment Plant Cyanide Detox)	0.002	5
Lime (Effluent Treatment Plant ARD)	0.085	8,395
Flocculant (Effluent Treatment Plant ARD)	0.002	7

**Table 17-4: Reagent Consumption of Arnett**

Main Consumables Unit Cost	kg/t	Yearly Consumption (t/yr)
Lime	2.000	8,760
NaCN	0.053	449
HCl for AW	0.034	150
Caustic for AW	0.008	38
Diesel - Stripping Solution Heating	0.048	239
Cyanide, Stripping	0.002	10
Caustic, Stripping	0.022	99
Ferric Sulphate (Effluent Treatment Plant TSS Removal)	0.04	80
Flocculant (Effluent Treatment Plant TSS Removal)	0.002	8

## 17.10 Comments on Section 17

- The design for the process plant is based on processing the mined material through a heap leach operation and ADR technology
- The metallurgical test work supports the process design selected
- Effluent treatment plants appropriate for the materials mined at Beartrack and Arnett are required to treat excess water
- Reagent requirements at Beartrack and Arnett reflect the material types mined

## 18.0 Project Infrastructure

### 18.1 Summary

Required infrastructure for the Beartrack Arnett Project will include:

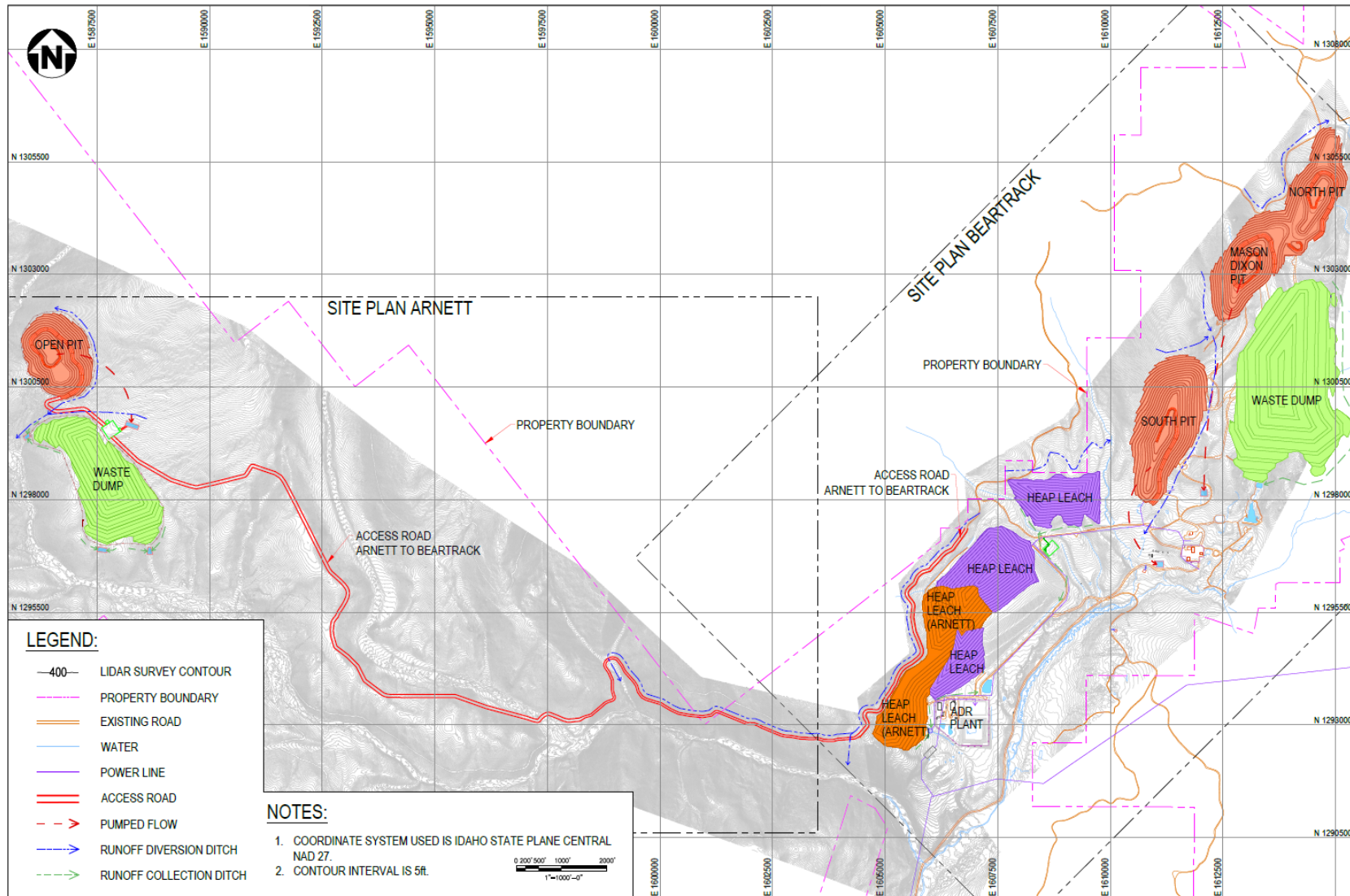
- Process facilities – modular crushing plant
- ADR facilities – carbon in column (CIC) and refining circuits
- Waste rock facilities
- Heap leach pads
- Process ponds
- Stormwater water collection ditches and ponds
- Beartrack and Arnett water treatment plants
- Power supply and distribution
- Truck shop / warehouse, offices, explosives storage and fuel storage / distribution facilities
- Double lane (21.3m (70 ft wide)) haul road with sections of single lane (13.9 m (45.5 ft wide)) haul road between Arnett and Beartrack

Existing Beartrack facilities that will be utilized include:

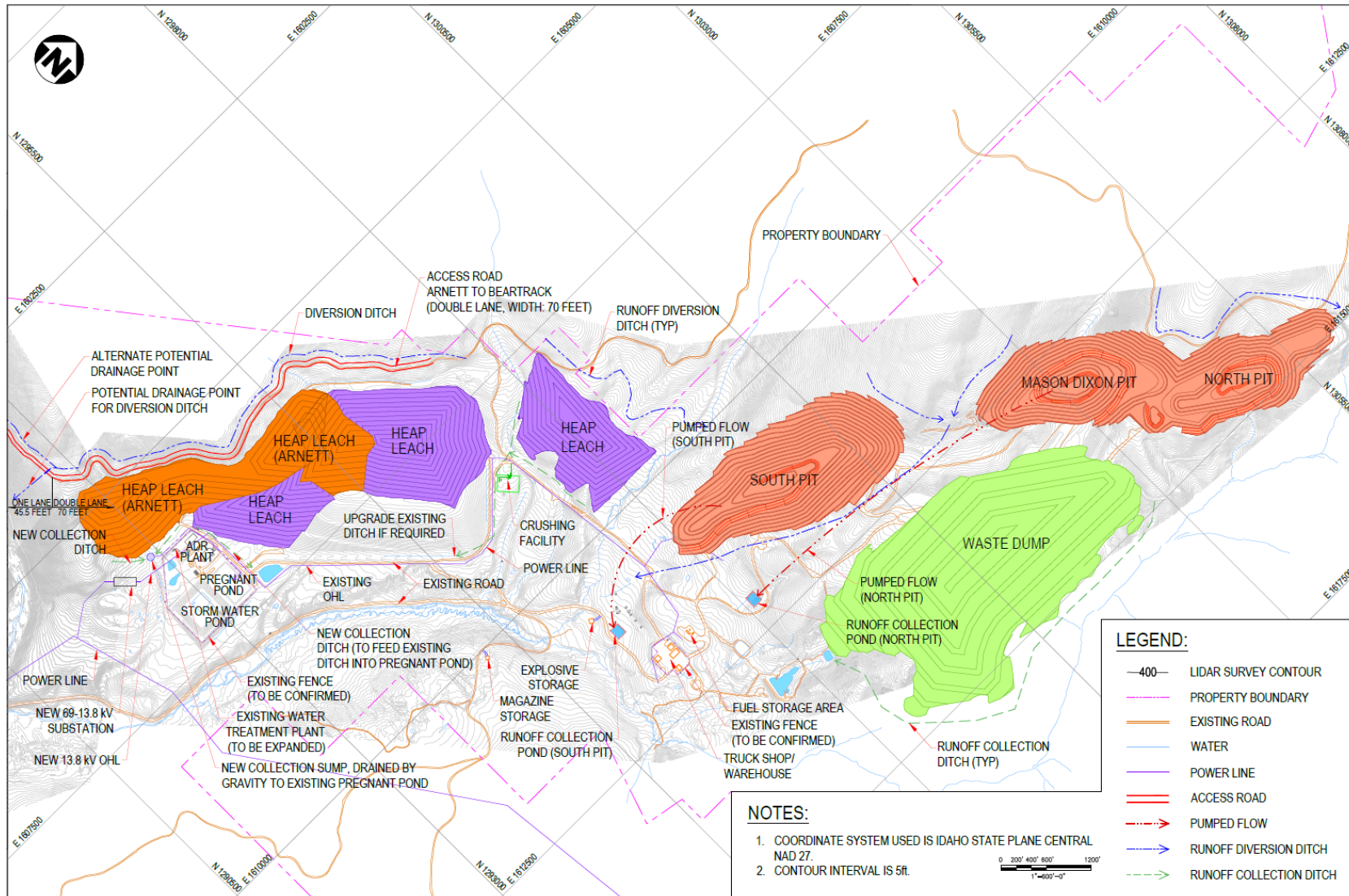
- ADR plant
- Leach (pregnant) ponds, overflow (stormwater) ponds
- Pall microfiltration water treatment plant
- Fuel storage and distribution
- Collection ditches
- Water wells to be refurbished

An overall site layout is provided in Figure 18-1 with details of Beartrack shown in Figure 18-2 and Arnett in Figure 18-3.

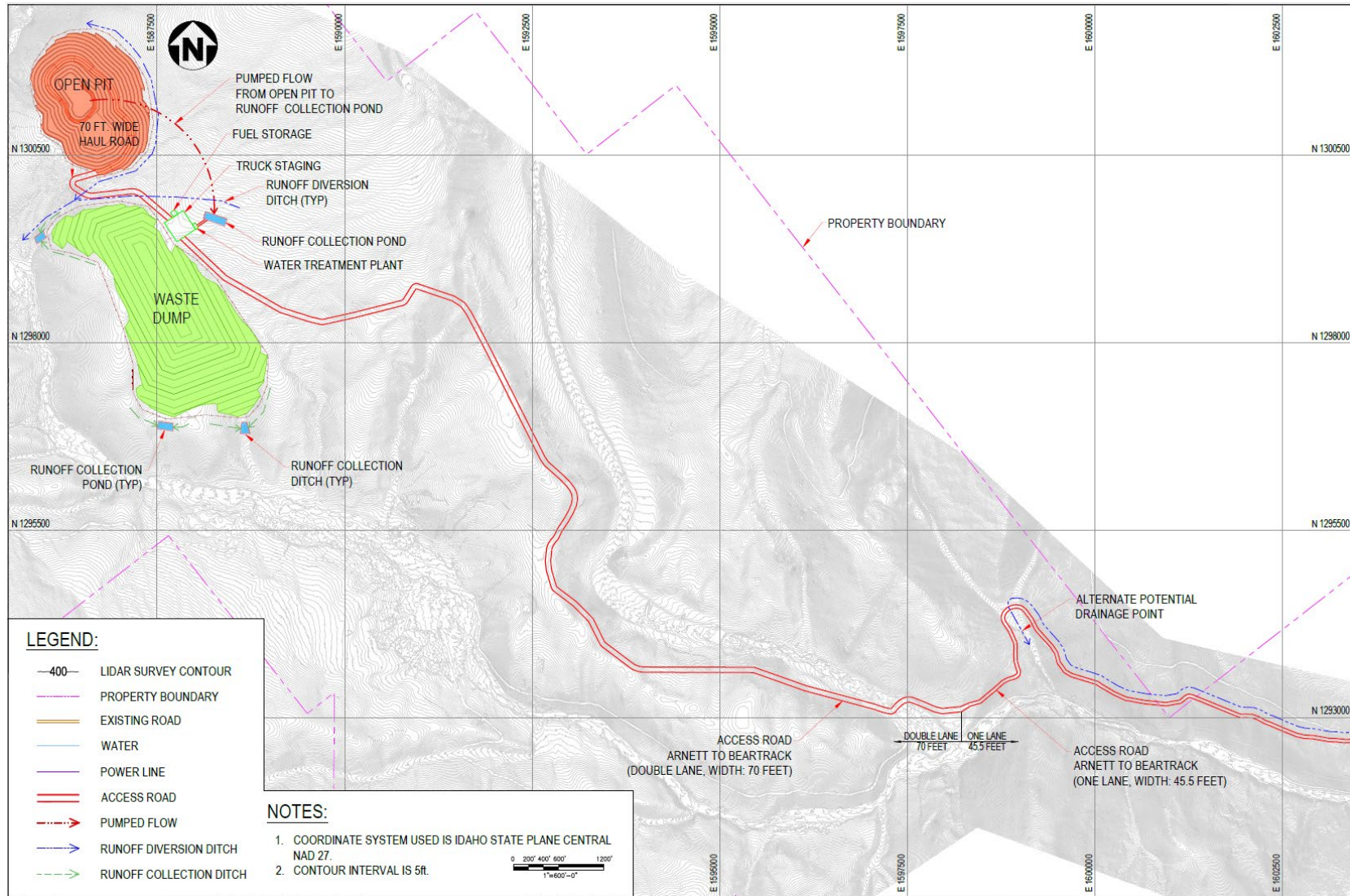




**Figure 18-1: Overall Site Layout Plan (Source: Wood, 2020)**



**Figure 18-2: Beartrack Site Layout Plan (Source: Wood, 2020)**



**Figure 18-3: Arnett Site Layout Plan (Source: Wood, 2020)**

## 18.2 Roads and Logistics

The site is accessible via a Forest Service road that is approximately 56 km (35 mi) long. The county maintains the first 21 km (13 mi) of county road from the suspension bridge over the Salmon river to the Deep Creek cut-off. The mine will maintain the 35 km (22 mi) from the Deep Creek cut-off to the mine. No improvements are required to the Forest Service road.

Existing roads at the Beartrack mine will be improved prior to operations. Prior to mining Arnett, a 21.3 m wide (70 ft) double lane mine road with portions of single lane 13.9 m wide (45.5 ft) will be constructed from Beartrack to Arnett. At completion, the road will be 8 km (5 mi) long.

## 18.3 Waste Rock Facilities

Two waste rock facilities (WRF) have been planned for the Project. The Beartrack WRF has been designed for a capacity of approximately 33 Mm<sup>3</sup> (1,151 Mft<sup>3</sup>) which will accommodate the 61.1 Mt (67.3 Mton) of waste rock produced from the North and South Pits. The Arnett WRF has been designed for a capacity of approximately 14 Mm<sup>3</sup> (477 Mft<sup>3</sup>) which will accommodate the 24.5 Mt (27 Mton) of waste rock produced from the Arnett Pit. Details of these facilities are provided in Section 16.

## 18.4 Heap Leach Pads

Three heap leach pads (HLP) are constructed in a phased approach at Beartrack. All three Beartrack material types (oxide, transition, and sulphide) are comingled, crushed, and placed on the pads for leaching. Interliners are used between lifts to isolate material which has the potential to become acid generating. The three Beartrack heap leach pads have a capacity of 22.1 Mt (24.3 Mton).

A single HLP for leaching Arnett oxide material is constructed at the Beartrack site with a capacity of 8.1 Mt (9.0 Mton).

The HLPs are stacked via a radial stacker. Details of the heap leach pad design are included in Section 16 and Section 17.

## 18.5 Water Management

Water management at the Beartrack and Arnett mine sites will:

- Divert clean runoff from the mine sites to minimize the amount of water that must be managed or treated.
- Collect and manage contact water from the open pits, plant sites and WRFs within

stormwater management ponds.

- Separate the contact water collection systems for runoff that requires treatment for Metal Leaching/Acid Rock Drainage (ML/ARD) from the runoff that requires treatment for Total Suspended Solids (TSS).
- Collect and manage contact water and pregnant solution from the HLPs for processing. Excess water will be treated prior to discharge.
- Optimize use of existing infrastructure at Beartrack.

### 18.5.1 Stormwater Management

Conceptual alignments for the diversion and collection ditches for Beartrack and Arnett are provided in Figure 18-2 and Figure 18-3, respectively. The total length of ditching required at Beartrack and Arnett is approximately 12,100 m (39,600 ft) and 2,000 m (6,500 ft), respectively.

Two stormwater ponds are proposed for the Beartrack site to separate pumped flows from the North and South Pits and minimize treatment requirements for ML/ARD. Runoff from the North Pit is expected to produce ML/ARD, while runoff quality from the South Pit may not. Plant site runoff will be directed to the South Pit stormwater pond, as it is unlikely to require treatment for ML/ARD. Runoff from the expansion of the WRF will continue to be managed in the existing pond.

Approximate storage sizes for the North and South Pit stormwater ponds are 42,000 m<sup>3</sup> (1.48 Mft<sup>3</sup>) and 26,000 m<sup>3</sup> (918,181 ft<sup>3</sup>), respectively, assuming a treatment rate of 182 m<sup>3</sup>/hr (801 gal/min) at each pond. However, a trade off study should be conducted to optimize the number of stormwater management ponds to manage runoff most cost-efficiently from the North Pit, South Pit, plant site, and WRF. As part of this trade off study, consideration should be made between treatment rate and pond size.

A stormwater pond with a storage of approximately 7,000 m<sup>3</sup> (247,202 ft<sup>3</sup>) is planned at the Arnett site to contain pumped flows from the open pit catchment area, as well as the pond's local catchment. The plant site area is expected to drain naturally into the WRF.

The proposed stormwater pond size assumes a treatment rate of 182 m<sup>3</sup>/hr (801 gpm), adopted from the existing Pall Micro-filtration plant at the Beartrack mine site.

### 18.5.2 Heap Leach Pad Water Management

Beartrack will maintain an operating pond and an emergency event pond to manage runoff from the existing and proposed Beartrack and Arnett HLPs.

The Beartrack HLP water management system is expected to have a surplus of water on an average annual basis. This water will be impacted and will require storage until it can be treated for discharge. A treatment rate of approximately 140 m<sup>3</sup>/hr (617 gpm) will be required during

a typical treatment season (spring to fall). This season may be extended in the event of wet conditions

As the combined storage of the existing ponds exceeds that of which is required, no additional storage is expected to be required at Beartrack.

## 18.6 Camps and Accommodation

No camps or onsite accommodation are planned for the Project. It is expected that mine personnel will commute from surrounding communities.

## 18.7 Process Facilities

The process circuit is located at Beartrack and will include:

- Crusher shop
- Crusher control room
- Refurbished ADR building and control room
- Process shop
- Process offices

No process facilities are required at Arnett as process operations will be supported from Beartrack.

## 18.8 Mine Facilities

The Beartrack mine facilities that supported prior operations were removed and the area was reclaimed; consequently, new mine facilities at Beartrack are planned for the PEA. The new mine facilities will be built in the same location as the prior facilities and will include:

- Truckshop / parts storage
- Wash bay
- Two mobile office buildings for mine operations and G&A staff

Mine facilities at Beartrack also include two silos to store explosives and two powder magazines to store high explosives.

Arnett mine operations will be supported from Beartrack and thus only requires a truck staging area.

## 18.9 Sewage

The PEA considers sewage treatment plants where ablutions are expected. The liquids discharge into the relevant catchment and the sludge is transported by truck to the landfill as required by permit.

## 18.10 Communications

A mini microwave is available for phone and internet at Beartrack. It will need to be expanded for the mine operations.

## 18.11 Power and Electrical

An existing 69 kV overhead line (OHL) provided by the local utility Idaho Power feeds the Beartrack mine site with no redundancy in the power supply. It is considered sufficient to supply anticipated power demand for the Beartrack mine site based on the current electrical requirements. A section of the OHL will be relocated as it currently runs through the proposed site for the HLPs.

The existing electrical infrastructure utilizes 4.16 kV voltage used as both distribution voltage and utilization voltage for existing crushing equipment. A 4.16 kV OHL is used as a primary distribution means for crushing / conveying / auxiliary facilities, with 5 kV rated cable connection to the existing ADR facility located in proximity to the 4.16 kV switchgear. The existing electrical equipment is operational; however, its actual condition and suitability for the new project shall be assessed on a case by case basis.

The total anticipated electrical load at the Beartrack mine site has been evaluated at 3.9 MW / 4.6 MVA which is within capacity of the existing transformer but with prolonged if not continuous operation of the forced air cooling.

Improvements to the existing electrical infrastructure are proposed to meet the current anticipated requirements at the Beartrack mine site:

- Utilize 13.8 kV voltage power distribution throughout the site with application of transformers 13.8-0.48 kV and motors being 480 V.
- Replace existing main power equipment with a new 69-13.8 kV 4000 / 5000 kVA oil natural air forced cooling (ONAF) transformer and a new 13.8 kV switchgear installed in a portable pre-wired E-room.
- Relocate the main substation 69-13.8 kV to avoid relocation of 69 kV OHL and complete it with up-to-date protection and metering equipment.
- Utilize portable pre-fabricated and pre-wired electrical rooms housing dry type transformers, motor control centres, variable frequency drives and other electrical

equipment.

- For remote/ isolated consumers utilize pad mounted 13.8-0.48 kV transformers for ratings exceeding 500 kVA and pole mounted 13.8-0.48 kV transformers along with standalone motor starter cabinets.
- Upgrade existing 4.16 kV OHL to 13.8 kV using the same poles.

These improvements have been considered in the Capital Cost estimate of the Project as described in Section 21.

There will be no power supply and distribution at the Arnett mine site. Mine equipment at Arnett, including dewatering pumps, will utilize diesel engines. The only facility requiring electric power is the effluent treatment plant which will be provided with a dedicated diesel-generator unit.

A trade-off study should be conducted to explore other technical options feasible once the power capacity available for the site has been confirmed, existing electrical equipment has been evaluated and project requirements further defined. Additionally, a load flow (voltage drop) and motor starting study should be performed for all technical options.

## 18.12 Fuel

The above ground diesel and gas tanks are still operational at Beartrack but will need a new key system. For Arnett, a 38,000 l (10,000 gal) fuel tank will be installed to supply mine operations with two days of fuel supply.

## 18.13 Water Supply

Water supply for the Project is needed for:

- Potable water
- Process water

It is anticipated that all water supply needs can be obtained on site.

It is anticipated that existing potable water wells at the Beartrack site will be repaired to provide the necessary potable water for both sites.

Based on preliminary calculations, there is an excess of water at the sites. This excess should be sufficient to supply the process water needs for recycled water. Water from the dewatering of the mines can be used for process water.



## 18.14 Comments on Section 18

The QP notes the following:

- Existing infrastructure will be utilized wherever possible.
- Available power is assumed to be sufficient for the current load requirements; however, further technical studies are required to confirm.
- Water supply needs are assumed to be sufficient on site.
- A study should be conducted to optimize the number of stormwater management ponds, their treatment and operation.

## **19.0 Market Studies and Contracts**

### **19.1 Market Studies**

Revival has not conducted any specific market studies for the Project. Gold has a readily available market for sale in the form of gold doré or gold concentrates with bullion banks regularly purchasing gold from mining companies and selling them to consumers at prices set by the over-the-counter market, London fix or gold futures market.

### **19.2 Commodity Price Projections**

For the economic analysis, the gold price is assumed at \$1,550/oz. The price guidance follows industry consensus on long-term metal prices which reflects the average forecasted price from a number of reputable banks and is updated quarterly. The gold metal price was kept consistent throughout the life of the Project.

Refining costs are \$2.00/oz applied to the payable portion of the recovered gold. Gold is 99.9% payable at the refiner. At a \$1,550 gold price, the 0.1% in metal not payable is equivalent to \$1.55/oz. Transportation and insurance costs are included in the refining costs.

### **19.3 Contracts**

There are no current refining agreements or sales contracts in place for the Beartrack-Arnett Project. It is expected that sales contracts would be typical of, and consistent with standard industry practices.

### **19.4 Comments on Section 19**

The QPs believe the gold price assumptions are appropriate and consistent with other current studies and are suitable for use in the mine plans and financial analysis.

## 20.0 Environmental Studies, Permitting & Social or Community Impact

Information presented in this Section is based on publicly available data and is supplemented with environmental baseline studies previously conducted for the Meridian Beartrack Project (United States Department of Agriculture, 1991). Information included herein will require review and reassessment if changes to the scope, area, or design of the Project occur as the Project planning and design progress. The overview of the environmental analysis which will be performed under the National Environmental Policy Act (NEPA); permitting with Lemhi County, the State of Idaho, and federal agencies; and a discussion of the environmental and social considerations for the Beartrack Arnett Gold Project is based on the conceptual Project design and current regulatory requirements. The conceptual closure approach, and the estimated cost of closure is based on the anticipated disturbance for the proposed Project.

### 20.1 Environmental Setting

The Project is in rural central Idaho in the Idaho Batholith ecoregion, which covers a large portion of the mountainous central portion of the State. At the Project site, elevations range between 1,951 m and 2,256 m (6,401 and 7,401 ft) above sea level. Annual precipitation averages around 54.5 cm (21.5 in.) and the average annual temperature is approximately 2°C (36°F), ranging from 9.3°C to 14.5°C (49 to 58°F) in summer to -9.5°C to -5.2°C (15 to 22°F) in winter. Sixty to seventy-five percent of the annual precipitation comes in the form of snow; with average March snow depth of approximately 94 cm (37 in.). Much of the Project area and the surrounding terrain has historically been utilized for various resource extraction activities, including logging and mining, and cattle grazing.

The following sections summarize the terrestrial and aquatic ecosystems present in the vicinity of the Project and are based on literature reviews and baseline surveys carried out in support of the Meridian Beartrack Project (USDA, 1991) and the Environmental Assessment (EA) more recently prepared for Revival's exploration program (USDA, 2003). This is followed by a summary of the social, cultural, and economic environment of the region.

#### 20.1.1 Terrestrial Ecology

The Project area is in the Southern Forested Mountain sub-ecoregion and vegetation is largely a monoculture of lodgepole pine (*Pinus contorta*) with local stands of Douglas fir (*Pseudotsuga menziesii*). Stands of Engelmann spruce (*Picea engelmannii*) are found in wetter drainage bottoms and Subalpine fir (*Abies lasiocarpa*) are found on some north facing slopes. Small

wetland areas are also present adjacent to streams and small seeps/springs. Disturbance of area plant communities from past fires, logging, mining, and grazing are apparent.

The region is home to wildlife species typical to the mountainous areas of Idaho. The principal big game species in the area include mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), moose (*Alces alces*), black bear (*Ursus americanus*), and mountain lion (*Puma concolor*). Mountain goat (*Oreamnos americanus*) and big horn sheep (*Ovis canadensis*) have been known to be present in the region, but suitable habitat is generally lacking at the Project sites. Other mammals that have been observed in the Project area include pronghorn (*Antilocapra Americana*), grey wolf (*Canis lupus occidentalis*), bobcat (*Lynx rufus*), American badger (*Taxidea taxus*), red fox (*Vulpes vulpes*), beaver (*Castor canadensis*), coyote (*Canis latrans*), and marten (*Martes americana*). Avian species identified in the area include:

- raptors (osprey (*Pandion haliaetus*), Cooper's hawk (*Accipiter cooperii*), northern goshawk (*A. gentilis*), red-tailed hawk (*Buteo jamaicensis*), and great horned owl (*Bubo virginianus*))
- upland game birds (spruce grouse (*Falci pennis canadensis*) and blue grouse (*Dendragapus obscurus*))
- shorebirds and waterfowl (great blue heron (*Ardea herodias*), blue-winged teal (*Anas discors*), and northern pintail (*Anas acuta*))
- killdeer (*Charadrius vociferus*)
- songbirds (American robin (*Turdus migratorius*), mountain chickadee (*Poecile gambeli*), and pine siskin (*Spinus pinus*))

Reptiles and amphibians are uncommon and only western terrestrial garter snake (*Thamnophis elegans*) have been observed.

### 20.1.2 Aquatic Ecology

Beartrack and Arnett are within the Napias Creek drainage basin, which flows to Panther Creek and, ultimately into the Salmon River. Streams in the Project area directly or indirectly currently provide habitat for indigenous spring Chinook salmon, summer steelhead and redband/rainbow trout, bull trout, westslope cutthroat trout (*Oncorhynchus clarki lewisi*), mountain whitefish (*Prosopium williamsoni*), dace (*Rhinichthys sp.*), sculpins (*Cottus sp.*), northern pikeminnow (*Ptychocheilus oregonensis*), and redband shiner (*Richardsonius balteatus*). Pacific lamprey (*Lampetra tridentatus*) were historically found in the study area. The Napias Creek Falls near the mouth of Napias Creek present a natural fish barrier for anadromous species excluding them from upper Napias Creek in the immediate project area. Introduced non-native brook trout (*Salvelinus fontinalis*) are also found in some streams.

Historic to recent mining activity, livestock grazing, road development, timber harvest, surface water withdrawals, and wildfires have all had an effect on surface water resources and fishery habitats in the region. Bull Trout ("Threatened") are present in the Napias Creek drainage,

Panther Creek and the Salmon River; however, anadromous fish have not been found to be present above the falls in the area of the Project. Steelhead trout and Chinook salmon (both "Threatened") are found below the falls in the Napias and Panther Creek drainages.

## 20.2 Cultural, Social, and Economic Resources

The Beartrack Arnett Gold Project is located approximately 51 km (32 mi) by road northwest of Salmon, Idaho. The economy of this rural region of central Idaho has been shaped primarily by natural resource-based industries, including mining and forestry, and more recently by recreation tourism. The region has a long history of mineral exploration and development, dating back to the mid 1800s.

Placer gold was discovered at Leesburg, Idaho in 1866 by F.B. Sharkey. Leesburg is the historic mining camp located within the Beartrack Mine property. Leesburg became a boom town after the initial gold discovery, and by the end of 1866, around forty buildings had been built, including five stores, three butcher shops, a blacksmith shop, and a stable. In 1870, Leesburg had just 180 residents, a huge reduction from the thousands of people during the boom just a few years earlier. The Leesburg area was mined intermittently for many decades. Hydraulic mining started in 1926 but only lasted a couple of years. In 1939 dragline mining started and continued until 1942. Today Leesburg is a ghost town with just a few remaining structures preserved by the Meridian Beartrack Mine. The town site has been on the National Register of Historic Places since 1975.

More recently the Meridian Beartrack Mine utilized open pit mining and cyanide heap leach extraction to recover gold beginning in 1995 and continued until 2006. Currently the mine is in the post-closure phase which involves finalizing reclamation and water management.

Today, the mine area and nearby communities are primarily used for recreational activities, including big-game hunting throughout the region, and angling and rafting on the Salmon River and tributaries. Within the vicinity of the Beartrack Mine, mining for Cobalt historically occurred at the Blackbird Mine, and a new mine, the Idaho Cobalt Project is in the early phases of development.

The NEPA review required to permit the proposed new mine development located on federal lands, will consider the social and economic resources and impacts for the various Project alternatives. For the Beartrack Arnett Gold Project, it is anticipated that most employees would reside in the local communities of Salmon and Challis, Idaho. Construction workers with specialized skills; however, may be hired from outside the local labour market to work during the construction phase. Development of the mine would have a positive impact on the local communities by providing direct employment in the mining industry and secondary employment in the local community; income generated from wages and by secondary job employers; and taxes paid by the mining operation collected by local and state jurisdictions.

Negative impacts would be potential stress on community service providers and housing in the area, primarily during the construction phase. Since only a small number of construction and mine workers with specialized skills are expected to be hired from outside the local labor area, negative impacts are not expected to be significant.

The American Indian Tribes which will be consulted throughout the NEPA process are the Shoshone-Bannock and Nez Perce Tribes. Consultation should include meetings with Tribal councils and their staff, periodic Project updates and on-site tours by some of their representatives. During consultation with the tribes and the United States Forest Service (USFS)-Salmon Challis National Forest (SCNF), a determination will be made if traditional cultural properties exist in the area that would be impacted by the Project.

Executive Order (EO 12898) addressing Environmental Justice will also be considered during the NEPA analysis for the Beartrack Arnett Gold Project. EO 12898 is the Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations which was issued by President William J. Clinton in 1994. Its purpose is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The Order directs federal agencies to take the lead role in coordinating environmental justice issues with American Indian Tribes.

No "environmental justice" issues are anticipated for the Beartrack Arnett Gold Project. The Project area does not include racial minorities or impoverished populations other than members of Native American Tribes within the region that might be affected by development of the Project. The proposed mine is not located within or adjacent to any Native American reservations, and members of any tribes living off the reservations would be affected to the same extent as other people in the area from an economic standpoint.

## **20.3 Environmental Issues**

The mine proposal will undergo significant environmental review under NEPA. This review will rely upon, update and expand the environmental review previously completed for the Meridian Beartrack Project (USDA, 1991). This assessment will identify the environmental issues that will require mitigation, and mitigation measure will be developed which would be incorporated into the various alternatives considered in the environmental assessment. Based on past mine operations the key environmental issues for the Project are discussed below.

### **20.3.1 Water Management and Water Treatment**

Currently, the Meridian Beartrack Mine's closure water management program includes water treatment, and discharge of water treatment effluent to Napias Creek. Discharge to Napias Creek is authorized by the U.S. Environmental Protection Agency (EPA) in accordance with the

National Pollution Discharge Elimination System (NPDES) program. The State of Idaho's, Idaho Pollution Discharge Elimination System (IPDES) program assumed regulatory primacy of the Idaho NPDES permits from the EPA's NPDES program in July 2019; therefore, this permit will now be referred to as an IPDES Permit. Renewal of the EPA's administratively continued permit will need to occur in the near future.

The Beartrack Mine uses two different treatment systems to treat water from the leach pad and water from the South Pit. The current Meridian Water management program consists of the following:

- All stormwater at the mine is routed to the South Pit Lake, which provides temporary water storage allowing for settling of solids/ sediment.
- Water collected from the North Pit and Ward's Gulch French Drain is also directed and treated in South Pit through settling.
- Water in the South Pit Lake is pretreated via pH adjustment (adding caustic soda) and retention to settle suspended solids prior to final treatment in the Pall® microfiltration plant.
- After settling, the South Pit lake water is pumped to the microfiltration plant for final treatment.
- Seepage from each cell of the leach pad is combined and diverted to the operating pond for pH adjustment and settling, then treated using activated carbon in the ADR plant tanks.
- The effluent from the two treatment systems is then comingled at controlled rates prior to discharge to Outfall 001 in Napias Creek.

At this time, the water treatment and source mixing regime appear to be achieving the current discharge requirements.

The proposed new development for the Beartrack Arnett Gold Project will need to accommodate ongoing water treatment and discharge concurrent with development of the new leach pads and recommissioning of the ADR plant and process ponds currently being used for water treatment. Dewatering of the South Pit lake will need to occur prior to renewed mining in the South Pit. The mine water balance will need to determine the water requirements for the heap leach operations in order to determine the potential operational discharge under the IPDES program.

The ongoing operation and maintenance of the Beartrack Mine site, including water treatment will be assumed by Revival as part of the compensation to Meridian Gold in the agreement between the parties for Revival to acquire the property. Revival considers these ongoing long-term obligations to be corporate responsibilities which are independent of the proposal for specific mine development proposals.

The proposed development at the Arnett site will also require water management during the construction, operation and closure periods. Water management for the Arnett site will be

independent of the Beartrack Mine water management system and will need to incorporate stormwater management appropriate for the site conditions, and water associated with the waste rock dump, heap leach pad, and open pit in accordance with the requirements of the IPDES program.

### 20.3.2 Geochemistry

This assessment is based upon a review of geochemical data and information presented in several documents that span the life of the original Beartrack Mine Project including the original Plan of Operations (PoO; Meridian, 1991) and several technical memoranda and reports related to mine waste and ore characterization and mine closure by Schafer and Associates (1996 and 1998).

The geology of the Beartrack Mine area generally consists of quartzite and quartz monzonite lithologies exhibiting various degrees of sulphide mineralization and oxidation. These lithologies and associated mineralization have low potential to neutralize acid generating material. Geochemical testing throughout Project development, operations and closure has documented the presence of waste rock and ore with the potential to produce Acid Rock Drainage (ARD) associated with sulphide mineralization.

Currently, there are low pH seeps present associated with the North Pit. Operational water management includes diverting water from the seeps associated with the North Pit and pumping water from Ward's Gulch waste dump underdrain collected in the Sediment Pond to the South Pit. Sodium hydroxide is added to the pit water for pH control before pumping water to the treatment system (described in the previous section) prior to discharge. Seepage from the existing leach pad also requires treatment and is routed to the carbon treatment columns in the ADR building prior to discharge.

Based on historical geochemical test results of ore and waste rock and the current water quality of seepage from the waste dumps, reclaimed pits and leach pad, it is likely that future mining of the Beartrack Mine property will require management measures for Potential Acid Generating (PAG) waste rock and ore and water that encounters this material. This could include engineering controls, source management, and water treatment.

In review, the data and operational protocol during previous mining indicates that although there was/is a substantial volume of fairly well-oxidized ore and waste material that has relatively low sulphide ( $S^{2-}$ ) content that is not strongly acid forming, higher sulphide material with attendant lower Net Neutralizing Potential (NNP) values were encountered as mining progressed deeper. This material was present in sufficient volume to require closure management and construction of a "repository" area in the North Pit that included special handling of waste, addition of lime amendments, and the use of clay liners to minimize contact of meteoric water with the waste material.



Final design for the new development will require management of the historical waste materials that will be excavated from the North Pit, and new PAG materials during mining. Careful consideration of closure and ongoing water treatment will be required. The NEPA review will address the potential impacts related to the geochemistry of the mined materials and mitigation measures will likely be incorporated in the final analysis during development of the preferred alternative for the environmental assessment.

### **20.3.3 Wildlife, Fisheries, and Threatened and Endangered Species**

The Project area is within the habitat range of four species federally listed under the Federal Endangered Species Act of 1973. These include Canada lynx (*Lynx canadensis*), bull trout (*Salvelinus confluentus*), steelhead trout (*Oncorhynchus mykiss*), and Chinook salmon (*O. tshawytscha*). All four species are listed as "Threatened" for the portion of their habitat ranges intersected by the Project. In addition, the North American wolverine is a "Proposed Threatened" species and whitebark pine is a "Candidate" species, both have habitat ranges in the vicinity of the Project area.

### **20.3.4 Other Environmental Issues**

The NEPA review will consider potential impacts to all of the resources in the Project area. In addition to the environmental issues described above, other significant issue may include impacts to:

- Historical and cultural resources
- native vegetation and existing reclamation
- air quality and visual resources

Additional impacts may also occur from the development of road access and transportation of products, chemicals, and fuel.

## **20.4 Environmental Permitting**

Both the Beartrack and Arnett Project sites are primarily located on federal National Forest lands administered by the United States Department of Agriculture (USDA). As such, permitting and approval for the mine will be subject to NEPA and the requirements stipulated in a Record of Decision (RoD) for an Environmental Impact Statement (EIS) which will be prepared by the USDA, USFS- SCNF.

The NEPA process requires a thorough series of environmental baseline studies and an EA or EIS that provides the proponent and state and federal government agencies a complete property description, identification of all environmental impacts (both positive and negative),

and the development of mitigation methods to reduce or eliminate negative impacts utilizing best practices.

Revival proposes to pursue a simpler environmental review process initially within the area previously reviewed for the Meridian Beartrack Mine Plan of Operations, reflecting its past-producer or brownfields history. A full environmental assessment process is considered necessary for the Arnett site as this will be a new development of a greenfield site. Significant new development at the Beartrack site may also trigger increased environmental review if it is determined that substantially increased impacts would occur. The final determination as to level of study will be made by the US Forest Service.

The USFS regulations at 36 CFR, Part 228 Subpart A requires that the Mine be operated in accordance with an approved PoO. The USFS-SCNF, as the lead federal agency for the proposed mine development, has a primary role in approving and administering the PoO and will review all final designs and monitoring and mitigation plans, and written approval must be obtained prior to initiation of the work outlined in the PoO for activities on National Forest lands.

During preparation of the EIS, the SCNF interdisciplinary team will initiate the Idaho Joint Review Process (JRP) which will be ongoing throughout the evaluation of the PoO and review of supporting technical reports, and the development of the EIS. The JRP will involve consultation with the cooperating State of Idaho, and federal and local agencies. In addition to routine interagency cooperation and joint reviews of baseline information and technical reports, formal JRP meetings will be held to discuss the review of pertinent Project-related information necessary to complete a science-based impact evaluation for the Project's EIS.

## 20.4.1 NEPA Process

Preliminary discussion between Revival and SCNF indicate that a full EIS will likely be required for the Beartrack Arnett Gold Project given that significant impact will be occurring on federal lands. On July 15, 2020, the Council on Environmental Quality (CEQ) announced its final rule titled "Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act." This rule has comprehensively updated NEPA regulations to modernize the Federal environmental review process. The new rules include a presumptive time limit of two years for preparation of an EIS, and one year for preparation of EAs, and specifies presumptive page limits for both.

Assuming that SCNF requires an EIS, the NEPA process would begin with publishing a Notice of Intent (NOI) and would follow the process illustrated in Figure 20-1.



**Figure 20-1: NEPA Process**

The NOI would be followed by the public scoping process in order to give the public a chance to comment on the proposed action, recommend alternatives, and identify and prioritize the resources and issues to be considered in the EIS analyses. Baseline studies would then be completed prior to development of a draft EIS. At this point the draft EIS would be reviewed and a comment period would be stipulated. The Final EIS would incorporate the comments and responses to comments into the preferred alternative, where appropriate. After publication of the final EIS, the SCNF supervisor will publish the Record of Decision (RoD). The RoD is a concise public document summarizing the findings in the EIS and the basis for the decision.

## 20.4.2 Baseline Studies

The Baseline Studies which will be required to support the EIS will include study of:

- Climate and Air Quality
- Cultural Resources
- Geology, Minerals, and Paleontology
- Health and Safety
- Land Use
- Noise
- Recreation
- Socioeconomics
- Soil
- Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species
- Transportation
- Vegetation, Noxious Weeds, and Invasive Species
- Visual Resources
- Water Quality
- Wetland and Riparian Zones

- Wildlife and Fisheries

### 20.4.3 Plan of Operations and Permitting

The RoD for the Project is the primary authorization which will allow Revival to proceed with development of the mine. The RoD will require that the PoO for the Project be approved by the SCNF prior to beginning mine construction, various stipulations will be included in the RoD requiring the development of numerous plans as part of the PoO, and other permitting requirements with federal and state agencies. Table 20-1 presents the anticipated USFS authorizations plans and permits. These items primarily include RoD requirements and the plans that will be incorporated into the PoO.

**Table 20-1: USFS-SCNF Anticipated Authorizations, Permits, and Plans**

Requirements	Type
FEIS Record of Decision	Authorization
Reclamation Bond (Surface)	Authorization
Reclamation Bond (Long-Term Water Treatment)	Authorization
Road Use Permit	Permit
<b>USFS Plan of Operations</b>	
Surface Water Management Plan	Plan
Water Resources Monitoring Plan	Plan
Water Treatment Plan	Plan
Weed Control Plan	Plan
Public Access Control Plan	Plan
Transportation Plan	Plan
Heap Leach Development and Operations Plan/Design	Plan
Waste Rock Disposal Plan	Plan
Geochemical Monitoring Plan	Plan
Reclamation Plan	Plan
Road Reclamation Plan	Plan
Revegetation Plan	Plan
Spill Control Plan	Plan
Health and Safety Plan for Contaminated Materials	Plan
Snow Removal Plan	Plan

Table 20-2 presents the anticipated permitting for other federal agencies.



**Table 20-2: Anticipated Federal Permitting**

<b>Regulatory Agency</b>	<b>Authorizations and Permits</b>
NMFS/IDEQ	Fish Tissue Study Plan
	Aquatic Invertebrate Sampling Program
NMFS	Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation
NMFS/USFWS /IDEQ	Biological Monitoring and Assessment Program
USEPA	NPDES General Permit for Discharges from Construction Activities (CGP)
	Stormwater Pollution Prevention Plan
USACE	404 Permit

National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS), US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACE), and Idaho Department of Environmental Quality (IDEQ).

Table 20-3 identifies requirement for the State of Idaho including IDEQ and IDWR, and Lemhi County.

**Table 20-3: Anticipated Idaho State and Lemhi County Permitting**

<b>Regulatory Agency</b>	<b>Authorizations and Permits</b>
IDEQ	IPDES Discharge Authorization
	CWA Section 401 Certification
	Air Quality Permit to Construct
	IPDES General Permit for Discharges from Construction Activities (CGP)
	IPDES Multi-Sector General Permit for Industrial Activity
	Air Quality Permit to Construct and Air Quality Operating Permit
	Fugitive Dust Control Plan
	Drinking Water System Approval
	Septic System Permits (Eastern Idaho Public Health)
	Ore Processing by Cyanidation Permit
IDWR	Surface Water Rights - mining use
	Groundwater Rights - mining use
	Groundwater Rights - commercial use
	Drilling Permit for Well Construction
	Dam Safety Permit (if needed)
	Stream Channel Alteration Permit
Lemhi County	Building Permits

Idaho assumed primacy from the USEPA National Pollution Discharge Elimination System (NPDES) for industrial discharge permits as Idaho Pollution Discharge Elimination System (IPDES) program beginning in 2019 and will assume primacy for all stormwater related permits in 2021.

#### 20.4.4 New and Changing Regulations

Several regulatory requirements under Meridian Beartrack Mine’s current administratively continued IPDES discharge permit have been fulfilled since issuance of this permit in 2003; however, other requirements including effluent water quality monitoring and biomonitoring are on-going and will be re-evaluated during the permit renewal process. Once renewed, the discharge permit will be administered by IDEQ under the IPDES program.

Idaho water quality criteria for cadmium, copper, selenium, thallium, and mercury/methylmercury have been updated since the NPDES permit was issued in 2003. The EPA has also recommended a new aquatic life ambient water quality criterion for aluminum in freshwaters in 2018; however, this has not been adopted by IDEQ as of April 2020. Revised

water quality criteria for arsenic is also under development by the IDEQ. The upcoming NPDES permit renewal within the IPDES program will likely have reduced effluent limits or updated monitoring requirements for the abovementioned parameters.

## 20.5 Community Relations and Consultation

Revival strives to engage the local community whenever possible. Planned community engagement activities include:

- hosting annual open house meetings where members of the local community can meet management, learn more about the Project and have their questions answered; hiring local contractors/employees and engaging local service providers wherever possible
- through membership in the local Chamber of Commerce
- supporting local hockey and other local community interests
- hosting periodic site visits for state and local government representatives and other interested parties
- active and constructive engagement with non-profit organizations

Revival currently employs or contracts approximately 40 people on a full time and seasonal basis to carry out exploration activities on the Beartrack Arnett Gold Project. Several of these people are residents of Salmon and Lemhi County. Where possible, Revival's priority is to hire locally and to engage local businesses.

### 20.5.1 Community and Indigenous Relations

Environmental review under NEPA will include public scoping in order to obtain input from the local community and to develop alternatives to the proposed action. This process will include consultation with the Nez Perce and Shoshone-Bannock Tribes.

### 20.5.2 Government Consultation

During the permitting for the Project, an Inter-Agency Task Force (IATF) will be established to oversee development of the Mine and related facilities. The IATF consisted of SCNF, IDEQ, USEPA, National Marine Fisheries Service (NMFS), US Fish and Wildlife Service (USFWS) and other state and local agencies.

The lead government agencies will be the USDA USFS-SCNF with the USEPA, the Idaho IDEQ and Tribal governments being major cooperating agencies.

## 20.6 Reclamation and Closure Planning

The preliminary reclamation and closure plan of the Beartrack Arnett Gold Project will address closure of the current and expansion facilities at the Beartrack Mine site, in addition to the new Arnett Creek mine area. Long-term Monitoring and Maintenance (LTMM) to occur post-closure will be required following reclamation completion and will include water treatment as described below.

A detailed Reclamation and Closure Plan has not been developed for the Project due to the current level of design. The following sections describe the general reclamation and closure that will be used in the development of the Project's Reclamation and Closure Plan. The closure costs estimated for this PEA are based on the current Project description and are considered a Class 5 estimate with an expected accuracy of +/- 35%. The cost estimate is based on the current Meridian Beartrack Mine closure plan and experience on similar projects in the region.

### 20.6.1 Reclamation Planning

Detailed reclamation planning has not been developed at this time. During NEPA permitting reclamation planning will occur as a requirement for the PoO. In addition, financial assurances will be required for the reclamation and long-term obligations for the Project, which will be developed in conjunction with the SCNF bond specialist.

### 20.6.2 Proposed Approach to Reclamation and Closure

Based on the past closure requirements for the Meridian Beartrack facilities, it is anticipated that closure for the new facilities would require the following:

- Leach pads would be rinsed and regraded to a maximum slope of 3 Horizontal to 1 Vertical (3:1).
- The regraded leach pads would be capped using a geomembrane liner with a two-foot thick soil cover and revegetated.
- Waste rock disposal areas would be regraded to a maximum 3:1 slope, covered with 12 in. of growth media and revegetated.
- Concurrent reclamation activities would occur to the extent practicable.
- Water management would require collection and treatment of leach pad drain-down and any other managed water for the Project in accordance with the IPDES discharge permit for the facility.
- The open pits would be closed as pit lakes and used for water management during the closure and post-closure periods.
- Seeding and other reclamation practices would be used as stipulated in the RoD and the EIS.



### **20.6.3 Concurrent Reclamation**

Given the conceptual plan of development, the North and Mason Dixon Pit areas would initially be mined, followed by the South Pit, and the Arnett area would occur during the final phase of mining. This sequence will accommodate concurrent reclamation practices and development of pit lakes for operational and post-closure water management.

### **20.6.4 Post-Closure and Long-Term Monitoring and Maintenance**

LTMM for the Project will involve monitoring for water quality as required for the IPDES discharge permit, monitoring for successful establishment of vegetation and appropriate stormwater management, and control of invasive species.

### **20.6.5 Cost Estimate for Closure**

The estimated cost to complete the closure activities for the Beartrack Arnett Gold Project is based on the current level of detail for the Project and is equivalent to a Class 5 estimate with an expected accuracy of +/- 35% and assumes the work is completed by mining company personnel and equipment rather than with an independent contractor. The preliminary cost for closure is estimated to be US\$ 17.2M. This cost includes the applicable staffing and operations and maintenance cost during closure, mobilization cost, engineering and design, and contingencies. The estimated cost is based on the level of reclamation required for the two Project areas, includes a budget for post-closure activities, and a credit has been applied for the remaining closure obligations for the Meridian Beartrack operation. As discussed in Section 20.3.1, Revival considers long-term water treatment to be a corporate responsibility independent of the closure of the proposed heap leach operation and related facilities.

### **20.6.6 Financial Assurance**

Due to the number of complex, and large-scale mining Projects, the USFS and the Bureau of Land Management (BLM) have developed detailed guidance documents to aid in the development of financial assurances. Bond requirements are addressed in 36 CFR 228.13 - Bonds. Bonds are conditioned upon compliance with 36 CFR 228.8(g) and consideration will be given to the estimated cost of stabilizing, rehabilitating, and reclaiming the area of operations. Reclamation bonds are calculated and reviewed based on the reclamation plan description, performance standards, release criteria, and mitigation measures derived from the NEPA analysis.

The USFS has developed bonding guidelines for Mineral Plans of Operation authorized and administered under 36 CFR 228A. The guidelines were born out of necessity due to mine

bankruptcies in the late 1990's. The guidance addressed Forest Service deficiencies in past bond calculation practices; lead to considering long-term bond calculations for monitoring and maintenance of facilities needed in post-closure; and encouraged coordination with other Federal and State Agencies who at the time were also dealing with the environmental fall-outs of bankrupt mines.

Financial Assurance (FA) will be required by the SCNF in accordance with the 1976 Federal Land Policy Management Act (FLPMA). The FA is generally developed to account for both the closure phase and post-closure phase of the Project. The closure portion of the bond typically addresses the removal of the mines infrastructure no longer required for post closure management of the site and reclamation of disturbed areas for the various mine facilities. The FA instrument for the closure bond is typically provided as a surety or a letter of credit. The post-closure bond typically involves a long-term FA involving a Net Present Value method (NPV) determination.

The NPV determination of FAs allows the amount of a FA to be discounted for long-term obligations generally exceeding a five-year time period. This approach reduces the amount of FA to be submitted in response to permitting or a remedial action. This approach is critical in establishing the FA for a Project that includes long-term monitoring and maintenance or water treatment.

## 20.7 Discussion of Risk to Mineral Resources and Mineral Reserves

In order for a mineral resource to have "reasonable expectations for economic recovery," the legal and regulatory permission to mine must be present or there must be reasonable expectation that such permission is possible. There is a legal framework in place at both the State and Federal levels and precedent for permitting the proposed Beartrack Arnett Gold Project. Arnett does not have the same history of modern mining under a modern permitting regime that Beartrack has, but the rules in place and the nature of the activities planned would make it very likely that permits could be obtained for both mine areas.

The General Mining Act of 1872 is a United States federal law that authorizes and governs prospecting and mining for economic minerals, such as gold, platinum, and silver, on federal public lands. Provisions of the 1872 Mining Law were changed with the implementation of FLPMA effective as of January 1981. Many of the provisions of FLPMA revised the surface uses allowed on mining claims under the 1872 mining law by halting or restricting unnecessary or undue degradation of the public lands. These rules effectively replace many of the 1872 Mining Law provisions and require mining reclamation, financial guarantees for reclamation to the Federal government and detailed Mining PoOs to be submitted to the land management agencies before disturbing the surface.

The Mining Act of 1872 and FLPMA allow for mining on federal lands under consideration for the Beartrack Arnett Gold Project. Under NEPA, an EIS for the Project will need to consider a “no-action alternative.” The Council on Environmental Quality (CEQ) regulations (40 CFR 1500–1508) for implementing NEPA do not define the “no-action alternative,” stating only that NEPA analyses shall “include the alternative of no action” (40 CFR 1502.14). The definition of the no-action alternative for newly proposed actions means the agency will not implement the proposed action or alternative actions considered for the EIS. The potential for implementation of the no action alternative is possible, but not likely. During NEPA, the land management agency will evaluate the environmental consequences of the proposed action and agency prepared alternates will be developed for consideration as alternatives to the proposed action in order to mitigate or reduce impacts.

## 20.8 Comment on Section 20

Key finding presented in Section 20 of this PEA include:

- Development of the mine would have a positive impact on the local communities by providing direct employment in the mining industry and secondary employment in the local community; income generated from wages and by secondary job employers; and local and state jurisdictions revenue generated through taxes paid by the mining operation.
- The proposed new development for the Beartrack Arnett Gold Project will need to accommodate ongoing water treatment and discharge concurrent with development of new leach pads and recommissioning of the ADR plant and process ponds currently being used for water treatment. Dewatering of the South Pit lake will need to occur prior to renewed mining in the South Pit.
- Final design for the new development will require management of the historical waste materials that will be excavated from the North Pit, and new PAG materials during mining. Careful consideration of closure and ongoing water treatment will be required. The NEPA review will address the potential impacts related to the geochemistry of the mined materials and mitigation measures will likely be incorporated in the final analysis in development of the agency’s preferred alternative for the EIS.
- On July 15, 2020, the Council on Environmental Quality (CEQ) announced its final rule titled “Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act.” This rule has comprehensively updated NEPA regulations to modernize the Federal environmental review process. The new rules include a presumptive time limits of two years for preparation of an EIS, and one year for preparation of EAs, and specifies presumptive page limits for both. The new guidance is important for the Project to help minimize uncertainty related to length and level of NEPA analysis that will be required.

## 21.0 Capital and Operating Costs

### 21.1 Summary

Estimates for capital and operating costs were prepared at a PEA level with an expected accuracy of +/-35%. The capital costs estimate can be classified as a Class 5 estimate in accordance with AACE International Guidelines Practice No. 47R-11 (AACE International, 2012). All costs are expressed in third-quarter 2020 US dollars.

The capital cost estimate addresses the mine, process and site infrastructure and includes:

- Direct costs
- Indirect costs
- Owner's costs
- Contingency

The Project's pre-production capital cost estimate is summarized in Table 21-1 and is estimated at \$120.5 million inclusive of pre-production mining costs.

Sustaining capital is primarily required for Beartrack heap leach pad expansions and construction of the Arnett Pit in Yr 4 and Yr 5. The total sustaining capital is estimated at \$69.1 million. The total project capital inclusive of initial and sustaining is estimated at \$189.6 million.

Operating costs were estimated for mining, processing, and G&A. Over the LOM, the operating costs average \$13.24/t (\$12.01/ton) of material processed.

**Table 21-1: Summary of Pre-Production Capital Cost including Pre-production Mining**

Area	Cost (\$ 000's)
Mining	16,336
Heap Leach facilities	11,898
Process facilities	19,147
Infrastructure	14,680
Indirect costs	10,105
Owner's cost	7,684
Contingency	19,620
<b>Sub Total</b>	<b>99,471</b>
Mining - Major Equipment Leases	21,017
<b>Grand Total</b>	<b>120,488</b>

*Note: Figures may not sum due to rounding.*

## 21.2 Capital Cost Estimate

### 21.2.1 Basis of Estimate

Estimates for mining equipment are based on mining fleet equipment schedules and equipment pricing from either Wood's database or supplier budgetary quotes for supply, delivery, assembly, and commissioning. Estimates for miscellaneous equipment are either based on Wood's database or on pricing published in InfoMine USA's 2019 CostMine mine equipment costing guide (InfoMine USA, Inc., 2019a, 2019b).

The majority of the asset costs for major process equipment are based on historical data from similar projects or facilities, with allowances used whenever historical data was not available. An allowance was made for miscellaneous equipment not considered.

A factored approach was used for bulk materials / discipline costs including earthworks, structural steel, concrete, piping, electrical and instrumentation, buildings services and HVAC. The factors were developed using historical North American data.

### 21.2.2 Labour Assumptions

The labour estimate considers the labour rate and construction equipment. It was developed using historical rates and verified using recent non-unionized contractor quotes.

Construction equipment rates for each discipline crew were based on in-house data. The rates provided were adjusted to include overtime, living expenses, small tools and consumables, overhead and profit. The installation hours were based on historical data or factored based on the supply cost.

### 21.2.3 Mine Capital Costs

The mine capital costs include:

- Pre-production mining
- Major and ancillary mine equipment
- Mine buildings (wash bay, truck shop, mine offices)
- Explosives storage facilities
- Pit dewatering
- Mine roads including Beartrack to Arnett haul road

#### **21.2.4 Heap Leach Capital Costs**

The heap leach capital costs include:

- Site preparation
- Liner installation
- Pad overliner and underliner (Beartrack Pad 1, 2 and 3 and Arnett, Pad 4)
- Piping

#### **21.2.5 Process Capital Costs**

Process capital costs include:

- Modular crushing plant and stackers
- ADR facility upgrades to the existing Beartrack ADR facility
- Reagent mixing and storage
- Ancillary process buildings
- Process utilities
- Light vehicles

#### **21.2.6 Infrastructure Capital Costs**

On site infrastructure capital costs include the following:

- Site preparation and development
- Warehouse and administration buildings
- Power supply and distribution
- Storm water management facilities
- Site utilities
- Access road mobile equipment

No off-site infrastructure costs have been anticipated for the development of the Project.

#### **21.2.7 Indirect Costs**

Indirect costs have been developed as follows:

- Engineering Procurement Construction Management (EPCM) - A factored approach was used; the factor was developed based on similar historical projects.
- Construction indirects - A factored approach was used, includes costs such as mobilization demobilization, supervision, QA/QC, site support, scaffolding.

- Temporary facilities - A factored approach was used; the factor was developed based on similar historical projects. As Beartrack is a Brownfield site, consideration for existing facilities such as, power, water, laydown area, storage areas, maintenance facilities resulted in a lower factor.
- Freight- A factored approach was used; the factor was developed based on similar historical projects.

Indirect costs were not applied to the pre-production mining costs, as they are included in the overall unit rates in pit development.

### 21.2.8 Owner (Corporate) Capital Costs

The owner's cost for Beartrack was estimated by Revival based on prior Beartrack operations. The owner's costs include:

- Operational manpower
- Operation readiness
- Owner's EPCM team
- Consultants
- Testing/ environmental monitoring
- Spares/ first fills
- Vendor representatives
- Permitting

### 21.2.9 Contingency

Contingency is a monetary provision intended to cover items that have not been included in the described scope of work yet cannot be accurately defined at this stage. This is due to normal variability of quantities, productivity, unit rates, the current level of engineering and other factors that could affect the accuracy of the expected final cost of the Project. Contingency should be considered as expenditure that is predictable but nondefinable at this stage of the project, therefore contingency is expected to be spent. Contingency does not include for any project scope change.

Contingency has been applied using a "deterministic" approach inferring that it has been applied to the base estimate and based on a single point evaluation. It has been based on in-house project data and historical data. Total contingency considers the following:

- 15% - Budget, mining
- 20% - Owner's cost
- 25% - Historical

- 30% - Estimated, factored, heap leach pads
- 35% - Earthworks, allowance, indirects

### 21.2.10 Sustaining Capital

The basis for estimating the sustaining costs is the same as that used for estimating the pre-production capital costs in both methodology and the principles applied. That is, indirects and contingency were applied and added to the direct sustaining capital cost to arrive at the total sustaining capital cost.

Project sustaining capital is primarily required for heap leach pad expansions at Beartrack and construction of the Arnett mine in Yr 4 and Yr 5. The total sustaining capital is estimated at \$69.1 million. Annual sustaining capital costs are shown in Table 21-2.

**Table 21-2: Sustaining Capital Cost for Beartrack / Arnett**

Area (\$ 000's)	Y1	Y2	Y3	Y4	Y5	Total
Mining	7,678	-	-	3,289	1,481	12,449
Heap Leach facilities	5,745	-	9,958	8,618	15,704	40,025
Process Facilities	7	-	-	1,903	105	2,066
Infrastructure	57	-	716	1,802	134	2,709
Indirect Costs	-	-	1,264	752	-	2,016
Owner's Cost	-	-	-	-	-	-
Contingency	1,149	-	2,487	3,032	3,141	9,809
<b>Grand Total</b>	<b>14,687</b>	<b>-</b>	<b>14,424</b>	<b>19,397</b>	<b>20,565</b>	<b>69,073</b>

## 21.3 Operating Cost Estimate

### 21.3.1 Operating Cost Summary

Total operating costs over the LOM have been estimated at \$400 million (Table 21-3). Average operating costs have been estimated at \$13.24/t (\$12.01/ton) of material processed and are summarized in Table 21-4.



**Table 21-3: Total Operating Costs over LOM**

Cost Area	Total (\$ 000's)	Percent of Total
Mining	226,200	56.6%
Processing	140,600	35.2%
G&A	33,100	8.3%
<b>Total</b>	<b>399,900</b>	<b>100.0%</b>

**Table 21-4: Average Unit Operating Costs**

Cost Area	\$/t processed
Mining	7.49
Processing	4.65
G&A	1.10
<b>Total</b>	<b>13.24</b>

### 21.3.2 Basis of Estimate

Mine operating costs have been based on mining quantities, major consumable costs and equipment operation costs from Wood's database, and labour rates from the Cost Mine® Service, adjusted to account for inflation. Fuel consumption, like other consumables, has been taken from Wood's database, equipment handbook, and equipment utilization factors. Mining quantities were derived from mine-phased planning to achieve the planned production rates.

Process operating costs have been estimated using first principles and have been benchmarked to international operations. Information obtained from vendor inquiries were also considered.

### 21.3.3 Mine Operating Costs

Mine operating costs average \$2.05/t (\$1.86/ton) moved (Table 21-5). Total tonnes moved includes 115.8 Mt (127.6 Mton) of primary production, including 5.6 Mt (6.1 Mton) of pre-production material. On a per tonne processed basis, the mining costs average \$7.49/t (\$6.80/ton).

**Table 21-5: Average Mining Operating Costs**

<b>Cost Area</b>	<b>\$/t Mined</b>
Open pit drilling	0.17
Open pit blasting	0.24
Open pit loading	0.32
Open pit hauling	0.89
Open pit stockpile rehandle (distal)	-
Open pit services	0.23
Others	0.21
<b>Total Mining Costs</b>	<b>2.05</b>

*Note: Excludes pre-strip material.*

### 21.3.4 Process Operating Costs

The average process operating costs over the LOM have been estimated at \$4.65/t (\$4.22/ton) of material processed.

**Table 21-6: Average Processing Operating Costs**

<b>Process Costs</b>	<b>\$/t Processed</b>
Equipment	0.06
Fixed	3.13
Variable	1.47
<b>Total Process Costs</b>	<b>4.65</b>

### 21.3.5 General and Administrative Operating Costs

G&A costs over the LOM have been estimated to average \$1.10/t (\$0.99/ton) of material processed (Table 21-7).

**Table 21-7: Average G&A Operating Costs**

<b>Cost Area</b>	<b>\$/t Processed Material</b>
Expenses	0.63
Labour	0.31
Road crew and equipment	0.16
<b>Total G&amp;A Costs</b>	<b>1.10</b>

## 21.4 Comments on Section 21

- Capital and operating costs were estimated to a scoping level of accuracy and are expressed in third-quarter 2020 US dollars.

## 22.0 Economic Analysis

The results of the economic analysis in the 2020 PEA represents forward-looking information that is subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those presented here. Forward-looking statements in the 2020 PEA section of this Report include, but are not limited to, timing and amount of future cash flows from mining operations, forecast production rates and amounts of gold produced from the Beartrack mining operation, estimation of the Mineral Resources and the realization of the Mineral Resource estimates within the 2020 PEA mine plans, the time required to develop the mine based on the 2020 PEA mine design, statements with respect to future price of gold, assumptions regarding mine dilution and losses, the expected grade of the material delivered to the HLP, metallurgical recovery rates, initial capital and sustaining capital costs, as well as mine closure costs and reclamation, timing and conditions of permits required to initiate mine construction, maintain mining activities, and mine closure, and assumptions regarding geotechnical and hydrogeological factors.

The reader is cautioned that the actual mine results of mining operations may vary from what is forecast. Risks to forward-looking information include, but are not limited to, unexpected variations in grade or geological continuity, as well as geotechnical and hydrogeological assumptions that are used in the mine designs. There could be seismic or water management events during the construction, operations, closure, and post-closure periods, that could affect predicted mine production, timing of the production, costs of future production, capital expenditures, future operating costs, permitting timelines, potential delays in the issuance of permits, or changes to existing permits, as well as requirements for additional capital. The plant, equipment or metallurgical or mining processes may fail to operate as anticipated. There may be changes to government regulation of mining operations, environmental issues, permitting requirements, and social risks, or unrecognized environmental, permitting and social risks, closure costs and closure requirements, unanticipated reclamation expenses, title disputes or claims and limitations on insurance coverage.

The PEA is preliminary in nature, and a portion of the Mineral Resources in the mine plans, production schedules, and cash flows include Inferred Mineral Resources, that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the 2020 PEA will be realized. Due to the conceptual nature of the 2020 PEA, none of the Mineral Resources in the 2020 PEA have been converted to Mineral Reserves and therefore do not have demonstrated economic viability.

## 22.1 Methodology Used

The 2020 PEA has been evaluated using a discounted cash flow (DCF) analysis. Cash inflows consist of annual revenue projections for the mine. Cash outflows such as capital, including the pre-production mining costs, operating costs, taxes, and royalties are subtracted from the inflows to arrive at the annual cash flow projections. Cash flows are taken to occur at the end of each period.

To reflect the time value of money, annual net cash flow (NCF) projections are discounted back to the start of construction using a 5% discount rate. The discount rate appropriate to a specific project depends on many factors, including the type of commodity, and the level of project risks, such as market risk, technical risk and political risk. The discounted present values of the cash flows are summed to arrive at the NPV.

In addition to NPV, internal rate of return (IRR) and payback period are calculated. The IRR is defined as the discount rate that results in an NPV equal to zero. Payback is calculated as the time required to achieve positive cumulative cash flow following first metal production.

## 22.2 Financial Model Parameters

The financial analysis was based on the Mineral Resources presented in Section 14, the mine and process plan and assumptions detailed in Sections 16 and 17, the projected infrastructure requirements outlined in Section 18, the gold price assumption in Section 19, the permitting, social and environmental regime discussions in Section 20, and the capital and operating cost estimates detailed in Section 21. All costs within the financial model are expressed in third-quarter 2020 US dollars.

### 22.2.1 Metal Recovery

Within the financial model, metal recovery is estimated on a period by period basis. For Beartrack, recovery is based on recovering 85% of soluble gold (AuCN) in 60 days, plus an additional 5% in another 60 days (90% of AuCN) for all material types: oxide, transition, and sulphide. For Arnett, only AuFA assays are available and all material is classified as oxide with 75% of AuFA recovered in 60 days, plus an additional 5% recovered in another 60 days (total 80% of AuFA). Total process recovery for the combined Beartrack and Arnett process schedule is estimated at 59.7% of the AuFA assay. Table 22-1 provides a summary of the process schedule showing a total of 506 k ounces recovered over the seven-year project life.

**Table 22-1: Process Schedule**

		<b>Total</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>
<b>Beartrack</b>									
Total AuCN Contained	koz	425.0	91.5	80.4	77.6	86.8	75.0	13.6	-
Total Recovered Ounces	koz	382.5	75.2	73.3	70.1	77.5	68.4	18.1	-
Recovery (AuCN)	%	90.0	82.2	86.3	87.6	88.0	88.6	90.0	90.0
<b>Arnett</b>									
Total AuFA Contained	koz	154.4	-	-	-	-	7.2	82.0	65.2
Total Recovered Ounces	koz	123.5	-	-	-	-	5.2	60.4	57.9
Recovery (AuFA)	%	80.0	0.0	0.0	0.0	0.0	73.0	73.6	80.0
<b>Total</b>									
Recovered Ounces (Au)	koz	506.0	75.2	73.3	70.1	77.5	73.6	78.5	57.9
Contained Ounces (AuFA)	AuFA koz	848.0	159.5	116.1	107.8	169.0	122.5	107.9	65.2
Recovery (AuFA)	%	59.7	47.1	53.9	57.0	53.6	54.8	57.2	59.7

### 22.2.2 Metal Price

Gold prices have trended upward during 2020 reaching a spot price of \$1,906 at the start of Q4, 2020 (October 1, 2020). Likewise, consensus pricing is trending upward with recent pricing approaching \$1,550/oz; consequently, the financial analysis is based on a gold price of \$1,550/oz.

### 22.2.3 Refining and Transportation

Refining costs are \$2.00/oz applied to the payable portion of the recovered gold. Gold is 99.9% payable at the refiner. At a \$1,550 gold price, the 0.1% in metal not payable is equivalent to \$1.55/oz. Transportation and insurance costs are included in the refining costs. Refining costs are based on Costmine's 2019 smelting and refining terms technical publication (InfoMine USA, Inc., 2019c).

### 22.2.4 Royalties

Royalties in the financial model are applied according to the royalty agreements described in Section 4. Beartrack is subject to both the net smelter return (NSR) royalties shown in Table 22-2, and a 0.5% Net Profit royalty due to Mr. Raymond W. Threlkeld. Over the LOM, the Threlkeld royalty pays \$275 k and the Meridian NSR royalties pay \$7.9 million. Arnett is subject

to multiple NSR royalties (Table 22-3). The LOM payout for the Arnett NSR royalties is estimated at \$1.5 million.

**Table 22-2: Beartrack NSR Royalties**

<b>Beartrack Royalties @ \$1,550 Au</b>	<b>CAP (\$ 000's)</b>	<b>Payment (\$ 000's)</b>
Meridian Initial Capped 0.5% NSR Royalty	2,000.0	2,000.0
Meridian 1.0% NSR Production Royalty		5,914.9
<b>Total Meridian NSR</b>	<b>2,000.0</b>	<b>7,914.9</b>

**Table 22-3: Arnett NSR Royalties**

<b>Arnett Royalties @ \$1,550 Au</b>	<b>CAP (\$ 000's)</b>	<b>Payment (\$ 000's)</b>
Mapatsie Calculated	2,000.0	494.1
Bull Run Calculated	2,000.0	1.1
HAI 1-7 & Gold Bug 12-17, 27-29 <sup>1</sup>		0.0
Haidee Calculated	1,000.0	1,000.0
<b>Total</b>	<b>3,500.0</b>	<b>1,495.2</b>

<sup>1</sup> The claims are outside of the mining area

### 22.2.5 Holding Fees

Beartrack is subject to a Bureau of Land Management (BLM) maintenance fee of \$102,023/yr and Arnett is subject to a BLM maintenance fee of \$48,200/yr. Over the LOM, over \$1.0 million in fees are paid to the BLM.

### 22.2.6 Taxes

Taxation within the financial model is based on the Tax Cuts and Jobs Act (TCJA) tax law passed by congress in 2017 and effective starting 2018. Following is a summary of tax rates within the financial model:

- Federal corporate tax at 21%
- No alternative minimum tax (AMT)
- 1% Idaho Mine License Tax applied to the net value of the mineralized material extracted
- 6.925% Idaho Corporate Income Tax

- 15% cost depletion allowance for gold
- 0.5% Lemhi county property tax applied to annual net profit

Modified accelerated cost recovery system (MACRS) along with 40% and 20% bonus depreciation applied in Yr 1 and Yr 2 respectively are used for calculating depreciation for Federal tax purposes. MACRS is also used for Idaho State tax depreciation, but bonus depreciation is excluded because it does not apply to Idaho State tax. Capital is depreciated based on the following schedules:

- 5 years light vehicles, small tools
- 7 years mining and process equipment
- 10 years major mine mobile equipment
- 39 years buildings and structures

Pre-production mining (PP1) is considered a development cost and is depreciated for both Federal Tax and Idaho State Tax based on unit of production depreciation.

### **22.2.7 Working Capital**

Working capital is the capital required to fund operations prior to receiving revenue from the finished product. It is defined as the current assets minus the current liabilities. The financial model estimates working capital by subtracting 45 days of direct operating costs from 45 days of revenue. Over the project life, working capital nets to zero.

### **22.2.8 Closure and Reclamation**

The \$17.2 million closure cost is bonded for during pre-production. The bond arrangement assumes a 25% down payment of \$4.3 million made during pre-production with 5% interest paid annually on the remaining balance of \$12.9 million. Over the LOM, the bond interest is \$5.2 million.

### **22.2.9 Leasing**

Leasing is assumed for the initial major mine equipment based on:

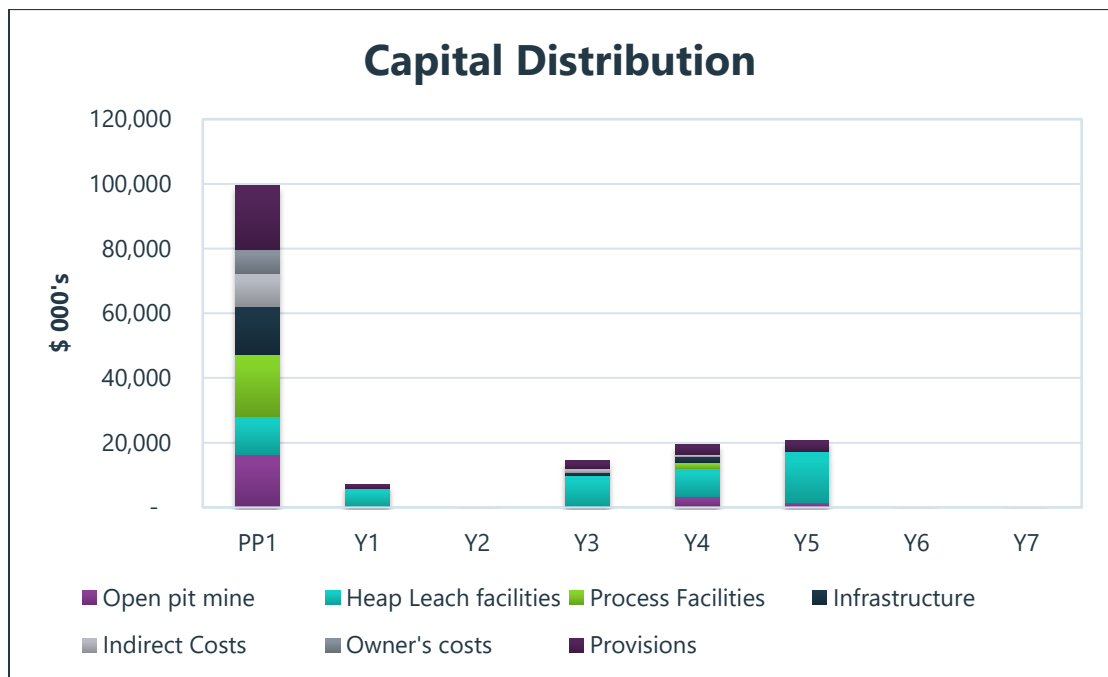
- Leased mining fleet value of \$28.6 million: \$21.0 million in pre-production and \$7.6 million in Y1
- 25% down payment applied at the start of the lease
- 3.5% annual lease interest applied to calculate interest and principal payments
- 7 Year lease term with zero residual value remaining at the end of the lease



Over the LOM, \$3.1 million in lease interest is estimated.

### 22.2.10 Capital

Total project capital is \$189.6 million comprised of \$120.5 million in initial capital and \$69.1 million in sustaining and Arnett development capital. Excluding the capital for the major mining equipment that is leased reduces total capital by \$28.6 million and results in a total capital spend of \$161.0 million comprised of \$99.5 million in initial capital and \$61.5 million in sustaining and Arnett development capital. Figure 22-1 shows the distribution of capital spend excluding the equipment lease.



**Figure 22-1: Capital Distribution (Excludes Leased Equipment)**

### 22.2.11 Salvage Value

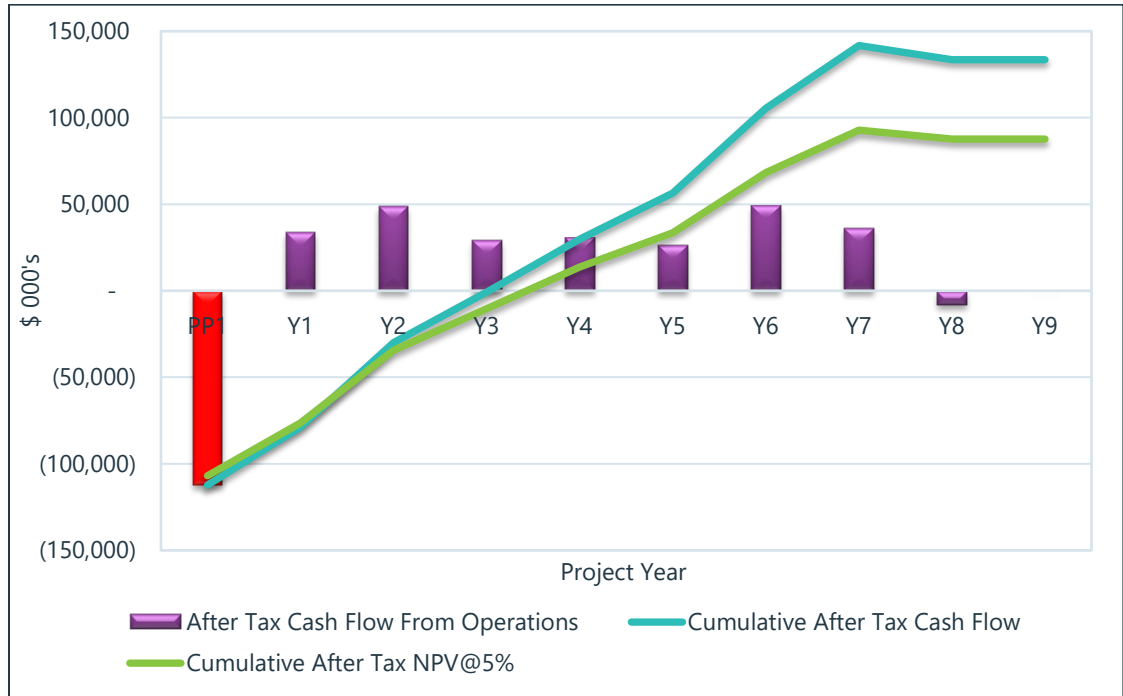
No salvage value is applied within the financial model.

### 22.2.12 Inflation

No escalation or inflation are applied. All amounts expressed in constant Real Q3-2020 terms.

## 22.3 Financial Results

Based on Wood’s financial evaluation, the Beartrack Project generates positive before and after-tax financial results. The after-tax IRR is 25.4% and the after tax NPV<sub>5</sub> is \$87.6 million. After tax payback is achieved 3.0 years following the start of production. Table 22-4 and Table 22-5 show the before and after tax financial statistics, respectively and Figure 22-2 shows the distribution of after tax cash flows and NPV<sub>5</sub>. The full cash flow is included in Table 22-6.



**Figure 22-2: Distribution of After Tax Cash Flows and NPV<sub>5</sub>**

**Table 22-4: Before Tax Financial Results**

Before Tax (\$ 000's)	
Cash Flow	153,210
NPV@3%	120,683
NPV@5%	102,480
NPV@7%	86,587
IRR	28.0%
Payback (yrs)	2.9

**Table 22-5: After Tax Financial Results**

<b>After Tax (\$ 000's)</b>	
Cash Flow	133,553
NPV@3%	104,068
NPV@5%	87,567
NPV@7%	73,160
IRR	25.4%
Payback (yrs)	3.0

**Table 22-6: Financial Model**

Cash Flow (\$ 000's)	Total	PP1	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Gold price		1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
<b>Sales</b>									
Gold sales	783,540	-	116,408	113,443	108,522	119,946	113,996	121,544	89,680
Total sales	783,540	-	116,408	113,443	108,522	119,946	113,996	121,544	89,680
<b>Sales Costs</b>									
Gold refining and transport cost	1,011	-	150	146	140	155	147	157	116
Total sales costs	1,011	-	150	146	140	155	147	157	116
	782,529								
<b>Royalty</b>									
Beartrack royalties	7,915	-	1,744	1,699	1,626	1,508	1,057	280	-
Arnett royalties	1,495	-	-	-	-	-	325	1,170	-
Total royalties	9,410	-	1,744	1,699	1,626	1,508	1,383	1,450	-
<b>Revenue</b>									
Gold revenue	773,119	-	114,514	111,598	106,756	118,283	112,467	119,937	89,564
Total revenue	773,119	-	114,514	111,598	106,756	118,283	112,467	119,937	89,564
<b>Operating Costs</b>									
Mining	226,204	-	31,787	31,412	31,825	29,539	31,932	38,614	31,096
Processing	140,570	-	22,188	21,287	21,127	22,215	20,833	17,618	15,301
G&A	33,089	-	4,788	4,788	4,789	4,790	4,787	4,787	4,362
Total operating costs	399,863	-	58,763	57,487	57,740	56,543	57,552	61,019	50,759
<b>Total Production Costs</b>									
Total operating costs	399,863	-	58,763	57,487	57,740	56,543	57,552	61,019	50,759
Holding fees	1,052	-	150	150	150	150	150	150	150



<b>Cash Flow (\$ 000's)</b>	<b>Total</b>	<b>PP1</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>
Lease payment	31,749	7,832	5,418	3,513	3,513	3,513	3,513	3,513	935
Bond cost on balance	5,173	647	647	647	647	647	647	647	647
Property tax	1,866	-	279	271	245	309	275	295	194
Idaho mine license tax	2,039	-	350	208	234	375	296	359	217
Depreciation	169,019	-	60,051	20,516	16,920	18,208	20,585	18,977	13,761
Depletion	89,463	-	-	14,403	13,653	17,742	14,725	17,489	11,451
Total production costs	700,225	8,479	125,658	97,195	93,103	97,487	97,742	102,448	78,114
<b>Income from Operations</b>									
Net revenue	773,119	-	114,514	111,598	106,756	118,283	112,467	119,937	89,564
Production costs	700,225	8,479	125,658	97,195	93,103	97,487	97,742	102,448	78,114
Net income before taxes	72,894	(8,479)	(11,144)	14,403	13,653	20,796	14,725	17,489	11,451
<b>Income from Operations</b>									
Idaho income tax	5,156	-	1,383	131	363	1,043	712	949	576
Federal corporate tax	14,225	-	-	599	778	4,148	2,943	3,473	2,284
Raymond W. Threlkeld	275	-	-	68	63	78	51	15	-
+ Depreciation	169,019	-	60,051	20,516	16,920	18,208	20,585	18,977	13,761
+ Depletion	89,463	-	-	14,403	13,653	17,742	14,725	17,489	11,451
<b>Net Income After Taxes</b>	311,720	(8,479)	47,524	48,524	43,024	51,478	46,327	49,518	33,804
<b>Capital Cost</b>									
Initial and sustaining	160,923	99,471	7,066	-	14,424	19,397	20,565	-	-
Reclamation and closure cost	17,244	4,311	-	-	-	-	-	-	-



<b>Cash Flow (\$ 000's)</b>	<b>Total</b>	<b>PP1</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>	<b>Y7</b>
<b>Working Capital</b>									
Working capital	-	-	6,873	(202)	(628)	1,548	(821)	494	(2,480)
<b>Before Tax</b>									
Cash flow	153,210	(112,261)	34,968	49,525	30,431	35,802	30,289	53,462	39,143
NPV@3%	120,683	(108,982)	32,958	45,318	27,035	30,878	25,363	43,462	30,895
NPV@5%	102,480	(106,901)	31,713	42,775	25,032	28,044	22,596	37,984	26,486
NPV@7%	86,587	(104,897)	30,537	40,419	23,211	25,517	20,176	33,281	22,773
IRR	28.0%								
Payback (yrs)	2.91								
<b>After Tax</b>									
Cash flow	133,553	(112,261)	33,585	48,726	29,228	30,533	26,583	49,024	36,283
NPV@3%	104,068	(108,982)	31,655	44,588	25,966	26,334	22,259	39,855	28,638
NPV@5%	87,567	(106,901)	30,459	42,086	24,042	23,917	19,831	34,831	24,551
NPV@7%	73,160	(104,897)	29,329	39,768	22,293	21,762	17,707	30,519	21,109
IRR	25.4%								
Payback (yrs)	3.02								

## 22.4 Cost Metrics

Cost metrics for total cash costs (TCC), all-in sustaining costs (AISC), and all-in costs were calculated for the Beartrack Project according to World Gold Council guidance (World Gold Council, 2013). The TCC, AISC, and AIC are \$809, \$1,057, and \$1,254 per ounce sold respectively (Table 22-7).

**Table 22-7: Cost Metrics**

<b>Cost Area</b>	<b>\$/oz Au Sold</b>
Mining	447.5
Processing	278.1
G&A	65.5
Royalties	15.7
Dore refining/selling cost	2.0
<b>Total cash costs (TCC)</b>	<b>808.7</b>
Holding fees	2.1
Lease payment	62.8
Bond cost on balance	10.2
Property tax	3.7
Idaho mine license tax	4.0
Closure costs	44.3
Sustaining capital costs	121.6
<b>All-in sustaining cost (AISC)</b>	<b>1,057.4</b>
Initial capital cost	196.8
<b>All-in capital cost (AIC)</b>	<b>1,254.2</b>

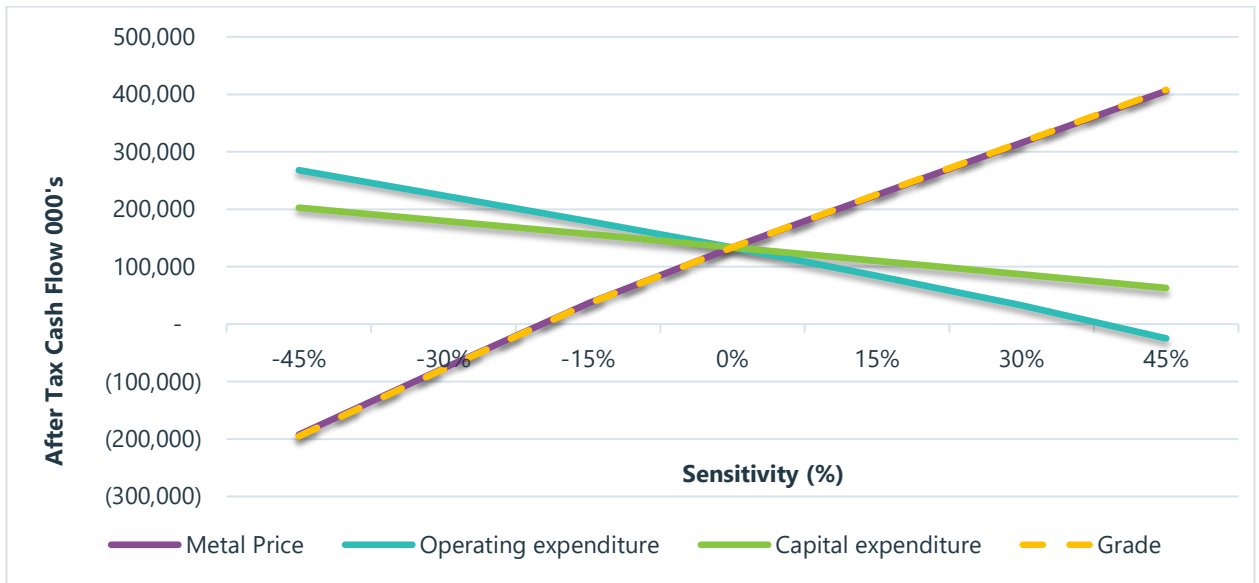
## 22.5 Sensitivity Analysis

A sensitivity analysis was completed over the ranges of  $\pm 45\%$  for capital costs, operating costs, grade, and metal price (Au). Note that sensitivity to grade and metal price are coincidental and follow the same general trend.

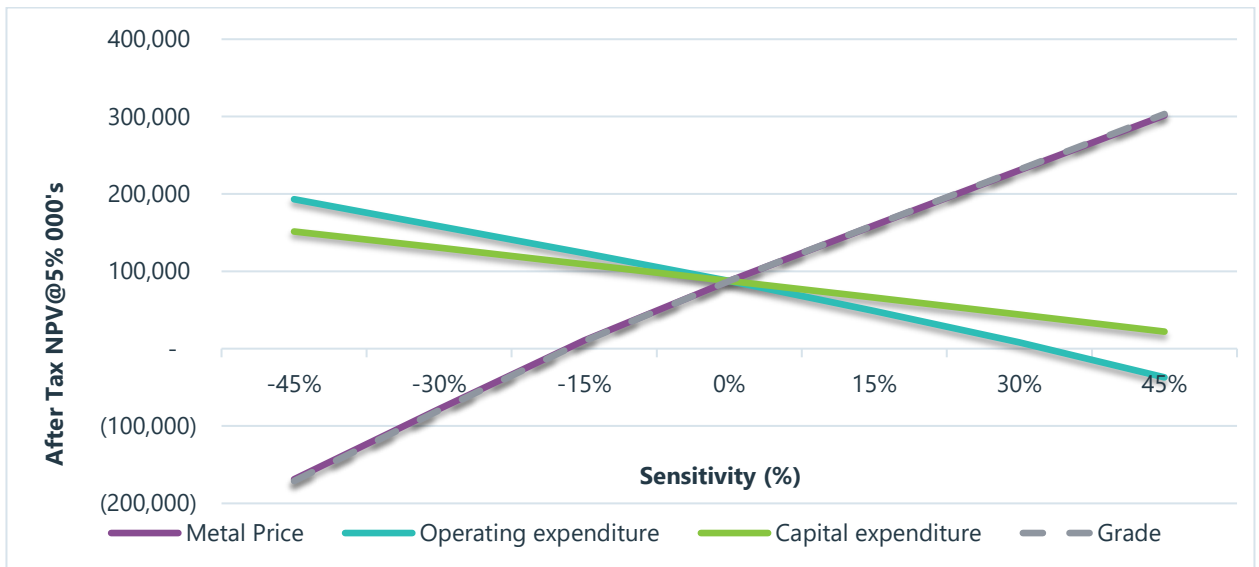
The Beartrack Project is most sensitive to changes in metal price and grade, followed by changes to operating costs and capital costs. The Project's NPV<sub>5</sub> is least sensitive to capital costs.

Spider graphs showing the Project's sensitivity to capital costs, operating costs, grade, and

metal price are shown in Figure 22-3 to Figure 22-5.

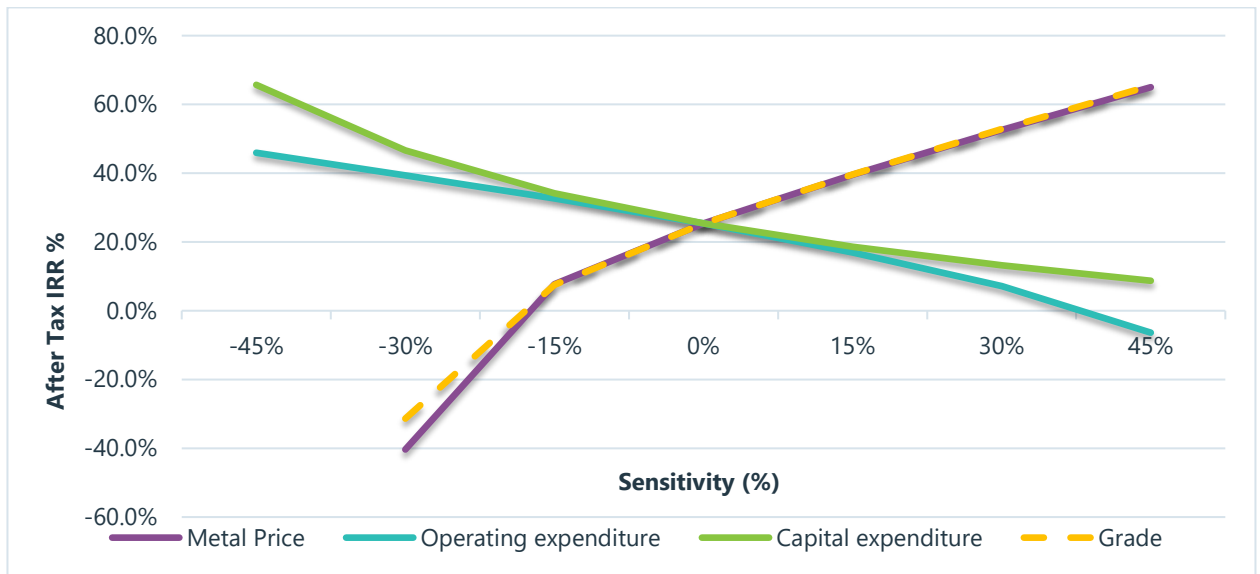


**Figure 22-3: After-Tax Cash Flow Sensitivity**



**Figure 22-4: After-Tax NPV<sub>5</sub> Sensitivity**





**Figure 22-5: After Tax IRR Sensitivity**

Because gold prices have been trending upward during 2020, alternate pricing scenarios both above and below the study price of \$1,550/oz are presented in Table 22-8.

**Table 22-8: Alternate Metal Pricing Scenarios**

Gold Price (\$/oz)	\$1,150	\$1,250	\$1,350	\$1,450	\$1,550	\$1,650	\$1,750	\$1,850	\$1,950	\$2,050
<b>Before Tax Metrics</b>										
Undiscounted Cash Flow (\$ M)	(44)	5	54	104	153	203	252	301	351	400
Net Present Value 5% (\$ M)	(53)	(14)	25	64	102	141	180	219	258	296
Payback (Years)	-	6.3	5.0	3.6	2.9	2.4	2.0	1.8	1.7	1.5
Internal Rate of Return	-12%	1%	11%	20%	28%	35%	42%	49%	56%	62%
<b>After Tax Metrics</b>										
Undiscounted Cash Flow (\$ M)	(45)	4	50	92	134	174	212	251	290	329
Net Present Value 5% (\$ M)	(53)	(15)	22	55	88	119	149	180	211	241
Payback (Years)	-	6.3	5.1	3.7	3.0	2.5	2.2	1.9	1.8	1.7
Internal Rate of Return	-12%	1%	11%	18%	25%	32%	38%	43%	49%	54%

## 22.6 Comments on Section 22

The Beartrack Project achieves both a before and after-tax positive IRR using a consensus interest rate of 5% and a consensus gold price of \$1,550/oz. Other comments follow:

- Bonus depreciation is based on an assumed calendar start date of January 1, 2025 and may not be recognized if the project schedule is delayed.
- The mine mobile equipment and modular crushing plant may have salvage value remaining at the end of the project life.



## 23.0 Adjacent Properties

This section is not relevant to this Report.



## 24.0 Other Relevant Data and Information

This section is not relevant to this Report.

## 25.0 Interpretation and Conclusions

The QPs summarize the following interpretations and conclusions based on the contents of this Report.

### 25.1 Mineral Tenure, Surface Rights and Royalties

All claims are currently in good standing in terms of maintenance fees and property taxes until their renewal on September 1, 2021 and considered sufficient to support the declaration of Mineral Resources and mine planning at a PEA level.

### 25.2 Geology and Mineral Resources

RPA estimated Mineral Resources for the Beartrack and Arnett deposits using drill hole data available as of October 1, 2019. The Mineral Resource estimate is based on open pit mining and underground scenarios. The Mineral Resources are based on a gold price of \$1,400/oz value. Mineral Reserves have not been estimated on the Project. Indicated Mineral Resources total 36.4 million tonnes (Mt) at an average grade of 1.16 g/t Au for a total of 1.35 Moz of gold. Inferred Mineral Resources total 47.2 Mt at an average grade of 1.08 g/t Au for a total of 1.64 Moz of gold. The effective date of the Mineral Resource estimate is December 10, 2019. Estimated block model grades are based on fire assays and mineralization at both deposits is open in many directions.

Revival's protocols for drilling, sampling, analysis, security, and database management meet industry standard practices and are appropriate for estimation of Mineral Resources. Project geologists have a good understanding of the regional, local, and deposit geology and controls on mineralization. The geological models provided to RPA are reasonable and plausible interpretations of the drill results.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate other than what has been described in this Report.

#### 25.2.1 Beartrack

- The Beartrack deposit is a mesothermal, or shear zone-hosted, deposit. Drilling has outlined mineralization with 3D continuity, with size and grades that have been extracted economically in the past.
- All mineralization is spatially related to, and primarily controlled by, the PCSZ.
- The gold mineralization has been intersected over a vertical range of approximately 600

m (1,950 ft) with no indication that mineralization stops with depth. From north to south, zones of the Beartrack deposit are: 1) Moose, 2) North Pit, 3) South Pit, and 4) Joss. These deposits occur over a strike length of approximately 5.6 km (3.5 mi) of the PCSZ.

- The South Pit is the most significant of the zones in terms of tonnage and contained ounces, as it hosts wider and more continuous mineralization compared to other areas as defined by current drilling.
- Mineralization remains open along strike between the individual zones and down dip.
- Due to the small number of recent density measurements in the North Pit and South Pit areas, historical density values in these areas should continue to be used, with more recent density measurements being applied to the Joss area.
- Beartrack Mineral Resources are a combination of open pit and underground, leach and mill resources. Based on a gold price of \$1,400/oz, the Mineral Resources are:
  - Indicated Mineral Resources total 34.116 Mt, grading 1.19 g/t Au, containing 1.30 Moz of gold.
  - Inferred Mineral Resource total 38.889 Mt, grading 1.19 g/t Au, containing 1.49 Moz of gold.

## 25.2.2 Arnett

- Gold mineralization at Arnett exhibits some of the characteristics of intrusion-related gold deposits.
- Gold mineralization on the Arnett property is associated with a wide-spaced quartz-iron oxide (pyrite)-gold veinlets hosted primarily by what is locally referred to as the Cambro-Ordovician crowded porphyry.
- Gold is associated with wide-spread sericitic and potassic alteration, both of which are structurally controlled.
- There are several mineralized areas on the Arnett property, however, only the Haidee deposit has resources to date.
- Density values range from 1.87 t/m<sup>3</sup> to 2.64 t/m<sup>3</sup> with an average density of 2.35 t/m<sup>3</sup>. This is slightly low for granitic rocks; however, the difference may be caused by hydrothermal alteration.
- Gold mineralization at Haidee has a current strike length of approximately 400 m (1,300 ft) in a north-northwest direction and a total width of approximately 300 m (1,000 ft). Mineralization extends from the surface up to 400 ft (120 m) depth, or an elevation of approximately 2,135 m (7,000 ft) and remains open along strike and at depth.
- Arnett Mineral Resources constrained by optimized pits based on a gold price of \$1,400/oz are:
  - Indicated Mineral Resources total 2.3 Mt, grading 0.66 g/t Au, containing 49,000 oz of gold
  - Inferred Mineral Resource total 8.3 Mt, grading 0.55 g/t Au, containing 147,000 oz of gold

## 25.3 Metallurgical Test Work

The mineralized material at Beartrack contains a mixture of oxide, transitional and sulphide material that is amenable to heap leaching and to more complex processing methods involving milling, flotation, pressure oxidation of the concentrate and cyanide leaching of the oxidized concentrate and the flotation tails. This present study focuses on the heap leaching option.

The mineralized material at Arnett is oxide and leaches readily. Limited test work is available to support further stages of engineering. Column test work over longer periods (180 days) as well as at various crush sizes is planned for the next phases of the Project to assess the response of the Arnett material.

The oxide, transitional and sulphide material is mixed on the same pad.

The interpretation is that the Beartrack material leaches readily and that the sulphidic material has more gold tied in the sulphides. While the soluble gold recovery is similar, (predicted to be 85% of soluble gold followed by secondary leaching to 90%), the total recovery based on fire assay is generally lower and is affected by the sulphide content of the material.

The leaching of the cyanide soluble gold occurs rapidly, within 60 to 90 days during the initial stage. The risk in heap leaching the sulphidic material is the concurrent production of acid and metals (acid rock drainage) from the portions underneath the leached material on its primary cycle. Provisions for additional reagents to process the sulphidic material, and the placement of inter-lift liners within the heap leach are made to limit the extended irrigation of the previous lifts.

A better understanding of the sulphide distribution at Beartrack is required and additional assaying tests are recommended.

The long-term behaviour of the various materials should be better understood and long-term (365 days) two-stage column test work at various crush sizes is recommended.

Confirmation as to whether the material types will maintain their independent properties (reagents addition and recoveries) when oxides are mixed with a sulphides can be achieved with long-term (365 days) two-stage column test work.

## 25.4 Mine Plan

The PEA mine plan has been partly based on Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves and there is no certainty that the PEA based on these Mineral Resources will be realized.

Oxide, transitional and sulphide materials will be mined from three open pits using owner-operated equipment over a seven-year mine life and half a year pre-production. Approximately 50% of the total estimated gold ounces in the mine plan is in the Inferred category.

Further geotechnical and hydrogeological test work and studies are suggested to verify pit slope angles and provide inputs to a regional dewatering program.

## 25.5 Recovery Plan

The process design follows a flowsheet that includes primary and secondary crushing via a modular crushing plant, heap leaching, carbon in column units, an ADR plant and refining circuits.

The mineralization is crushed to a P80 of 50 mm (2 in.) using a modular two stage crushing plant. No agglomeration is required.

The heap leach facilities are built as an extension of the current facilities and are based on conventional design. Calculations show the current solution ponds at Beartrack have sufficient capacity to hold the events and spring freshet.

To account for the excess water, inter-lift and rain-coats HDPE liners are used to divert precipitation and spring melt water away from the pads and reduce exposure that could promote the production of acid within the pads. This combined with large ponds, will produce a flexible water management plan, able to cope with variable weather scenarios.

There is also a water treatment plant for the sulphidic waste rockpile at Beartrack (ARD treatment plant) and water treatment plants at Arnett and Beartrack for the non-acid contact water.

Existing equipment in the ADR facility will be refurbished and used; however, risk resides in the refurbishment costs, as the extent of repairs can only be quantified once the equipment has been dismantled.

## 25.6 Infrastructure

Existing infrastructure will be utilized wherever possible. This includes refurbishing equipment in the existing ADR plant, leach and overflow ponds, reconfiguring the water treatment plant, fuel storage and distribution, collection ditches and refurbishing the water wells. New facilities include a modular crushing plant, truck shop / warehouse, offices, explosives storage and fuel storage / distribution facilities, electrical equipment and stormwater ponds and ditches.

A double lane mine haul road with portions of a single lane will be constructed from Beartrack to Arnett prior to mining at Arnett.



Two waste rock facilities are planned for the Project; one each located at Beartrack (61.1 Mt (67.3 Mton)) and Arnett (24.5 Mt (27 Mton)), respectively.

Three heap leach pads are constructed in a phased approach at Beartrack and will process a mixture of material types with a capacity of 22.1 Mt (24.3 Mton). A single heap leach pad for leaching Arnett oxide material is constructed at the Beartrack site with a capacity of 8.1 Mt (9 Mton).

An existing 69 kV overhead line provided by the local utility Idaho Power feeds the Beartrack mine site and is considered sufficient to supply power demand at the site.

## 25.7 Marketing

Revival has not conducted any specific market studies for the Project. Gold has a readily available market for sale in the form of gold doré or gold concentrates with bullion banks regularly purchasing gold from mining companies and selling them to consumers at prices set by the over-the-counter market, London fix or gold futures market.

## 25.8 Environmental, Permitting and Social or Community

The proposed new development for the Beartrack Arnett Gold Project will need to accommodate ongoing water treatment and discharge in accordance with the current NPDES permit concurrent with development of new leach pads. The project will require a new water treatment system since the ADR plant and process ponds currently being used for water treatment would be recommissioned. Dewatering of the South Pit lake will need to occur prior to renewed mining in the South Pit. The water currently stored in the pit would be available for use in the leaching operation. Careful consideration of closure and ongoing water treatment will be required.

New development in the North Pit will require management of the historic waste materials which were capped in the North Pit during past closure of the mine. This area is a source of low pH seepage that has been collected and treated as part of the ongoing water management. Material excavated from this area, along with any new PAG materials which may be encountered would need to be addressed by evaluating the baseline geochemistry for the materials to be mined and through development of a waste management plan. Permitting for the mine will require a detailed plan to address the potential impacts related to geochemistry of the mined materials and mitigation measures will likely be incorporated in the final analysis which will be considered during the EIS.

Authorization to develop the Project will require completion of an EIS in accordance with NEPA. The EIS will be coordinated by the SCNF as the lead agency in conjunction with cooperating state and federal agencies. Preparation of the EIS will require gathering of baseline information

to support the environmental analysis. On July 15, 2020, the Council on Environmental Quality (CEQ) announced its final rule titled "Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act." This rule has comprehensively updated NEPA regulations to modernize the Federal environmental review process. The new rules include a presumptive time limits of two years for preparation of an EIS, and one year for preparation of EAs, and specifies presumptive page limits for both. The new guidance is important for the Project to help minimize uncertainty related to length and level of NEPA analysis that will be required.

Development of the mine would have a positive impact on the local communities by providing direct employment in the mining industry and secondary employment in the local community; and local and state jurisdictions revenue generated through taxes paid by the mining operation.

## 25.9 Capital Cost Estimate

The Project's pre-production capital cost estimate is estimated at \$120.5 million inclusive of pre-production mining costs including major mine equipment leases of \$21 million. The total sustaining capital is estimated at \$69.1 million. The total project capital inclusive of initial and sustaining is estimated at \$189.6 million.

## 25.10 Operating Cost Estimates

Over the LOM, the operating costs average \$13.24/t (\$12.01/ton) of material processed.

## 25.11 Economic Analysis

Content in the PEA represents forward-looking information, including assumed gold prices, Mineral Resource estimates, capital and operating costs, life of mine plans, production schedules, and cash flows. Readers of this study are cautioned that actual results may vary from what is presented. The factors and assumption used in preparing the results of the PEA are presented in the relevant sections of this Report. A portion of the Mineral Resources in the mine plans, production schedules, and cash flows include Inferred Mineral Resources, that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the 2020 PEA will be realized. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The after-tax IRR is 25.4% and the after tax NPV<sub>5</sub> is \$87.6 million using a base case gold price of \$1,550/oz. After tax payback is achieved 3.0 years following the start of production.

The TCC, AISC, and AIC are \$809, \$1,057, and \$1,254 per ounce sold, respectively.

The Project is most sensitive to changes in metal price and grade, followed by changes to operating costs and capital costs. The Project's NPV<sub>5</sub> is least sensitive to capital costs.

## 25.12 Conclusions

Under the assumptions presented in this Report, the Beartrack Arnett Gold Project shows positive economic returns and can support the decision to proceed to more advanced mining studies.

## 26.0 Recommendations

### 26.1 Summary

The QPs recommend performing drilling, test work and engineering studies summarized in Table 26-1.

**Table 26-1: Recommendations for Further Work**

Area	Description
Drilling	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Complete drilling to expand on the current Mineral Resources at Joss and Moose</li> <li>• Exploration drilling between Ward’s Gulch and South Pit and between South Pit and Joss</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Infill drilling to expand on current Mineral Resources at Haidee</li> <li>• Exploration drilling to expand the Mineral Resource along strike</li> <li>• Condemnation drilling in the area of the waste rock facility and heap leach pad</li> <li>• Geotechnical drilling on all pit sides to assess geological profile</li> <li>• Hydrogeology wells to collect water information for pit management</li> </ul>
Mineral Resource Estimation	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Convert drilling and geologic records from Local Mine coordinates to Idaho State Plan coordinates to align with Arnett</li> <li>• Submit reject material to obtain additional AuCN assays</li> <li>• Include AuFA and Soluble AuAA analyses for all additional samples</li> <li>• Apply a different approach to estimating data (AuFA and AuCN) on unequal support</li> <li>• Perform a quantitative drill hole spacing study to determine the spacing required to support Mineral Resource classification</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Submit reject material to obtain additional AuCN assays</li> <li>• Perform a quantitative drill hole spacing study to determine the spacing required to support Mineral Resource classification</li> </ul>

Area	Description
Metallurgical Sampling and Testing	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Bulk density determinations from rock types at different depths</li> <li>• In addition to ICP and carbon suite (total carbon and organic carbon) tests, include Leco analyses as part of the assaying suite at Beartrack to better understand the sulphide sulphur content of future potential mill feed</li> <li>• Prolonged heap leach column tests using the two-stage column test procedure to better understand ARD associated with prolonged exposure to water and oxygen</li> <li>• ABA testing on waste rock, in-pit mineralized material and heap leach mineralization</li> <li>• Humid cell test of sulphide bearing tailings and waste rock</li> <li>• To further explore the milling option, ICP, Stot, SS, Ctot, Corg, Hg tests on samples with grades between 2 and 2.5 g/t, comminution tests and mill-flot-POX-flot tails leach sequence tests</li> </ul> <p>Arnett</p> <ul style="list-style-type: none"> <li>• Single stage heap leach column test</li> <li>• ABA testing on waste rock, in-pit mineralized material and heap leach mineralization</li> <li>• Humid cell test of sulphide bearing tailings and waste rock</li> </ul>
Mining	<p>Beartrack and Arnett</p> <ul style="list-style-type: none"> <li>• Geotechnical studies to verify the pit slope angles</li> <li>• Hydrological studies to support geotechnical studies and to provide inputs to a regional dewatering program</li> </ul>
Infrastructure	<p>Beartrack and Arnett</p> <ul style="list-style-type: none"> <li>• Electrical trade-off study to explore technically feasible options once the existing electrical equipment has been evaluated, available power capacity confirmed and Project power demand further defined</li> <li>• Trade-off study to optimize the number of stormwater management ponds, the treatment and operation</li> <li>• Groundwater characterization study</li> </ul>
Environment	<p>Beartrack</p> <ul style="list-style-type: none"> <li>• Geochemical characterization study to identify volumes of PAG rock at Beartrack</li> <li>• Baseline studies and preparation of all permitting required for the Project as input into the development of an EIS</li> </ul>

## 26.2 Drilling

### 26.2.1 Infill and Exploration

A two-phased infill and exploration drill program has been designed by Revival. The aim of the program is to upgrade Mineral Resources and continue exploration of other targets on the Project. This includes the following activities:

- Complete drilling to expand on the current Mineral Resources at Joss and Moose (Beartrack)
- Exploration drilling between Ward's Gulch and South Pit and between South Pit and Joss (Beartrack)
- Infill drilling to expand on current Mineral Resources at Haidee
- Exploration drilling to expand the Mineral Resource along strike

Phase 1 of the program (2020 to 2021) which includes 5,000 m of core drilling at Beartrack and 5,000 m of drilling at Arnett is currently in progress.

Estimated cost is \$9.0 million.

### 26.2.2 Metallurgical, Geotechnical and Hydrogeology

Metallurgical, geotechnical and hydrogeology drilling programs are recommended:

- 1,400 m of metallurgical samples will be selected from full core metallurgical drill holes for test work purposes
- Condemnation drilling in the area of the waste rock facility and heap leach pad
- 1,600 m of geotechnical drilling on all pit sides to assess geological profile
- 120 m of hydrogeology wells to collect water information for pit management

Estimated cost is \$1.3 million.

## 26.3 Exploration

During late 2020 an exploration program consisting of approximately 83 line-kilometers of Induced Polarization-Resistivity ("IP-RES"), geologic mapping and sampling were completed on the Beartrack and Arnett properties.

At Arnett, 65 line-kilometers of gradient-array IP-RES covered the core of the Arnett property including the Haidee, Italian mine, Little Chief mine, Roman's Trench and the Shenon Gulch areas.

At Beartrack, approximately 13 line-kilometers of gradient-array IP-RES were completed along the southern end of the Joss area and five line-kilometers of dipole-dipole IP-RES was completed over a magnetic low in the Rabbit area identified during the reprocessing of historical aeromagnetic data.

Processing, evaluation and interpretation of the results of the IP\_RES surveys are currently in progress.

Geologic mapping of the Arnett land position has also been completed in late 2020, with the structural work just getting underway and to be completed in 2021.

Estimated cost is \$0.2 million (included in the \$9.0 million drilling budget of Section 26.2.1).

## 26.4 Mineral Resource Estimation

Updating the Mineral Resource with additional drilling should consider the following:

- Update/convert drilling and geologic records at Beartrack from Local Mine coordinates to Idaho State Plane coordinates currently employed at Arnett. RPA further recommends that both areas as well as property boundaries be converted into WGS 84 UTM coordinate system. This would allow for integrating both individual databases into one synchronized database and more easily managed system. The cost for this recommendation is an incremental cost and should not be significant
- Submit reject material to obtain additional AuCN assays
- Include AuFA and soluble AuAA analysis for all additional samples
- Perform a quantitative drill hole spacing study to determine the spacing required to support Mineral Resource classification
- Consider an alternative method to estimating (AuFA and AuCN) when using a database (such as this) of unequal support

Estimated cost is \$0.3 million.

## 26.5 Environmental

A geochemical characterization study should be undertaken to identify the volumes of potentially acid generating rock at Beartrack and their approximate schedule for excavation during mining. This would permit a more detailed plan to be developed to manage the site PAG rock and minimize potential water quality impacts.

Trade-off studies should be undertaken to determine the most effective approaches for management of mine contact waters during operations and closure.

Authorization to develop the Project will require completion of an EIS in accordance with NEPA. The EIS will be coordinated by the SCNF as the lead agency in conjunction with cooperating

state and federal agencies. Preparation of the EIS will require gathering of baseline information to support the environmental analysis. Revival will need to coordinate with the SCNF to begin the NEPA process and determine the scope required for the various baseline surveys. The baseline studies will address all of the resources for the Project described in Section 20.4. The study area will need to incorporate the entire Beartrack site and the area of the Arnett development and access route.

The future environmental due diligence work should include geochemical testing, including acid-base accounting and EPA Method 1312 or Meteoric Water Mobility testing. Samples should represent the range of sulphide sulphur values for each primary lithology or mineralized zone. Based on these results, a more detailed test program, including some humidity cell (kinetic tests) could be developed to refine the understanding of the environmental geochemistry of the deposit as Project development continues.

Water treatment and discharge is currently managed for closure of the Meridian Beartrack operation. Authorization to discharge effluent from the existing treatment system is allowed under Meridian's IPDES permit being administered by the IDEQ. Renewal of this permit will occur in the near future and it is recommended that the permit renewal be delayed if possible until adequate design parameters are defined and evaluated. Prior to permit renewal detailed analysis should be completed to determine if the discharge would be allowed under the Idaho water quality standards applicable to the receiving water. Results from this study would be used to support the permit renewal application which address the proposed new mine development.

Estimated cost is \$2.9 million.

## **26.6 Engineering Field Studies**

### **26.6.1 Geotechnical and Hydrogeology**

With the information obtained from geotechnical drill holes around the pit, geotechnical studies should be conducted for Beartrack and Arnett with the objective to verify the pit slope angles across the geological profile.

Using the information obtained from additional hydrogeology wells, studies should be performed for Beartrack and Arnett to support the geotechnical studies and provide inputs to a regional dewatering program.

Estimated cost \$0.3 million.



## 26.6.2 Metallurgical Sampling and Testing

Test work including bottle roll tests, FA, soluble AA and the suite of total sulphur (Leco), sulphide carbon and organic carbon plus ICP should be conducted for both Beartrack oxide/transition/sulphide material and Arnett material.

More importantly, long term column leach tests should be conducted on oxide and sulphide material to understand what happens to the material when it is subjected to the washing caused by the leaching above it. This involves two-stage column tests for Beartrack material requiring 365 days and single-stage column test for Arnett requiring 180 days. These tests will be conducted at different crush sizes to determine its combined effect on gold leaching kinetics and acid formation.

Acid-Base-Accounting (ABA) and humid cell tests should be conducted to obtain a better understanding on the potential of mine acid formation from various geological materials and long-term acid generating behaviour of sulphide bearing tailing and waste rocks.

Further investigation into the milling option for Beartrack material should be explored to confirm the recoveries predicted from previous test work as well as proceeding with basic comminution tests. Tests should be conducted on three samples of each material type grading between 1.0 to 2.0 g/t (0.034 to 0.068 oz/ton) generated from intervals of 10 m (32 ft) of half core within the deposit. Tests on these samples should include ICP, total sulphur, sulphide sulphur, carbon total, organic carbon, mercury, comminution testing (SMC, BWi at a closing screen of 106µm (P80 target is 75µm), Cwi) and mill-flotation-POX-flotation tailings leach sequence tests.

Further bulk density determinations on representative rock types at different depths is required at Beartrack, specifically, within the Yellowjacket Formation at Beartrack.

Estimated cost is \$0.5 million.

## 26.7 Pre-Feasibility Study, Preliminary Economic Assessment

In advancing the Project, a pre-feasibility study to further explore heap leach processing of the Beartrack and Arnett material is recommended. Additionally, a preliminary economic assessment investigating the development of a mill for processing sulphide material is also suggested. Engineering recommendations to be incorporated during these studies are included below.

Estimated cost is \$2.0 million.

### **26.7.1.1 Stormwater Management**

A trade-off study should be conducted to optimize the number of stormwater management ponds to most cost-effectively manage runoff from the North Pit, South Pit, Plant Site, and WRF. As part of this trade off study, consideration should be made between treatment rate and pond size.

The future design of the containment structures and associated spillways for the stormwater and HLP ponds, if required, need to consider the Safety of Dams Rules for the state of Idaho (IDAPA 37.03.06).

At both sites, a groundwater characterization study is recommended to assist in determining the amount of groundwater that needs to be collected around and within the pits. This will also aid in assessing the need to treat the groundwater.

### **26.7.1.2 Power Supply and Electrical**

A trade-off study should be conducted to explore and optimize technical options of the site power distribution and utilization once the power capacity available for the site has been confirmed, existing electrical equipment has been evaluated and Project power requirements further defined. The trade-off study shall be based on load flow (voltage drop) and motor starting studies performed for all technical options.

## **26.8 Summary**

The total cost of the recommended work to be completed in order to advance the Project to a pre-feasibility stage is \$17.7 million as detailed in Table 26-2.

**Table 26-2: Total Cost Estimate to Advance the Beartrack Arnett Gold Project**

<b>Area</b>	<b>Cost (\$ M)</b>
Infill and exploration drilling and exploration	9.0
Metallurgical, geotechnical and hydrogeology drilling	1.3
Mineral resource estimate	0.3
Metallurgical and rock characterization test work	0.5
Geotechnical and hydrogeology engineering studies	0.3
Environmental management, planning and baseline studies	2.9
Engineering studies	2.0
Project management and administration	1.5
<b>Total cost for recommended work plan</b>	<b>17.7</b>

## 27.0 References

### 27.1 References

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## 27.2 Abbreviations

ABA	acid base accounting
AIC	all-in costs
AISC	all-in sustaining costs
AMT	alternative minimum tax
ANC	acid neutralizing capacity
ARO	asset retirement obligations
AuCN	soluble gold
AuFN	fire assay
BLM	Bureau of Land Management
BMP	best management practices
CEQ	Council on Environmental Quality
CIC	carbon in column
COG	cut-off grade
CRM	certified reference material
DCF	discounted cash flow
DD	diamond drilling
DDH	diamond drill hole
DM	decision memorandum
DPDP	dipole-dipole
EA	environmental assessment
EIS	environmental impact statement
EPA	environmental protection agency
ESA	Endangered Species Act

EW	electrowinning
FA	financial assurance
FEL	front end loader
FLPMA	Federal land policy management
G&A	general and administrative
GOH	gross operating hours
HLP	heap leach pad
IATF	Inter-Agency Task Force
IDAPA	Idaho Administrative Code
IDEQ	Idaho Department of Environmental Quality
IDL	Idaho Department of Lands
IDWR	Idaho Department of Water Resources
IP	induced polarization
IPDES	Idaho Pollutant Discharge Elimination System
IPDES	Idaho Pollution Discharge Elimination System
IRR	internal rate of return
JRP	Idaho Joint Review Process
LOM	life of mine
LTMM	long-term monitoring and maintenance
MACRS	modified accelerated cost recovery system
ML	metal leaching
NAG	non acid generating
NAPP	net acid producing potential
NCF	net cash flow
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NNS	not enough sample
NOAA	National Oceanic and Atmospheric Administration
NOI	notice of intent
NPDES	National Pollution Discharge Elimination System
NPV	net present value
NSR	net smelter return
OHL	overhead line
OOS	Out-of-Specification
PAG	potentially acid generating
PEA	preliminary economic assessment
PFS	pre-feasibility study
PLS	pregnant leach solution

PoO	Plan of Operations
POX	pressure oxidation
QA	quality assurance
QC	quality control
RBV	recommended best value
RC	reverse circulation
RoD	Record of Decision
SCNF	Salmon Challis National Forest
SD	standard deviation
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TCJA	Tax Cuts and Jobs Act
THH	top head hammer
TSS	total suspended solids
TTC	total cash costs
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USEPA	US Environmental Protection Agency
USFS	US Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VLf	very low frequency electromagnetics
WRF	waste rock facility

## 27.3 Units of Measure

a	annum	m <sup>2</sup>	square metre
cfm	cubic feet per minute	m <sup>3</sup>	cubic metre
cm	centimetre	m <sup>3</sup> /h	cubic metres per hour
cm <sup>2</sup>	centimetre square	Mft <sup>3</sup>	million cubic feet
d	day	mi	mile
ft	feet	min	minute
ft <sup>3</sup> /d	cubic feet per day	mm	millimeter
ft <sup>3</sup> /ton	cubic feet per short ton	Mm <sup>3</sup>	million cubic metres
g	gram	mph	miles per hour
g/L	gram per litre	Mt/yr	million metric tonne per year
g/t	gram per tonne	Mton/yr	million short ton per year
gpm	gallon per minute	MW	megawatt

gpm/ft <sup>2</sup>	gallon per minute per square foot	MWh	megawatt-hour
hp	horsepower	°C	degree Celsius
hr	hour	°C	degree Fahrenheit
Hz	hertz	oz	troy ounce
k	kilo (thousand)	oz/ton	troy ounce per short ton
kcal	kilocalorie	ppm	part per million
kg/d	kilogram per day	s	second
kg/t	kilogram per metric tonne	t	metric tonne
kg/yr	kilogram per year	ton	short ton
km	kilometre	t/d	metric tonne per day
km <sup>2</sup>	square kilometre	t/ft <sup>3</sup>	tonnes per cubic feet
koz	kilo ounce	t/hr	metric tonne per hour
kPa	kilopascal	t/m <sup>3</sup>	tonnes per cubic metre
kt	kilo metric tonnes	t/yr	metric tonne per year
kVA	kilovolt-amperes	tons/d	short ton per day
kW	kilowatt	tons/yr	short ton per year
kWh	kilowatt-hour	V	volt
L	litre	W	watt
L/hr/m <sup>2</sup>	litres per hour per square metre	wt%	weight percent
L/s	litres per second	wt/wt	weight by weight
lb	pound	yd <sup>3</sup>	cubic yard
lb/ft <sup>3</sup>	pound per cubic foot	yr	year
lb/ton	pound per short ton	μ	micron
m	metre	μm	micrometre
M	million		