# Technical Report for the Gladiator Gold Project, Crown King, Arizona

# **Report Prepared for: Gladiator Gold Mines Corp.**

Gladiator Mine Adit



Gladiator Haulage 30lb Rail



Gladiator 560 main Haulage level



Ore cars on the 560 level



Report Prepared by:

Dorian L. (Dusty) Nicol, RG, FAussIMM

October 2021

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**Report Prepared by:** 

Derran L. M.

Dorian L. (Dusty) Nicol Nevada City, California

Effective date: October 18, 2021 Signature date: October 18, 2021

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## 1 Summary

### **1.1** Introduction

The Gladiator Gold Project is a former operating gold mine near Crown King, Yavapai County, Arizona. Gladiator Gold Mines Corp. (GGMC) owns mineral rights over the former operating mine (Gladiator – War Eagle Vein) as well as over other recognized gold-bearing veins within their land package. GGMC intends to advance the project with the objective of re-starting production from the Gladiator and other veins.

The writer was commissioned by GGMC to prepare a NI 43-101 Technical Report on the Gladiator Gold Project.

#### **1.2** Property Description and Location

The Gladiator Gold Mine properties are located about 35 miles (55 kilometers) south of Prescott and approximately 65 miles (100 kilometers) northwest of Phoenix. The project area is in the Bradshaw Mountains, about 7,000 feet (2,130 meters) above sea level.

The Gladiator property comprises both private, patented land and unpatented federal lode claims. The total land package comprises approximately 2,300 acres (about 931.5 hectares), plus about 70 acres (about 28.3 hectares) under mineral lease.

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

The Gladiator Project enjoys easy access. It is accessible by vehicle, via about 30 miles (48 kilometers) of well-graded dirt road from the Bumble Bee / Crown King off-ramp of Interstate Highway17, between Phoenix and Prescott.

Crown King is the closest town to the Gladiator Gold Mine project. The only services available are housing, one store, two bars, and two restaurants. Gasoline can be purchased at the store. The nearest large supply center is Phoenix, about 2 ½ hours away by car. Prescott, which is about 1 ½ hours from Crown King by car, has few mining supplies.

Crown King is served by Arizona Public Service and there is adequate power available in the community. Traditional telephone service is available within the town. Cellular service is very good, providing high quality telephone and data connections both in the community and at the mine site.

Vegetation in the area consists of heavy pine timber, dense stands of scrub oak and cat claw.

At an elevation of 7,000 feet (2,130 meters) above sea level, the climate at the project area is typical of high-desert Arizona, with warm summers and cool winters.

Some of the local labor force has had previous underground mining experience but will require updated MSHA safety training. Supervisory staff and lead miners will need to be sourced out and brought in for the project. Mill operators are available locally and in the Prescott area.

# 1.4 History

The Gladiator Gold Project properties were first discovered and worked in the 1870's. Production has been intermittent between then and the last commercial production in 1988. It is reported that approximately 23,000 ounces of gold and 110,000 ounces of silver have been produced from the Gladiator Gold Project properties. There certainly was significantly more unreported production.

A historic Reserve Estimate, completed in 2010, estimated a Mineral Reserve of 218,220 tons @ 0.430 ounce per ton gold and 2.43 ounces per ton silver, containing 93,937 ounces of gold and 529,663 ounces of silver. This Historic Reserve Estimate is neither a current Reserve Estimate nor a current Resource Estimate in the context of NI 43-101. Neither the QP nor GGMC is treating it as such.

This historic estimate did not include potential extensions to the vein mineralization or other likely exploration targets.

### **1.5 Geological Setting and Mineralization**

The Gladiator Gold Mine properties are located in the Central Arizona Precambrian Schist Belt. The Yavapai Schist, consists of metamorphosed Precambrian sedimentary and igneous rocks which have been crumpled into generally northeastward-trending belts, are cut by various intrusives, and have been subjected to complex faulting.

Gold mineralization at Gladiator is contained in quartz veins within schist, granite, and granodiorite. The veins are locally lenticular but in general persistent and straight with clearly defined footwall and hanging wall contacts. Gangue mineralogy comprises massive to drusy milky-white quartz, locally with carbonates including ankerite. The veins are almost always oxidized at surface to a depth of 50 - 70 feet (15 - 21 meters). The oxidized zones are typically rich in free gold and have led to placer (alluvial) gold deposits in parts of the district. Primary mineralization below the oxidized zone contains free gold, electrum, pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, and tetrahedrite. Gold within primary mineralization can occur both as free gold and as sub-microscopic intergrowths in the sulfide crystals.

The Gladiator Vein (and its extension after a fault offset, the War Eagle Vein) typically varies in width from about 3 feet to over 5 feet, averaging about 4 feet (0.9 meters to over 1.5 meters, averaging about 1.2 meters). Grades can exceed 1 ounce per ton (opt) gold. Average vein grades according to historical sampling are about 0.434 opt gold and 2.42 opt silver. The vein strikes north northeast to south southwest and dips steeply (about 65 degrees) to the west. It appears to be remarkably continuous and planar. Ore shoots are reported to have an oblique rake within the planar vein structure, as is common in this type of mineralization.

The Fairview vein, some 500 feet to the east, roughly parallels the Gladiator Gold Mine vein. Exploration efforts to date have all been positive in demonstrating a plus 0.6 opt gold mineralization for a strike length of nearly 300 feet and a down-dip extension of 150 feet. This vein is the next most promising prospect outside of the Gladiator and can most likely be developed from the 560 -level development.

To date, nine distinct gold veins have been identified in the project area:

- 1. Gladiator War Eagle Vein
- 2. Fairview Vein

Gladiator Gold NI 43-101

- 3. Lincoln vein
- 4. Pelican Vein
- 5. Gold King Vein
- 6. Bat Vein
- 7. Crown King Vein
- 8. Spring Green Vein
- 9. Del Pasco Vein

These also have reasonably good potential for developing additional gold reserves. Past production and extent and gold grades of the various vein systems indicate that the potential for additional precious metal deposits district wide remains high.

# **1.6 Deposit Types**

Mineral deposits at the project are classed as mesothermal gold-silver quartz veins, locally also containing base metals.

### 1.7 Mineral Processing and Metallurgical Testing

Gladiator Gold Mines Corp. has undertaken internal laboratory and pilot plant scale testing of the Gladiator mineralization and has concluded that it is amenable to conventional treatment. Results were reported verbally to the Qualified Person by Mister Blair Carson of Gladiator Gold Mines Corp.

Oxide mineralization contains a high proportion of free gold and electrum which reports to a gravity concentrate. This concentrate could be shipped and sold or, alternatively, it could be treated to produce gold doré on site.

Sulfide mineralization also contains free gold and free electrum. The proposed process flowsheet is to produce both a gravity concentrate and one or more gold-rich flotation concentrates for shipment and selling.

More metallurgical test work is required to optimize the flowsheet for the sulfide mineralization.

# **1.8 Mineral Resource and Reserve Estimates**

There are no mineral resources or reserves for the Gladiator Project that comply with the definitions and requirements of NI 43-101.

# 1.9 Project Infrastructure

There is a significant amount of infrastructure already at site.

Underground access and workings are reported to be clean and in good condition, requiring minimal rehabilitation. The QP was not able to inspect them personally during the site visit due to a lack of safety equipment at site.

An operable mill is at site, with a nominal capacity of 250 tons per day (tpd) comprising:

- Jaw crusher
- Cone crusher
- Ball mill
- 5' x 12' Wilfley Table (for gravity concentration)
- 390 kVA diesel-powered generator

There is also miscellaneous ancillary mill equipment (filters, etc.) at site as well as several flotation tanks.

There is a serviceable office trailer at site.

### 1.10 Environmental Studies, Permitting, and Social or Community Impact

The scope of work did not include a review of required environmental permits to resume production or to conduct the recommended exploration programs. The QP relied on information provided by GGMC in this regard. The QP did not see any evidence of significant environmental liabilities from previous operations.

The Gladiator Mine is still considered an "active mine" by the state of Arizona, which minimizes future permitting requirements in the event of a production restart. The contemplated operation will be underground with a small surface footprint and according to GGMC will be designed as a zero-discharge operation, with underground disposal of tailings.

Based on information provided by GGMC, the QP does not see any significant impediments or time delays in obtaining necessary permits for the recommended exploration programs or for future development or production. It is recommended that a comprehensive study and evaluation of permitting requirements be completed at the appropriate time and before significant further investment in the project.

Conversations of the QP with a few residents of the small community of Crown King indicate that the community would likely welcome re-opening of the Gladiator Mine for the employment and economic opportunities it would bring. There appears to be little if any "anti-mining" in this corner of Arizona.

# **1.11 Interpretation and Conclusions**

The Gladiator Gold Project has an established history of gold production from high-grade veins. Historical and ongoing work, including historic Reserve Estimates, indicate that there remain unmined blocks of high-grade (> 0.5 opt) gold mineralization within the Gladiator Vein. Some of this is at or near surface as oxide and could be amenable to excavating from surface. The remainder is underground and could be amenable to conventional underground mining by shrink stoping or modified shrinking.

There is significant potential to expand the mineralization with exploration, in both the Gladiator (War Eagle) Vein and other veins in the project area. This exploration would be most efficiently carried out with a combination of surface and underground exploration.

Historical production and metallurgical test work carried out by Gladiator Gold Mines Corp. indicate

that oxide mineralization is amenable to gravity concentration while sulfide mineralization is amenable to a combination of gravity and flotation concentration. Further test work is required to validate and refine the proposed process flowsheets.

The Qualified Person believes that the Gladiator Gold Project merits further work with the objective of demonstrating a Mineral Resource and Reserve and assessing the feasibility of re-commencing gold production. A key commercial decision will be establishing what is a minimum Reserve required to justify re-commencing production. Typically, underground vein mines are started with a Reserve of a 2- to 5-year mine life, with the plan to replace depleted Reserve annually.

The writer therefore concludes that the Gladiator Gold Project is a "Property of Merit" which justifies further investment in exploration and development.

#### 1.12 Recommendations

The QP recommends a 2-phase work program to further advance the Gladiator Gold Project. The cost estimates below were developed in conjunction with GGMC.

#### 1.12.1 Phase 1: Trenching/Bulk Sampling of Oxide Mineralization

The purpose of this phase is to assess grade and tonnage of surface oxide mineralization.

An excavator should be used to trench along surface exposures of oxide mineralization (including as a priority the mineralization near the Rattlesnake shaft) to delineate oxide mineralization and estimate grade. In addition to trenching along known mineralization, there are opportunities to trench perpendicular to mineralization (essentially, "surface crosscutting") to explore for oxide additional mineralization at surface. This will likely also generate new exploration targets to be explored from underground.

Gold grade distribution within this oxide zone is reported to be quite erratic (as is normal in the oxide zones of this type of deposit) and it will be difficult to reliably establish the grade by drilling or channel sampling. Several bulk samples obtained with an excavator, however, totaling 6,000 tons (as 6 batches of 1,000 tons each, from different locations) could be run through the mill on site and an average gold head grade could then be calculated from grades of concentrates and tails.

This program would also serve to validate and optimize the processing flow sheet for oxide mineralization.

Assuming a nominal throughput at the mill of 250 tons per day (tpd) and allowing for some down time, this program would require about 8 weeks to complete and has an estimated cost of approximately \$495,000.

Assuming this program is successful both in delineating oxide gold mineralization at and near-surface and treating it to produce a commercial gold concentrate or doré at the on-site mill, GGMC could consider continuing the surface oxide bulk sampling to delineate additional zones of oxide mineralization. In this case, it may be possible to offset some or all of the program's cost by selling the concentrate or doré.

# 1.12.2 Phase 2: Underground Drilling and Sulfide Metallurgy/Development of NI 43-101 Compliant Resource

A Phase 2 program of underground diamond drilling is recommended to delineate subsurface gold and silver mineralization along the Gladiator Vein. The recommended plan, developed in consultation with GGMC, calls for an initial 1,200 meters of underground diamond drilling. The details of the plan will be developed by GGMC, but the objective will be to penetrate the vein at a density sufficient for estimation of a Mineral Resource which can then be the basis for a Mineral Reserve. Nominal drill hole intercept spacing will be about 100 feet (30 meters). This drilling should follow standard QA/QC and other protocols so that the results can be incorporated into a NI 43-101 compliant Mineral Resource Estimate.

This program will likely take about six months to complete and has an estimated cost of about \$1.14 million. Depending on results of the Phase 1 program, it may be desirable to continue the oxide bulk sampling as an additional component of Phase 2.

# 2 Introduction

The Gladiator Gold Project is a former operating gold mine near Crown King, Yavapai County, Arizona. Gladiator Gold Mines Corp. (GGMC) owns mineral rights over the former operating mine (Gladiator – War Eagle Vein) as well as over other recognized gold-bearing veins within their land package. GGMC intends to advance the project with the objective of re-starting production from the Gladiator and other veins.

This Technical Report was prepared following the guidelines of Canadian National Instrument 43-101 (NI 43-101): *Standards of Disclosure for Mineral Projects* and Form 43-101F1: *Technical Report and Related Consequential Amendments*.

This Technical Report summarizes information available on the Gladiator Gold Project and demonstrates that the project qualifies as a "Property of Merit" meriting further investment. In the opinion of this writer (the Qualified Person or QP), this project warrants further exploration and development expenditures. An exploration work program is recommended comprising bulk sampling of oxide mineralization at surface and underground drilling of sulfide mineralization with the objective of establishing a NI 43-101 compliant Mineral Resource as the basis for an eventual Mineral Reserve. In conjunction with this exploration work, further metallurgical test work should be undertaken to optimize the proposed processing flowsheet.

#### 2.1 Scope of Work

The scope of work as defined by agreement in October 2021 between the QP and GGMC includes the preparation of an independent Technical Report in compliance with NI 43-101 and Form 43-101F1 guidelines. This work has comprised the following aspects:

- Review of available geologic data.
- Site visit.
- Review of exploration data.
- Review of infrastructure.
- Review of processing information.
- Compiling of report.

The scope of work did not include an independent review of mineral title. The QP relied on information

provided by GGMC for this purpose.

The scope of work did not include any confirmatory sampling or assay.

The scope of work did not include a review of required environmental permits to resume production or to conduct the recommended exploration programs. The QP relied on information provided by GGMC for this purpose.

# 2.2 Timing

Data review commenced during the week of October 4, 2021. The site visit was completed on October 7, 2021, and the report was written during the following week.

## 2.3 Sources of Information

The QP relied on internal data and reports provided by GGMC and on published literature, as listed in the References section of this report.

# 2.4 Qualifications of the QP

The writer, Dorian L. (Dusty) Nicol is a Qualified Person in the context of NI 43-101. He is a Fellow of the Australasian Institute of Mining and Metallurgy (Fellow # 306773), a Registered Geologist in the State of Wyoming (PG-3006), and a Registered Member of the Society of Mining Engineers of the American Institute of Mining Engineers (# 2370312). The QP has over 45 years of experience in minerals exploration, including extensive experience throughout the world on gold deposits of similar type to those of the Gladiator Project, including on similar projects within the state of Arizona.

### 2.5 Declaration

The QP is not an insider, associate, or an affiliate of GGMC and has not acted as an adviser to GGMC in connection with this project. The results of the QP's technical review of the project are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed agreements or understandings between the QP and GGMC concerning any future business dealings.

# 2.6 Units Used in this Report

- Dollars (\$) refer to United States dollars.
- Tons are short tons (2,000 pounds).
- Ounces are troy ounces (31.103 grams).
- Ounces per ton (opt) refer to troy ounces per short ton.

# **3** Reliance on Other Experts

The Qualified Person relied extensively on information provided by Mr. Blair Carson of Gladiator Gold Mines Corp. in preparing this report. Information thus provided included written records and reports as well as information provided verbally before, during, and after the Qualified Person's site visit.

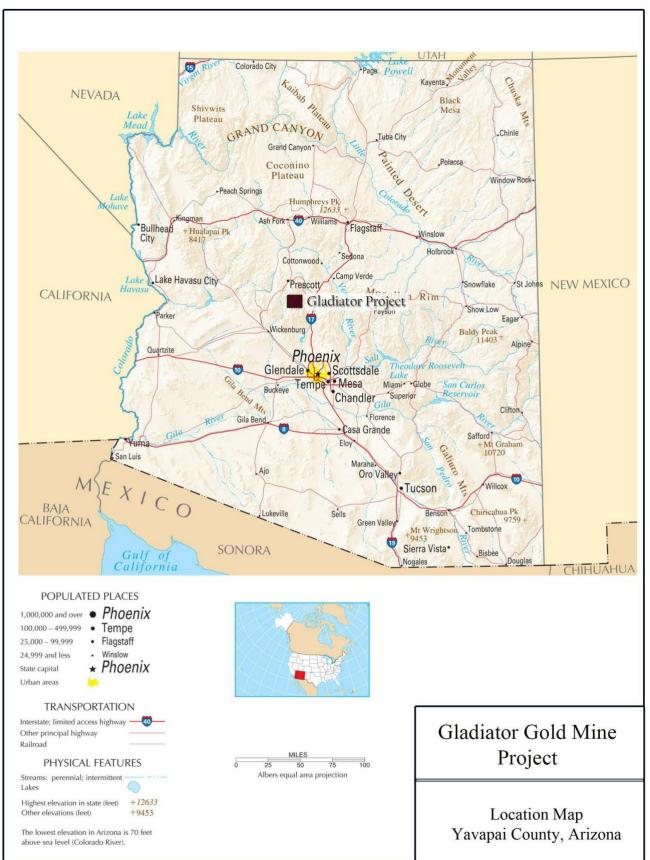
The Qualified Person understands that this is the first Technical Report for the Gladiator Project to be prepared according to the disclosure standards and requirements of NI 43-101. It is further understood that no report or estimation for the Gladiator Project has been prepared according to other international reporting standards by other experts or Qualified Persons.

The Qualified Person has not performed an independent verification of land title and tenure (as discussed in Section 4 of this report) nor has he verified the legality or validity of any underlying agreements that may exist between third parties, but has relied on information provided by Mr. Carson of Gladiator Gold Corp.

#### 4 **Property Description and Location**

The Gladiator Gold Mine properties are located about 35 miles (55 kilometers) south of Prescott and approximately 65 miles (100 kilometers) northwest of Phoenix. The project area is in the Bradshaw Mountains, about 7,000 feet (2,130 meters) above sea level.

Figure 1, below, illustrates the project location.



#### Figure 1 Location Map

The Gladiator property comprises both private, patented land and unpatented federal lode claims. The total land package at present comprises approximately 2,300 acres (about 931.5 hectares).

GGMC controls the mineral rights via agreement with the underlying owners, Nor-Quest Arizona, Inc. There are no annual lease payments, but there will be a production royalty of \$10 / ounce of gold produced, capped at \$1 million.

The group of patented claims is known to Yavapai County as **Parcel: 204-04-003 0** owned byNor-Quest Arizona, Inc.

The following table lists these patented claims:

Table 1         List of Patented Claims				
Claim Name	Yavapai CountyBook 0f Deeds	Page		
War Eagle	10	595		
1st N. Extension of War Eagle	10	599		
2nd N. Extension of War Eagle	10B	378		
3rd N. Extension of War Eagle	10	42		
Gladiator	10	410		
Magnet	41	410		
Magnet No. 2	67	494		
Charleston	67	494		
Monitor	67	494		
Lone Jack	67	494		
Merrimac	67	494		
Olympia	67	494		

Table 1List of Patented Claims

The following Table lists the unpatented lode claims comprising the remainder of the Gladiator Project:

 Table 2
 List of Unpatented Lode Claims

Serial No.	Claim Name/Number	Lead Serial No.		
AMC383274	BOOM 4	AMC383274		
AMC383275	BOOM 5	AMC383274		
AMC383276	BOOM 6	AMC383274		
AMC383277	BOOM 8	AMC383274		
AMC383278	BOOM 9	AMC383274		
AMC383279	BOOM 11	AMC383274		
AMC383280	BOOM 12	AMC383274		
AMC383281	BOOM 13	AMC383274		
AMC383282	KIKI 1	AMC383274		
AMC383283	KIKI 2	AMC383274		
AMC383284	KIKI 3	AMC383274		
AMC383285	KIKI 4	AMC383274		

Serial No.	Claim Name/Number	Lead Serial No.		
AMC383286 KIKI 5		AMC383274		
AMC383287	KIKI 6	AMC383274		
AMC383288	KIKI 7	AMC383274		
AMC383289	KIKI 8	AMC383274		
AMC383290	KIKI 9	AMC383274		
AMC402576	BUDDY 1	AMC402576		
AMC402577	DEL PASCO #1	AMC402576		
AMC402578	DEL PASCO #2	AMC402576		
AMC402579	DEL PASCO #3	AMC402576		
AMC402580	DEL PASCO #4	AMC402576		
AMC402581	DEL PASCO #5	AMC402576		
AMC402582	DEL PASCO #6	AMC402576		
AMC402583	DEL PASCO #7	AMC402576		
AMC402584	DEL PASCO #8	AMC402576		
AMC402585	DEL PASCO #9	AMC402576		
AMC402586	DEL PASCO #10	AMC402576		
AMC402587	DEL PASCO #11	AMC402576		
AMC402588	DEL PASCO #12	AMC402576		
AMC402589	DOUGLAS FIR	AMC402576		
AMC402590	DOUGLAS FIR 2	AMC402576		
AMC402591	EMMA	AMC402576		
AMC402592	EMMA ANNEX	AMC402576		
AMC402593	ET 1	AMC402576		
AMC402594	ET 2	AMC402576		
AMC402595	ET 3	AMC402576		
AMC402596	ET 4	AMC402576		
AMC402597	ET 5	AMC402576		
AMC402598	ET 6	AMC402576		
AMC402599	ET 7	AMC402576		
AMC402600	ET 8	AMC402576		
AMC402601	FARES	AMC402576		
AMC402602	NQAG 1	AMC402576		
AMC402603	NQAG 2	AMC402576		
AMC402604	NQAG 3	AMC402576		
AMC402605	NQAG 4	AMC402576		
AMC402606	NQAG 5	AMC402576		
AMC402607	NQAG 6	AMC402576		
AMC402608	NQAG 7	AMC402576		
AMC402609	NQAG 8	AMC402576		
AMC402610	NQAG 9	AMC402576		
AMC402611	NQAG 10	AMC402576		

Serial No.	Claim Name/Number	Lead Serial No.
AMC402612	NQAG 11	AMC402576
AMC402613	NQAG 12	AMC402576
AMC402614	NQAG 13	AMC402576
AMC402615	NQAG 14	AMC402576
AMC402616	NQAG 15	AMC402576
AMC402617	NQAG 16	AMC402576
AMC402618	NQAG 17	AMC402576
AMC402619	NQAG 18	AMC402576
AMC402620	NQAG 19	AMC402576
AMC402621	NQAG 20	AMC402576
AMC402622	NQAG 21	AMC402576
AMC402623	NQAG 24	AMC402576
AMC402624	NQAG 25	AMC402576
AMC402625	NQAG 26	AMC402576
AMC402626	NQAG 27	AMC402576
AMC402627	NQAG 28	AMC402576
AMC402628	NQAG 29	AMC402576
AMC402629	NQAG 30	AMC402576
AMC402630	NQAG 31	AMC402576
AMC402631	NQAG 32	AMC402576
AMC402632	NQAG 33	AMC402576
AMC402633	NQAG 34	AMC402576
AMC402634	NQAG 36	AMC402576
AMC402635	NQAG 37	AMC402576
AMC402636	NQAG 38	AMC402576
AMC402637	NQAG 39	AMC402576
AMC402638	NQAG 40	AMC402576
AMC402639	NQAG 42	AMC402576
AMC402640	NQAG 43	AMC402576
AMC402641	NQAG 44	AMC402576
AMC402642	OUTER ET	AMC402576
AMC402643	SILVER LINK 1	AMC402576
AMC402644	SILVER LINK 1 EXT	AMC402576
AMC402645	SILVER LINK 2	AMC402576
AMC402646	SILVER LINK 3	AMC402576
AMC402647	SILVER LINK 4	AMC402576
Number of Claims: 89		

In addition, GGMC currently has approximately 70 acres (about 28.3 hectares) under Mineral Lease on the Fairview Group of Mineral Claims, of which approximately 12 acres (about 4.9 hectares) are currently still under negotiations through Nor-Quest Resources. The lease terms comprise an annual lease payment of \$1,500 per acre and a 1.5% net smelter royalty (NSR) payable on future production.

GGMC may acquire additional patented lands for its proposed mining activities.

Figure 2, below, shows the land holdings comprising the Gladiator Project.

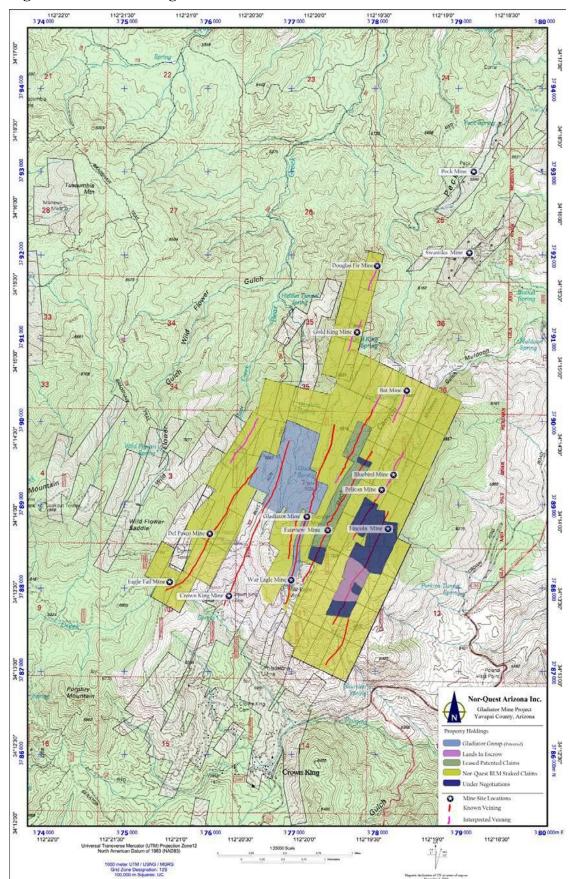


Figure 2 Land Holdings

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

The Gladiator Project enjoys easy access. It is accessible by vehicle, via about 30 miles (48 kilometers) of well-graded dirt road from the Bumble Bee / Crown King off-ramp of Interstate Highway17, between Phoenix and Prescott. This graded road partially follows the old Prescott and Eastern Railroad grade which ran from Mayer to Crown King.



#### Figure 3 View of Bradshaw Mountains from Road to Crown King

The railroad was constructed in 1904 by Frank Murphy, a mining and railroad promoter of the era. It served the community until 1925 when the tracks were torn out during the recession of that decade.

Although well graded, the steepest grade being about 6%, it is narrow and there are several switchbacks. From Crown King the properties can be reached by 3 miles of very narrow steep dirt road that is reasonably well maintained to service the recreational and mining traffic in the district. Access to the project site is good and the roads can be travelled year-round with only seasonal maintenance.

The Gladiator Mine Road upgrade, maintenance and dust abatement is handled by the local Crown King Roads Department and will be funded by corporate donation. There are several local contractors who are equipped with small loaders, backhoes, dozers, graders, and a fleet of well-used dump trucks, available to maintain non-public mine access roads when needed.

Crown King is the closest town to the Gladiator Gold Mine project. In the early 1900's the town served as the center of activities for the mining operations in the surrounding districts. At present, it is primarily a recreational community. The only services available are housing, one store, two bars, and two restaurants. Gasoline can be purchased at the store. The community also has a fire station and a Forest Service work camp.

The nearest large supply center is Phoenix, about  $2\frac{1}{2}$  hours away by car. Prescott, which is about  $1\frac{1}{2}$  hours from Crown King by car, has few mining supplies.

Crown King is served by Arizona Public Service and there is adequate power available in the community. Traditional telephone service is available within the town. Cellular service is very good, providing high quality telephone and data connections both in the community and at the mine site. There is also high-speed internet available by microwave receiver at a reasonable cost. The General Store also serves as a U.S. Post Office. Water is supplied to the community by two independent water companies. This source of water for the community is sourced from flooded old mine shafts in the area.

Vegetation in the area consists of heavy pine timber, dense stands of scrub oak and cat claw. Previous operators of the property have used the local timber for the few required mine supports. Timber has been obtained locally from two sources in the past. Both are still available and can provide good pine at reasonable prices and will deliver to the site.

At an elevation of 7,000 feet (2,130 meters) above sea level, the climate at the project area is typical of high-desert Arizona, with warm summers and cool winters. Summer high temperatures in the nearby city of Prescott, about 2,000 feet (600 meters) lower in elevation average about 86 degrees Fahrenheit (30 degrees Celsius). During winter, nighttime lows often fall below freezing, but daytime highs average in the low 50s Fahrenheit (about 11 -12 degrees Celsius). There are two distinct periods of precipitation: during the winter months November through April, when snow is common at the site, and during the summer rainy or "monsoon" season, typically July-August. Winter snow is occasionally heavy at site, but sunny and relatively warm days usually lead to fairly rapid melting.

Some of the local labor force has had previous underground mining experience but will require updated MSHA safety training. Supervisory staff and lead miners will need to be sourced out and brought in for the project. Mill operators are available locally and in the Prescott area.

### 6 History

# 6.1 **Operating History**

The Gladiator Gold Mine properties were first discovered and worked in the 1870's when a small, but unrecorded, amount of high-grade gold ore was produced under extremely adverse conditions. The property was located in a particularly remote district and ore had to be shipped out by burro for nearly 50 miles. The mine was too remote and inaccessible to operate profitably at that time and the original operations ceased, awaiting better access. The mine was reopened in the 1890's when the first road was built into the area. A small stamp-mill was brought in by wagon train. The mine and mill were then operated with limited water which was pumped from local creeks.

Recovery by amalgamation was poor and the mine and mill shut down again about1900.

In 1902 the property was acquired by Moores and Maguire under bond and lease. Both men were experienced in mining operation and about \$ 25,000 was invested in the reopening of the property. They rebuilt the road, erected new buildings, and equipped the mine with two compressors, which delivered 400 cubic feet of air. Within a short time, they had mined and shipped 5,155 tons of ore valued at \$ 20 per ton under the prevailing prices at that time, when gold was valued at \$20 per ounce. The ore was shipped to the smelters at Hayden, Magma and to El Paso, Texas. Ore was hauled by wagon to the railhead at Mayer and shipped from there to designated smelter. With a gold price of \$ 20.00 per ounce,

they did little more than break even on the venture. Realizing that the only chance for a reasonable profit was to construct a local mill, they had flotation tests of the ore performed by the Minerals Separation Company. The tests showed that an iron-concentrate could be made at site with a concentration ratio of 4 to 1 and recovery of 93%. Further testing indicated that most of the iron could be dropped with a resulting concentration of 15 to 1 and recovery held at slightly less than 90% for the contained gold and silver.

The local water supply was judged insufficient to run a 50-ton mill. The operators did not have enough money to construct either the mill or a pipeline to the property. They then placed the property on the market for \$ 200,000.

In August of 1926 the property was visited by D.M. Barringer, Jr., a well-known Mining Engineer of the period. At that time the property was leased by Fike and Starbird from the owners.

At that time, the mineralization was accessed by a single adit about 1,900 feet long. It ran as a crosscut for about 500 feet, where it encountered the vein. A short drift ran North at this point and the main heading ran South, following the vein for 1,400 feet.

Close to the intersection of the vein with the adit there was extensive stoping. The stopes were inaccessible, but it was known that they connected with the surface by the large amount of air that was circulating through the openings. At this point there was about 400 feet of back (roof) above the adit. A 25-foot pillar between two stopes at this point showed the vein to be between 18 and 24 inches in width and contained lead, zinc, and iron sulfides. At that time, Fike and Starbird were proposing to mine the pillar if they could obtain sufficient equipment.

In the late 1930's the property was leased from the owners by C. Moores, a well experienced mine operator of the period. With the help of his family and Anthony Bennett, an experienced mining engineer, the mine was operated from 1937 to 1942. It is for this period that a summary of the smelter shipments is available. During that period, they shipped a total of 21,961 tons for which they received slightly over one million dollars. With the proceeds they paid the bills, returned a royalty to the owner, and made a reasonable profit. They continued to operate the mine during the Second World War and leased a mill at Turkey Creek where the ores were milled. No production records are available for this time. When operations were suspended after the war the operators owed the owner \$ 30,000 to complete purchase of the mine. According to Mrs. A. Bennett, a daughter of Moores, they borrowed the \$ 30,000 on their life insurance policies and completed the purchase.

From 1947 to 1980 the property was not explored. In March of 1980, the property was leased by Anthony N. Bennett, Sophoronia Moores Bennett, Charles Forbes Moores, Vera Moores, and Elizabeth B. Maguire to John Warsing. Warsing re-opened the adit and explored the property, apparently attempting to promote the property to a larger company. They failed to make the necessary payments and the option reverted to the owners.

In 1981 the property was leased to Noranda Exploration Company. During a six-month period, they completed a drilling program and thoroughly sampled the surface for geochemical anomalies. During this period most of the larger mining companies had suffered a deep economic recession. Companies depended on base metal mining profits to fund their exploration efforts and as a result had to reduce their programs. In March of 1982 Noranda returned the property to the owners.

Negotiations with the owner by Nor-Quest Arizona, Inc. (Nor-Quest) were undertaken as soon as information on the Noranda program became available.

Nor-Quest obtained a lease and option in 1983 and continued the exploration program begun by Noranda. After surface drilling and underground sampling indicated favorable down-dip extensions of the known ore zones, Nor-Quest exercised their option and acquired the project. The lower 560 level adit was widened to accommodate new production. A 120 ton per day gravity flotation processing plant was constructed below the portal and new wells were drilled to supply increased water demands. Underground development began as traditional shrink stoping but was converted to a modified shrink to allow for greater mining selectivity. Production began in earnest in 1986 concurrent with mine development and continued through 1988 when the mine was put on care and maintenance due to economic reasons.

In 1996 the project was optioned by New Westwin Ventures Inc. and additional drilling was conducted. Additional ore was delineated and blocked out, but the company failed to meet its obligations to Nor-Quest.

Nor-Quest, under new management in 2011, acquired additional BLM mineral claims and secured additional patented land by way of purchase and lease. Additional work was conducted on the oxide zone of the Gladiator Mine and a phased approach was adopted to bring the project back into production. The company conducted metallurgical /mineralogical test work and development mining to determine which mining technique best suited for the oxide zone. A 30-ton bulk sample was processed at a local facility to validate the processing flowsheet.

In 2016 GGMC finalized negotiations with Nor-Quest for exclusive rights to the minerals on all property that Nor-Quest has in Yavapai County. GGMC has further advanced the project to limited production from the oxide zone.

#### 6.2 Historical Exploration

Through its early history, various owners and operators carried out exploration by the traditional methods of the time: surface prospecting and underground exploration by drifting.

During 1981 – 1982, Noranda Exploration Company carried out a campaign of surface drilling (Five drill holes, totaling 1,844 feet, or about 562 meters) which confirmed the underground extension of vein mineralization. Noranda appeared focused, however, on an exploration model targeting syngenetic volcanogenic massive sulfides and returned the project to the owners when their exploration failed to validate this target concept. Noranda did identify an exhalative horizon in the Precambrian schist that was a possible host for volcanogenic mineralization but concluded there was no significant such mineralization on the property. Interestingly, and of relevance to the potential of the vein mineralization at the Gladiator Project, Noranda concluded that gold and silver mineralization on the property was associated with Laramide-age veins and concluded that these veins frequently contained over 1 ounce per ton gold and over 5 ounces per ton silver (Dennis and Donnelly, 1982).

Nor-Quest spent over \$ 11 million on the project in the 1980's, principally on drilling, sampling, and underground development drifting. Nor-Quest drilled 16 surface drill holes, in fences at 100-foot (30-meter) spacing along strike, targeting 50-foot (15-meter) intercepts along dip of the vein. This drilling campaign confirmed extensions of the Gladiator Vein. Some representative cross-sections are attached in the section on Historical Resource and Reserve Estimates.

Since the last Nor-Quest exploration, work on the property has consisted mostly of confirmatory sampling, principally of oxide mineralization at the surface, pilot scale production through the on-site

mill, and recalculation and optimization of historic reserve estimates.

#### 6.3 Historical Production

The following is an estimate of the past production of the Gladiator Gold Mine Properties, extracted from data compiled by GGMC.

Period		Quantity
1870 to 1880	Discovery	3,000 oz. gold
1900 to 1920	Crown King Railroad	3,000 oz. gold
1937 to 1942	Moores and Maguire	11,795 oz. gold 105,235 oz. silver
1942 to 1946	Bennett and Moores	3,000 oz. gold
1986 to 1988	Nor-Quest Arizona Inc.	1800 oz. gold 5400 oz. silver

 Table 3
 Historic Production from Gladiator Vein

The Gladiator property is located central to the Peck, Pine Grove and Tiger Mining districts. According to Elsing and Heineman in Bulletin 140 of the Arizona Bureau of Mines these districts have the following recorded production up to 1936 (Elsing and Heineman, 1936):

Table 4	Adjacent Districts Historic Production
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District	Copper (pounds)	Lead (pounds)	Gold (ounces)	Silver (ounces)
Pine Grove	400,000	NA	73295	235,858
Peck	18,200,00	250,000	12,095	2,075,000
Tiger	200,000	100,000	33,382	1,507,142
Total	18,800,000	350,000	118,772	3,818,000

Elsing and Heineman acknowledge that much of the early production was not reported and their estimate does not include the early years of mine production. This estimate also does not include the production of the late 1930's, the war years, nor the recent production from the district. These production estimates can therefore certainly be considered conservative.

The mining method previously used was conventional shrink stoping. The wall rocks and the vein are quite competent, and the old stopes are standing open with occasional sprag supports.No other support system is in evidence other than the chute and shaft timbers.

The stopes were generally mined to the width of the vein and there is little evidence of overbreakor spalling of the walls.

Where the Qualified Person observed the Gladiator vein at surface, it has sharp contacts with the wall rock on both the hanging wall and the footwall. The vein is visually distinct in both color and texture and is easily identifiable.

Most of the ores mined from the Gladiator Gold Mine properties were shipped directly to smelters. The only known treatments at site were the stamp milling operation on the original operations during the 1890's and the milling done by Anthony Bennett during World War II. Nothing is known of the original stamp milling process although parts of the old stamp mill are now located in the Mill restaurant in Crown King. There are essentially no tailings left from this operation. Apparently Moores and Macguire shipped the tailings to the smelter during the late 1920's or possibly the early 1930's.

#### 6.4 Historical Resource/Reserve Estimates

The Qualified Person is not aware of any historical Resource estimates conducted on the Gladiator project. In 1984, as part of a Feasibility Study entitled the "Mason Coggin Feasibility Study" Nor-Quest estimated Mineral Reserves at the Gladiator Vein (Nor-Quest, 1984). This estimate is discussed below.

The basis for this historic Gladiator Gold Mine ore reserve estimate is the exploration activities in the Mason Coggin Feasibility (Nor-Quest, 1984). This estimate was generated from two episodes of diamond drilling (by Noranda in 1981 and by Nor-Quest in 1983) and two underground sampling programs (in 1942 and 1984). The "Proven" ore category in this estimate is defined by polygon outlines of 50 feet "in any given direction". These were diluted with waste to a <u>4.5-foot</u> width. In all cases, a tonnage factor of <u>10 cubic feet per ton was used</u>.

Subsequent mining experience with development sampling and drilling by Nor-Quest (during 1986-88) modified these reserves to reflect actual dilution, ore density, and specific mining methods. The minimum mining width was found to be 3.5 feet (about 1.1 meters) and the tonnage factor to be <u>12 cubic</u> <u>feet per ton</u>. As the mining plan developed, the stope outlines included areas previously not classified but within identified ore shoots.

The "probable" (or indicated) ore category extended the reserves an additional 50 feet (about 15.25 meters) beyond the "proven" and the "possible" (or inferred) another 50 feet beyond that. All these reserves were deemed to be "mineable" in that they were above existing or projected development levels and within known ore shoots.

Underground development drilling in the "B" and "C" ore zones indicated several ore-bearing vein structures parallel to the main Gladiator vein. Whereas these hanging wall and footwall structures were not as well-developed or continuous as the main vein, they represented significant additional tonnages that could be mined.

The 1996 drilling and sampling program was successful in adding new tonnages to the ore reserve. Significantly, the "D" zone was recalculated using four new ore intercepts along with a new zone along the Spring Green vein to the west. In addition, the Gladiator Vein surface trace was sampled intending to demonstrate a potential for a limited amount of early mill feed tonnage.

The results of the drilling combined with historical production records, results of previous sampling programs, and the subsequent mining experience provided the basis for the most recent Nor-Quest Reserve Estimate, performed by Jim Park in 2010 (Park, 2010). This Historic Reserve Estimate appears as Table 5, below.

The writer of this report considers that this Reserve Estimate may be considered as roughly analogous to a Resource Estimate, with the Reserve categories of Proven, Probable, and Possible roughly corresponding to the Resource categories of Measured, Indicated, and Inferred respectively. The Reserve Estimate was done by polygonal estimation based on underground and surface drilling and

20

underground channel sampling. Given the sharp contacts between ore and waste in this deposit, the geometry of the mineralization, the observation that "reserve" blocks appear to occupy 100% of the vein volume identified, the Qualified Person considers it a reasonable conclusion that a contemporaneous Resource Estimate would not have differed significantly from this Reserve Estimate.

This Historic Reserve Estimate is neither a current Reserve Estimate nor a current Resource Estimate in the context of NI 43-101. Neither the QP nor GGMC is treating it as such.

Proven Ore	Tons	Grade Auopt	Grade Agopt	Ounces Au	Ounces Ag	Level
"A"	19,740	0.420	2.61	8,290.80	51,521.40	Above the 750L
"B"	21,875	0.360	2.99	7,875.00	65,406.25	560-750 L
"C"	10,249	0.420	1.10	4,304.58	11,273.90	560-750 L
"D"	23,306	0.542	1.64	12,631.85	38,221.84	380-560 L
Broken ore (In Stopes)	5,500	0.310	1.08	1,705.00	5,940.00	Above the 560 L
Spring Green Vein	7,590	0.301	6.59	2,284.89	50,018.10	Above the 750 L
Fairview	16,042	0.500	2.00	8,021.00	32,084.00	560 L to surface
Proven ore Total:	104,302	0.433	2.44	45,112.82	254,465.49	All Classes

#### Table 5 Historic Reserve Estimate - Proven Ore

 Table 6
 Historic Reserve Estimate - Probable Ore

Probable Ore	Tons	Grade Auopt	Grade Agopt	Ounces Au	Ounces Ag	Level
"A"	41,260	0.329	1.38	4,691.54	19,678.80	Above the 750L
"B"	8,326	0.360	2.99	2,997.36	24,894.74	560-750 L
"C"						560-750 L
"D"	15,214	0.382	3.49	5,811.75	53,096.86	380-560 L
Crown Pillar	6,927	0.401	2.62	2,777.727	18,148.74	To a 10' depth
Spring Green Vein	4,700	0.301	6.59	1,41.70	30,973.00	Above the 750 L
Fairview	43,846	0.500	2.00	21,932.00	87,692.00	560 L to surface
Proven ore Total:	93,273	0.425	2.51	39,625.07	234,484.14	All Classes

#### Table 7 Historic Reserve Estimate - Possible Ore

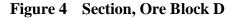
Possible Ore	Tons	Grade Auopt	Grade Agopt	Ounces Au	Ounces Ag	Level
"D"	7,200	0.344	1.92	2,476.80	13,824.00	380-560 L
Fairview	13,445	0.500	2.00	6,722.50	26,890.00	560 L to surface
Proven ore Total:	20,645	0.446	1.97	9,199.30	40,714	All Classes

 Table 8
 Historic Reserve Estimate - Total Mineable Reserves

Ore	Tons	Grade Auopt	Grade Agopt	Ounces Au	Ounces Ag
Grand Total: All Classes	218,220	0.430	2.43	93,937.2	529,663.6

There follow several representative cross-sections illustrative of the mineralization used in the Reserve Estimation.

The drilling was not exhaustive and there is potential to explore and develop additional reservesbelow Blocks B and D. There is further potential along strike and down-dip from the known workings. To date the Noranda program, the Nor-Quest program and the New Westwin programs are the only ones to have drilled the property. These three programs provided the ore grade intercepts used in the Reserve Estimation.



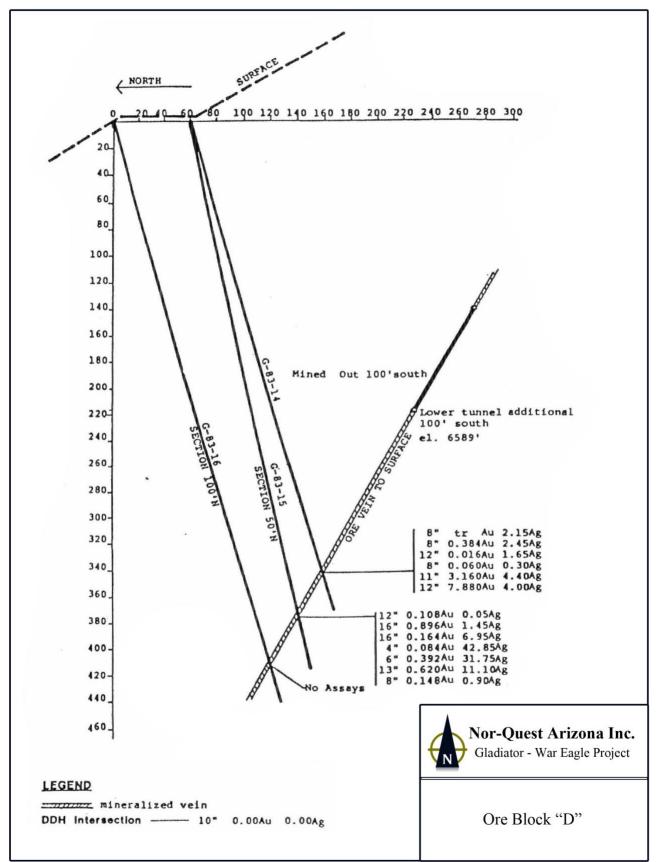


Figure 5 Long Section, Vein

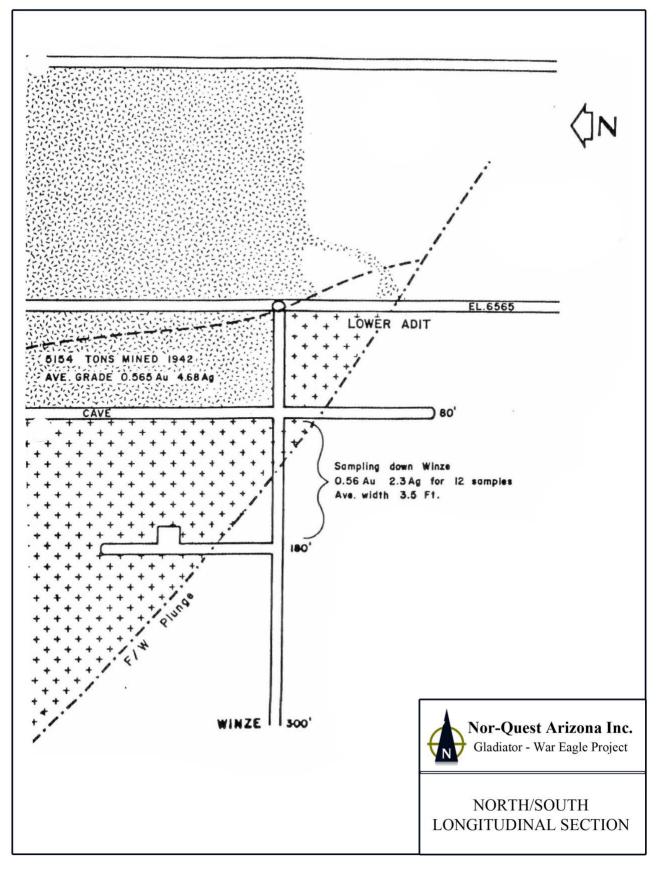
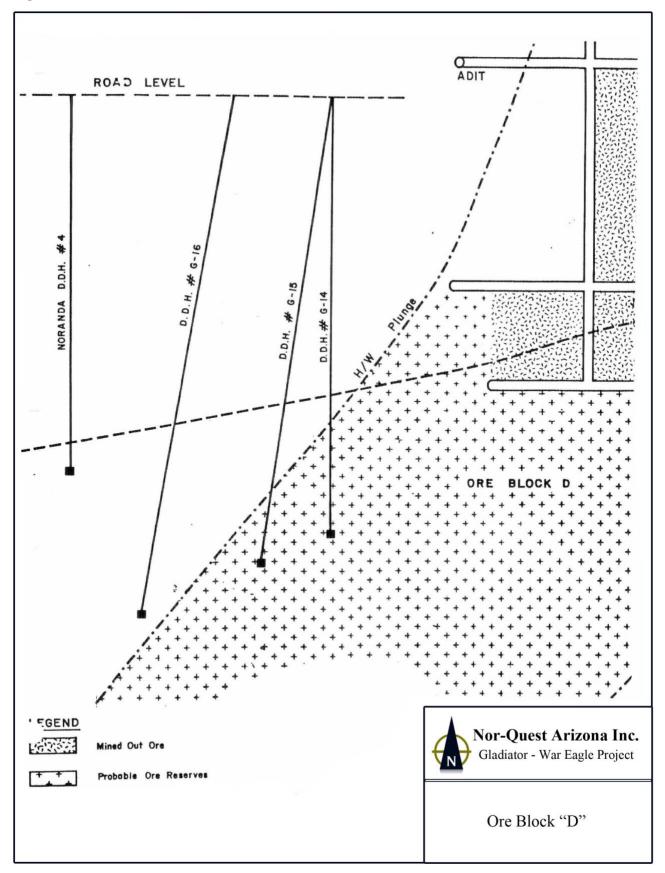


Figure 6 Section, Ore Block D (2)



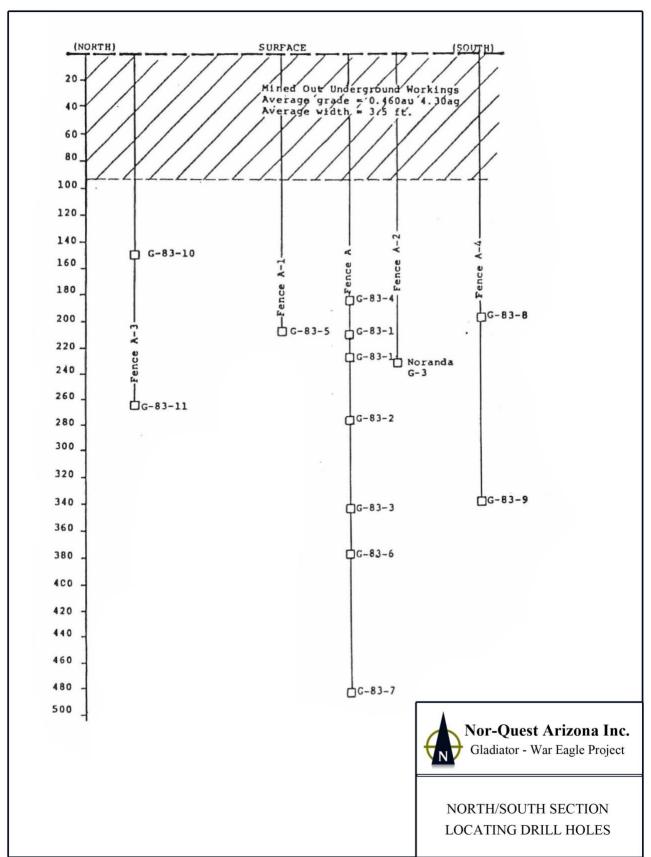
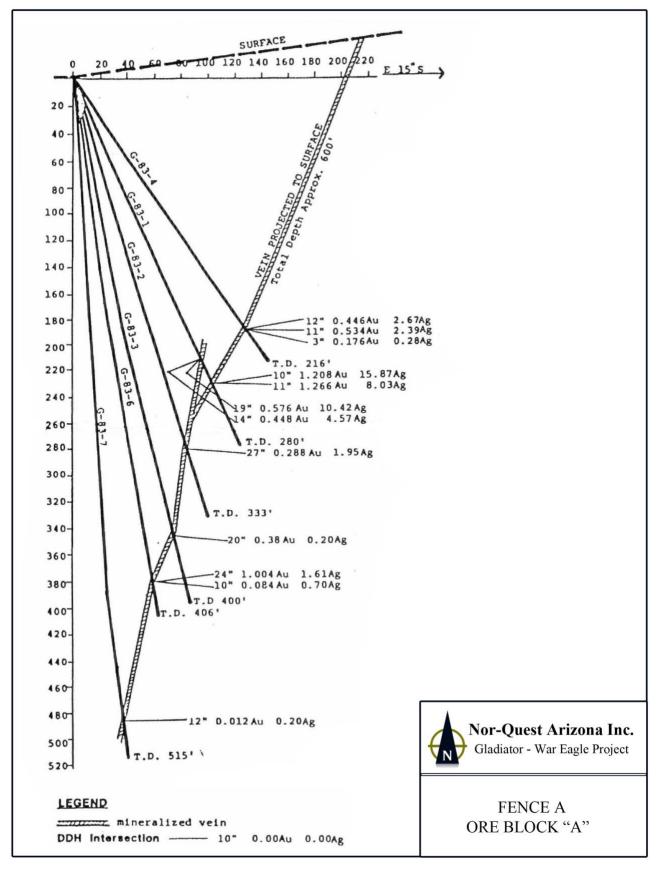
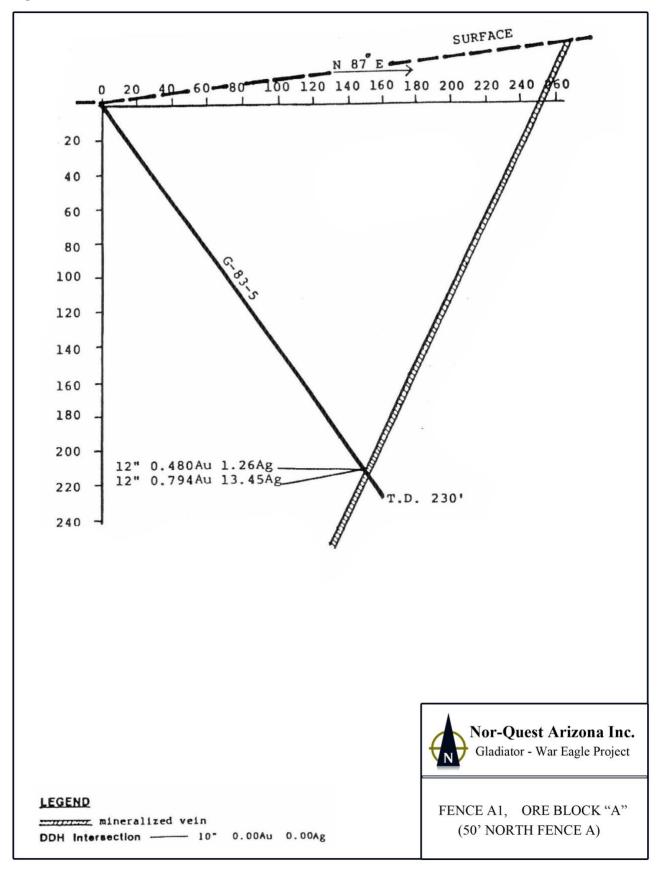


Figure 7 Long Section, Vein (2)

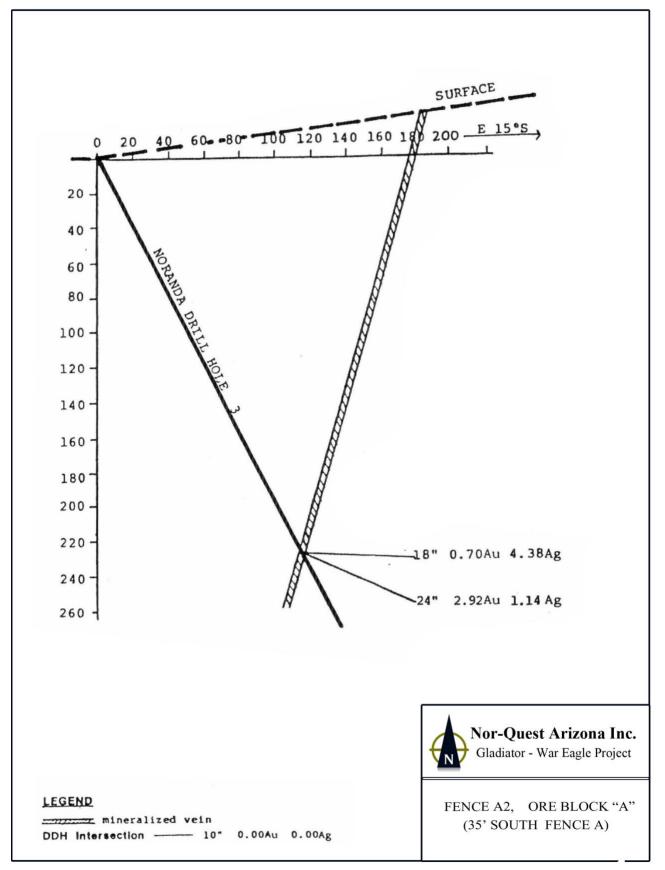




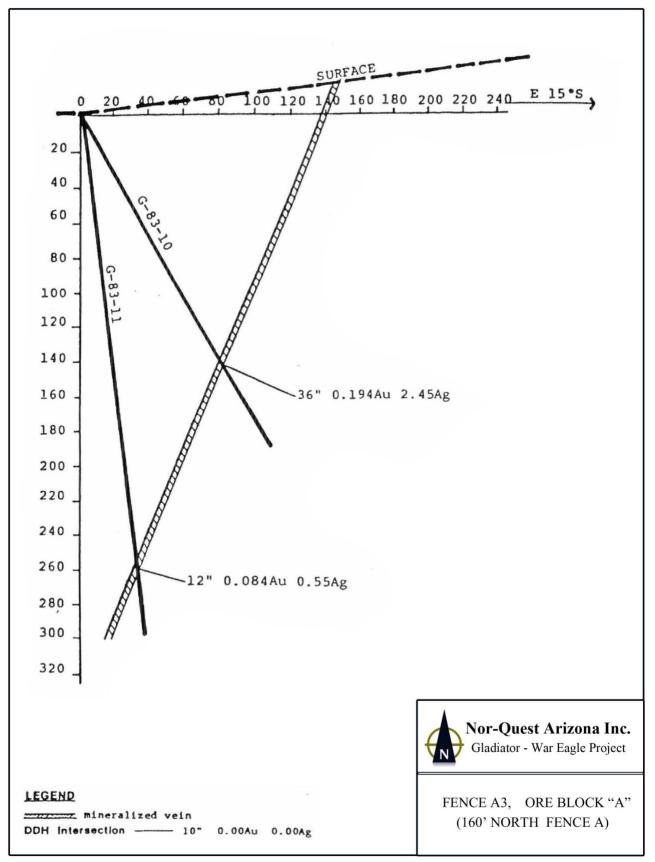


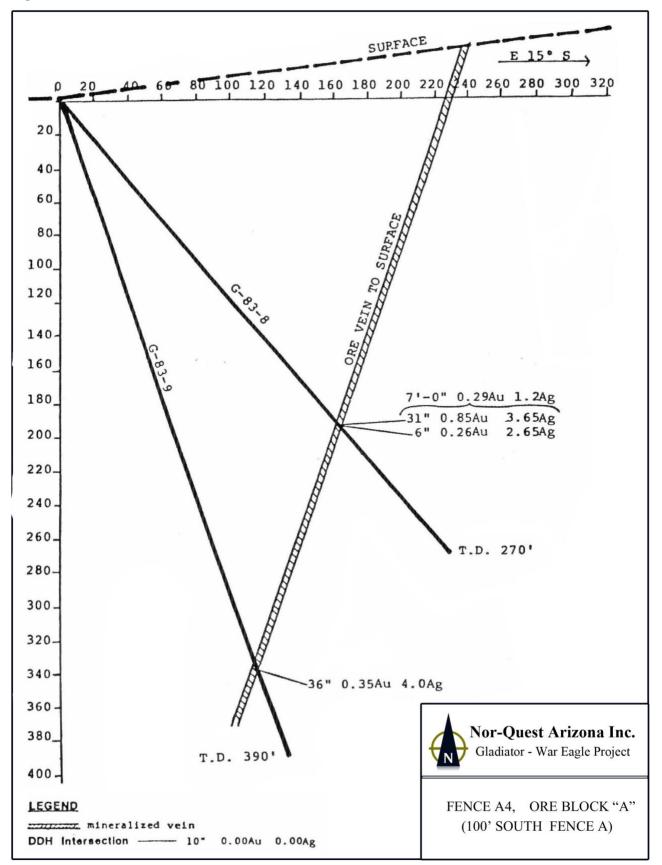












### 7 Geologic Setting and Mineralization

### 7.1 Geologic Setting

The Gladiator Gold Mine properties are located in the Bradshaw Mountains, which are in the Central Arizona Precambrian Schist Belt. Except for local areas of Paleozoic sedimentary beds on their flanks, the mountains are composed of metamorphic and igneous rocks of predominantly Precambrian age (Lindgren, 1926 and Arizona Bureau of Mines, 1936).

The oldest formation, the Yavapai Schist, consists of metamorphosed Precambrian sedimentary and igneous rocks which have been crumpled into generally northeastward-trending belts, cut by various intrusives, and subjected to complex faulting.

The intrusives consist principally of dikes and stocks of diorite, batholithic masses of granite (locally pegmatitic), stocks of granodiorite and monzonite porphyry, and dikes of rhyolite porphyry. The diorite and granite are of Precambrian age, while the granodiorite and monzonite porphyry are regarded as Mesozoic or early Tertiary (Laramide). The rhyolite porphyry dikes cut the granodiorite and therefore are therefore younger, though likely still Mesozoic to early Tertiary.

Younger Tertiary and Quaternary volcanic and sedimentary formations in places mantle large areas of the older rocks.

## 7.2 Mineralization

Gold deposits in the district occur as veins and have been classed as three different types (Lindgren, 1926): Mesozoic or early tertiary gold and gold-silver veins; Precambrian gold-quartz veins; and Precambrian gold-quartz-tourmaline replacement deposits. Some groups that have conducted exploration in the district, notably Noranda, have considered some of the mineralization in the district to be of syngenetic volcanic origin, by analogy with the United Verde orebody in Jerome, Arizona, about 70 miles to the northeast.

Gold mineralization at Gladiator is contained in quartz veins in schist, granite, and granodiorite. The veins cut the granodiorite and so Lindgren (Lindgren, 1926) considered them to be of Mesozoic to early Tertiary age and considered them to be genetically associated with the younger rhyolite porphyry dykes. These veins are described as locally lenticular but in general persistent and straight with clearly defined footwall and hanging wall contacts. Gangue mineralogy comprises massive to drusy milky-white quartz, locally with carbonates including ankerite. The veins are almost always oxidized at surface to a depth of 50 - 70 feet (15 - 21 meters). The oxidized zones are typically rich in free gold and have led to placer (alluvial) gold deposits in parts of the district. Primary mineralization below the oxidized zone contains free gold, electrum, pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, and tetrahedrite. Gold within primary mineralization can occur both as free gold and as sub-microscopic intergrowths in the sulfide crystals.

Wall-rock alteration is limited in extent but where present comprises sericite and carbonate alteration. There are no high-temperature minerals present, as a result of which Lindgren classified the deposite as mesothermal. The mineralization was likely deposited at depths of 3,000 to 4,000 feet (900 to 1,200 meters) below the paleo-surface.

Figure 13 Gladiator Oxide Mineralization at Surface at Rattlesnake Shaft



The Gladiator Vein (and its extension after a fault offset, the War Eagle Vein) typically varies in width from about 3 feet to over 5 feet, averaging about 4 feet (0.9 meters to over 1.5 meters, averaging about 1.2 meters). Grades can exceed 1 ounce per ton (opt) gold. Average vein grades according to historical sampling are about 0.434 opt gold and 2.42 opt silver. The vein strikes north northeast to south southwest and dips steeply (about 65 degrees) to the west. It appears to be remarkably continuous and planar. Ore shoots are reported to have an oblique rake within the planar vein structure, as is common in this type of mineralization.

Where this writer observed the Gladiator vein at surface, it has sharp contacts with the wall rock on both the hanging wall and the footwall. The vein is visually distinct in both color and texture and is easily identifiable. Visual ore control would be an appropriate mining guide.

Figure 14 Oxidized Gladiator Vein Exposed at Surface (Note Sharp Contact with Wall Rock)



The Fairview vein, some 500 feet to the east, roughly parallels the Gladiator Gold Mine vein. Exploration efforts to date have all been positive in demonstrating a plus 0.6 opt gold mineralization for a strike length of nearly 300 feet and a down-dip extension of 150 feet. This vein is the next most promising prospect outside of the Gladiator and can most likely be developed from the 560 -level development.

The Spring Green vein to the west about 400 feet is also subparallel to the Gladiator. Results of only a small number of samples on this prospect have remained inconclusive. A series of short surface drill holes would be needed to test for higher gold values along strike. The other two veins to the west are the northerly extension to the Crown King deposit and the Del Pasco group. These also have reasonably good potential for developing additional gold reserves.

To date, nine distinct gold veins have been identified in the project area:

- 1. Gladiator War Eagle Vein
- 2. Fairview Vein
- 3. Lincoln vein
- 4. Pelican Vein
- 5. Gold King Vein
- 6. Bat Vein
- 7. Crown King Vein
- 8. Spring Green Vein
- 9. Del Pasco Vein

Past production and extent and gold grades of the various vein systems indicate that the potential for additional precious metal deposits district wide remains high.

The Qualified Person believes that given the relatively sparse outcrop and vegetation cover in the project area, there are likely additional veins to be discovered. They could be explored for by a combination of close-spaced surface soil sampling in prospective areas and underground drifting and crosscutting.

# 8 Deposit Types

Mineral deposits at the project are classed as mesothermal gold-silver quartz veins, locally also containing base metals.

## 9 Exploration

Historical exploration is discussed in the History section of this report.

Exploration by the current owners has consisted mostly of sampling of surface and near-surface oxide vein mineralization.

# 10 Drilling

Historical drill holes are discussed in the History section of this report.

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

The historical information available for the project does not include a description of sample preparation procedures or equipment. In the writer's opinion, the historical samples and assay results are not suitable for mineral resource estimation because there is insufficient documentation of the historical sample preparation and analytical protocols and because there is no documentation of rigorous quality control protocols.

# 12 Data Verification

Data verification by the Qualified Person was limited to a personal inspection of the property and a review of documentation from the historical exploration and operation. No confirmatory sampling was carried out.

In the Qualified Person's opinion, despite the listed concerns about the quality of the historical data, these data are suitable for the purposes of assessing exploration potential and planning further exploration.

### 13 Mineral Processing and Metallurgical Testing

Gladiator Gold Mines Corp. has undertaken internal laboratory and pilot plant scale testing of the Gladiator mineralization and has concluded that it is amenable to conventional treatment. Results were reported verbally to the Qualified Person by Mister Blair Carson of Gladiator Gold Mines Corp.

Oxide mineralization contains a high proportion of free gold and electrum which reports to a gravity concentrate. This concentrate could be shipped and sold or, alternatively, it could be treated to produce gold doré on site.

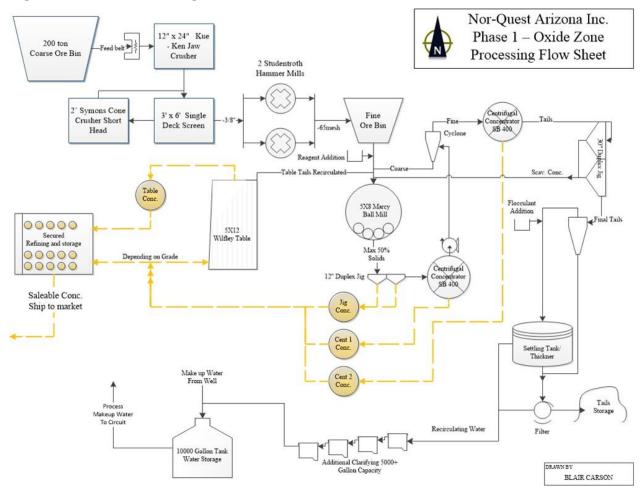
Sulfide mineralization also contains free gold and free electrum. The proposed process flowsheet is to produce both a gravity concentrate and one or more gold-rich flotation concentrates for shipment and selling.

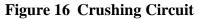
More metallurgical test work is required to optimize the flowsheet for the sulfide mineralization.

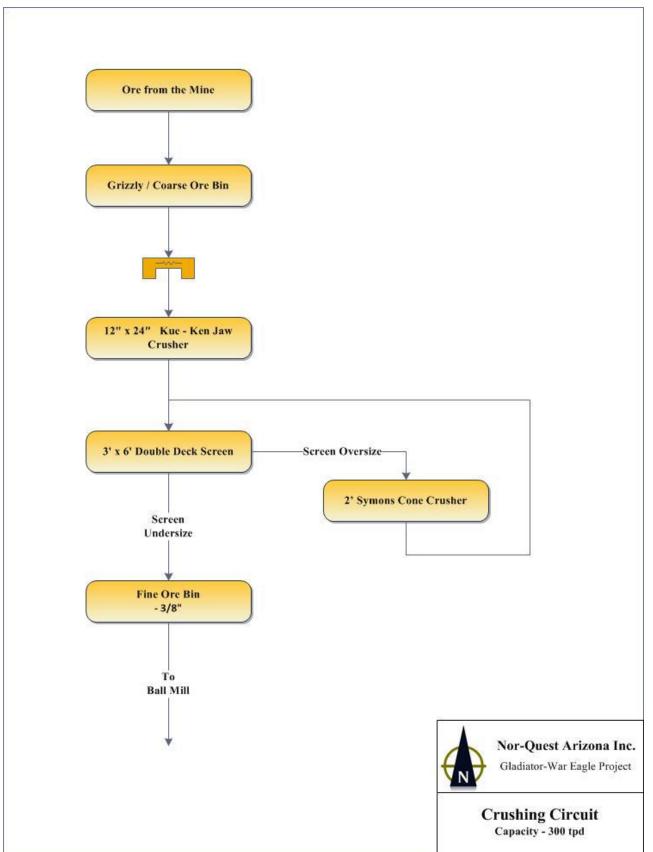
The current oxide flowsheet is attached below (Figure 15). It is a gravity concentration circuit using both older and newer technologies based on work Nor-Quest did. It has a nominal capacity of about 250 tons per day (tpd). GGMC expects a gold recovery of 75% using this process and expects to produce a high-grade gold concentrate.

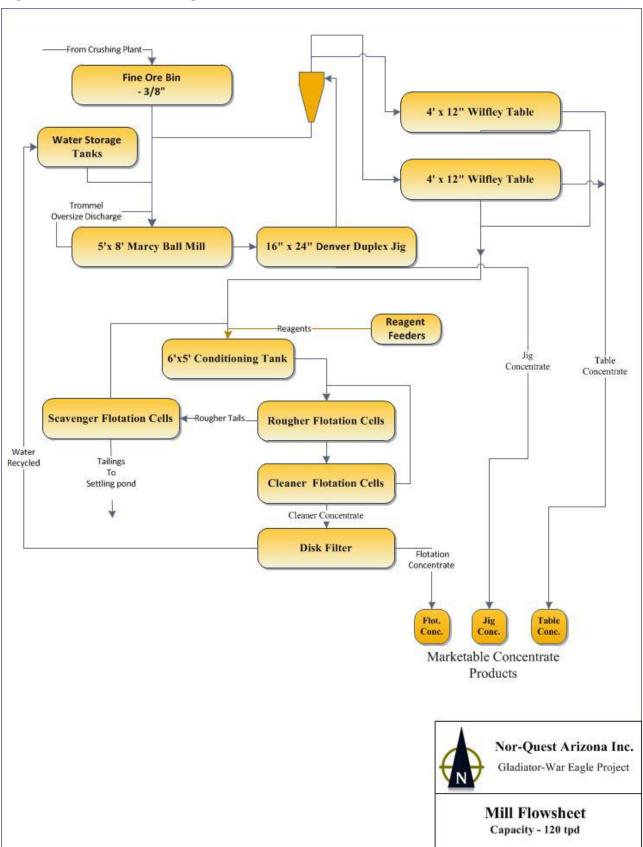
The currently envisioned flowsheet for sulfide mineralization is attached below, as is a diagram of the crushing circuit (Figures 16 and 17). The nominal capacity for treating sulfide mineralization is 120 - 150 tpd. The crushing circuit has spare capacity at 300 tpd. GGMC test work estimates 89% gold recovery with a 10:1 concentration ratio. GGMC does not believe this is an optimized flowsheet and a metallurgical/ mineralogical study is planned, with a view to buying and installing new equipment to increase grade and recovery based on the study findings. In addition to optimizing recovery, this program will be focused on creating an inert tailings product which can be used as paste backfill for the underground mine workings, thus allowing the company to develop a zero-discharge facility.

Figure 15 Oxide Processing Flow Sheet









**Figure 17 Sulfide Processing Flow Sheet** 

# **14** Mineral Resource Estimates

There are no mineral resources for the Gladiator Project that comply with the definitions and requirements of NI 43-101. Historical reserve estimates, which may be considered as approximations of historic resource estimates, are discussed in the History section of this report.

## **15** Mineral Reserve Estimates

There are no mineral reserves for the Gladiator Project that comply with the definitions and requirements of NI 43-101. Historical reserve estimates are discussed in the History section of this report.

## 16 Mining Methods

Historically, the mining methods at the Gladiator Project have been shrink stoping and modified shrinking. These are the mining methods typically used to exploit steeply dipping narrow veins such as those occurring at the Gladiator Project. An evaluation of suitable mining methods should be carried out as part of an optimization study after establishing a mineral reserve. In the Qualified Person's opinion, given the geometry and morphology of the vein mineralization, it is likely that future mining will also utilize shrink stoping and modified shrinking.

## 17 Recovery Methods

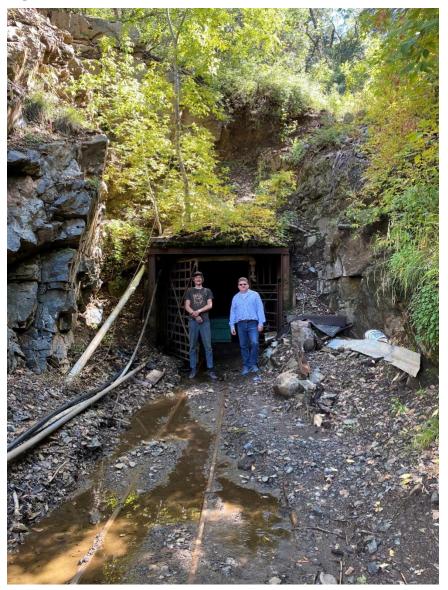
These are discussed above in the section on Mineral Processing and Metallurgical Testing.

## **18 Project Infrastructure**

There is a significant amount of infrastructure already at site.

Underground access and workings are reported to be clean and in good condition, though the QP was not able to inspect them personally during the site visit due to a lack of safety equipment at site. An inspection in 2011 by Mine Development and Engineering Corporation (MDEC, 2011) concluded underground workings were in good shape and would require minimal rehabilitation for underground drilling and / or mining to commence. At least two shafts daylight from the 560-level adit, the Gladiator Shaft and the Rattlesnake Shaft.

#### Figure 18 Gladiator Adit



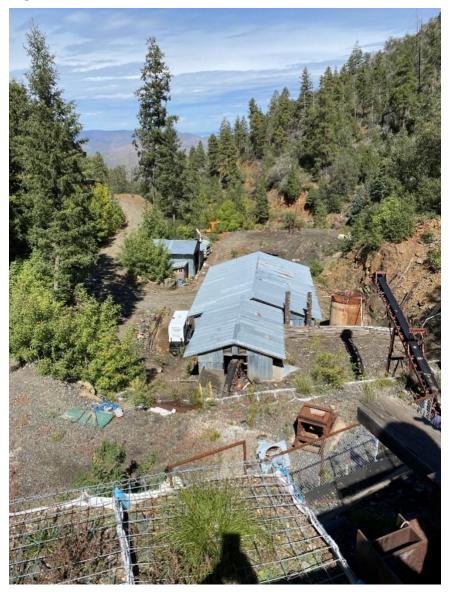
An operable mill is at site, with a nominal capacity of 250 tons per day (tpd) comprising:

- Jaw crusher
- Cone crusher
- Ball mill
- 5' x 12' Wilfley Table (for gravity concentration)
- 390 kVA diesel-powered generator

There is also miscellaneous ancillary mill equipment (filters, etc.) at site as well as several flotation tanks.

There is a serviceable office trailer at site.

#### Figure 19 Gladiator Mill



## **19** Market Studies and Contracts

To the knowledge of the Qualified Person, none have been conducted recently. To the extent that future operations will lead to the production of gold doré on site, this can be sold to refiner(s) on the open gold market. To the extent that future operations will lead to the production of a gold-rich gravity and / or flotation concentrate on site, market studies will need to be conducted to identify buyers and commercial terms for the sales of such concentrates.

## 20 Environmental Studies, Permitting, and Social or Community Impact

The scope of work did not include a review of required environmental permits to resume production or to conduct the recommended exploration programs. The QP relied on information provided by GGMC in this regard. The QP did not see any evidence of significant environmental liabilities from previous operations.

The Gladiator Mine is still considered an "active mine" by the state of Arizona, which minimizes future permitting requirements in the event of a production restart. The "active mine" status means that the current mining plan on file requires only amended approval, not initial approval. The contemplated operation will be underground with a small surface footprint and according to GGMC will be designed as a zero-discharge operation, with underground disposal of tailings.

Based on information provided by GGMC, the QP does not see any significant impediments or time delays in obtaining necessary permits for the recommended exploration programs or for future development or production. It is recommended that a comprehensive study and evaluation of permitting requirements be completed at the appropriate time and before significant further investment in the project.

Conversations of the QP with a few residents of the small community of Crown King indicate that the community would likely welcome re-opening of the Gladiator Mine for the employment and economic opportunities it would bring. There appears to be little if any "anti-mining" in this corner of Arizona.

# 21 Capital and Operating Costs

Gladiator Gold Mines Corp. has developed internal estimates of capital and operating costs based on historical reserve estimates and on internally generated cost estimates. These need to be verified and recalculated on the basis of an NI 43-101 Reserve Estimate when such has been prepared.

# 22 Economic Analysis

Similarly, Gladiator Gold Mines Corp. has developed an internal economic analysis of the project based on historical reserve estimates and on internally generated cost estimates. This analysis needs to be verified and recalculated on the basis of an NI 43-101 Reserve Estimate when such has been prepared.

# 23 Adjacent Properties

There are numerous historical gold mines in the Crown King Mining District, most of which are reported to have similar geology and style of mineralization to the Gladiator Vein and other veins comprising the Gladiator Gold Project. According to Lindgren's tabulation of producing mines in the district (Lindgren, 1926), GGMC controls the most significant of the historic producing veins in the district.

# 24 Other Relevant Data and Information

Not applicable.

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# **25** Interpretation and Conclusions

The Gladiator Gold Project has an established history of gold production from high-grade veins. Historical and ongoing work, including historic Reserve Estimates, indicate that there remain unmined blocks of high-grade (> 0.5 opt) gold mineralization within the Gladiator Vein. Some of this is at or near surface as oxide and could be amenable to excavating from surface. The remainder is underground and could be amenable to conventional underground mining by shrink stoping or modified shrinking.

There is significant potential to expand the mineralization with exploration, in both the Gladiator (War Eagle) Vein and other veins in the project area. This exploration would be most efficiently carried out with a combination of surface and underground exploration.

Historical production and metallurgical test work carried out by Gladiator Gold Mines Corp. indicate that oxide mineralization is amenable to gravity concentration while sulfide mineralization is amenable to a combination of gravity and flotation concentration. Further test work is required to validate and refine the proposed process flowsheets.

The Qualified Person believes that the Gladiator Gold Project merits further work with the objective of demonstrating a Mineral Resource and Reserve and assessing the feasibility of re-commencing gold production. A key commercial decision will be establishing what is a minimum Reserve required to justify re-commencing production. Typically, underground vein mines are started with a Reserve of a 2- to 5-year mine life, with the plan to replace depleted Reserve annually. It can quickly become cost-prohibitive to delineate Reserves much farther ahead, in that exploration will in general be most effectively conducted by underground drilling, which requires underground development to establish drill stations at the proper orientation to vein target(s).

There is an adage among experienced underground vein miners: "Drill for structure, drift for grade." This means that drilling can establish the presence of the vein but drifting and / or crosscutting is in general required to accurately assess tonnage and grade to go into Reserve. This approach is justifiable when there is confidence in the persistence and overall grade of the vein. This writer believes that the Gladiator Vein, and other veins in the project area, have a reasonable expectation of justifying this confidence, with further work.

The QP therefore concludes that the Gladiator Gold Project is a "Property of Merit" which justifies further investment in exploration and development.

### 26 Recommendations

The QP recommends a 2-phase work program to further advance the Gladiator Gold Project. The cost estimates below were developed in conjunction with GGMC.

## 26.1 Phase 1: Trenching/Bulk Sampling of Oxide Mineralization

The purpose of this phase is to assess grade and tonnage of surface oxide mineralization.

An excavator should be used to trench along surface exposures of oxide mineralization (including as a priority the mineralization near the Rattlesnake shaft) to delineate oxide mineralization and estimate grade. In addition to trenching along known mineralization, there are opportunities to trench perpendicular to mineralization (essentially, "surface crosscutting") to explore for oxide additional mineralization at surface. This will likely also generate new exploration targets to be explored from underground.

Figure 20 One Location for Bulk Sampling, Gladiator Oxide Mineralization



Gold grade distribution within this oxide zone is reported to be quite erratic (as is normal in the oxide zones of this type of deposit) and it will be difficult to reliably establish the grade by drilling or channel sampling. Several bulk samples obtained with an excavator, however, totaling 6,000 tons (as 6 batches of 1,000 tons each, from different locations) could be run through the mill on site and an average gold head grade could then be calculated from grades of concentrates and tails.

This program would also serve to validate and optimize the processing flow sheet for oxide mineralization.

Assuming a nominal throughput at the mill of 250 tons per day (tpd) and allowing for some down time, this program would require about 8 weeks to complete. The estimated cost of this Phase 1 program is approximately \$495,000, comprising these components:

1. Earthworks / excavation / transport sample to mill		\$170,000
2. Treatment through mill		\$140,000
3. Assays		\$60,000
4. Technical support (geologist, surveyor)		\$60,000
5. Misc. / contingency (15%)		\$65,000
	Total Phase 1	\$495,000

Assuming this program is successful both in delineating oxide gold mineralization at and near-surface and treating it to produce a commercial gold concentrate or doré at the on-site mill, GGMC could consider continuing the surface oxide bulk sampling to delineate additional zones of oxide mineralization. In this case, it may be possible to offset some or all of the program's cost by selling the concentrate or doré.

## 26.2 Phase 2: Underground Drilling and Sulfide Metallurgy/Development of NI 43-101 Compliant Resource

A Phase 2 program of underground diamond drilling is recommended to delineate subsurface gold and silver mineralization along the Gladiator Vein. The recommended plan, developed in consultation with GGMC, calls for an initial 1,200 meters of underground diamond drilling. The details of the plan will be developed by GGMC, but the objective will be to penetrate the vein at a density sufficient for estimation of a Mineral Resource which can then be the basis for a Mineral Reserve. Nominal drill hole intercept spacing will be about 100 feet (30 meters). This drilling should follow standard QA/QC and other protocols so that the results can be incorporated into a NI 43-101 compliant Mineral Resource Estimate.

Cross-sections below are illustrative of the recommended underground drilling program.

This program will likely take about six months to complete. The estimated cost of this Phase 2 program is about \$1.14 million, comprising these components:

1. Rehabilitation underground workings, establishment drill stations	\$200,000
2. Drilling 2,000 Meters Underground (@ \$250 / meter)	\$500,000
3. Assays	\$60,750
4. Underground geology and technical supervision	\$150,000
5. Resource Estimation and 43-101 Resource Update	\$45,000
6. G&A	\$40,000
7. Misc. / contingency@ 15%	\$150,000
Total Phase 2	\$1,145,750

Depending on results of the Phase 1 program, it may be desirable to continue the oxide bulk sampling as an additional component of Phase 2.

## 27 References

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