NI 43-101 Technical Report
Project Status Report
Borealis Mine
Nevada, U.S.A.

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Report Prepared for

Borealis Mining Company Limited

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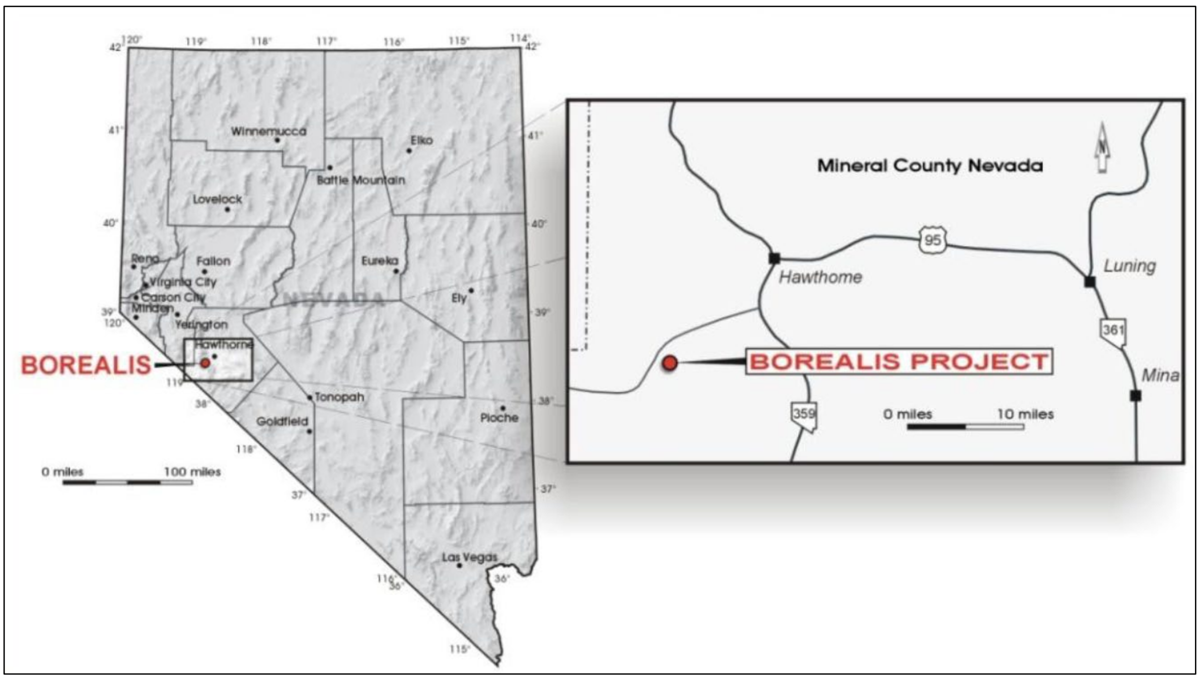
1 Summary

This report was prepared as a Canadian National Instrument 43-101 (NI 43-101) Technical Report (Technical Report) for Borealis Mining Company Limited and Borealis Mining Company, LLC (collectively Borealis Mining or BMC) by SRK Consulting (U.S.), Inc. (SRK) on the Borealis Mining Project (Borealis or the Project). This report summarizes the current state of drilling, historic data and a summary of historic resources on the Project and provides recommendations for future work to further advance the property. The are no current Mineral Resources nor Mineral Reserves on the Property.

1.1 Project Description and Location

The Borealis Gold Project is located in western Nevada, approximately 16 road miles southwest of the town of Hawthorne in the Walker Lane Mineral Belt and 12 miles northeast of the California border (Figure 1-1). Hawthorne is 144 highway miles southeast of Reno and 331 highway miles northwest of Las Vegas.



Source: Gryphon Gold Corp. (Gryphon), 2005

Figure 1-1: Location Map of the Borealis Project

The principal operating permits are currently in place for a heap leach operation in the center of the property, which was operated by Waterton until early 2023. The status of all approved permits is current and can be maintained with the appropriate fees being paid on an annual basis.

1.1.1 Land Status and Ownership

The Borealis property is comprised of 751 unpatented mining claims of approximately 20 acres each totaling about 15,020 acres and one unpatented mill site claim of about 5 acres. Of the 751 unpatented mining claims, 128 claims are owned by others but leased to BMC, and 623 of the claims were staked by Golden Phoenix Minerals, Inc. (Golden Phoenix) or Gryphon and transferred to BMC. All of the claims are shown on the US Bureau of Land Management (BLM) records as being in good standing. Claim fees for 2024 were paid to the BLM in August 2023.

Mineral rights, through BMC as the owner or lessee of the claims, allow BMC to explore, develop, and mine the Borealis property subject to the prior procurement of required operating permits and approvals, compliance with the terms and conditions of the mining lease, and compliance with applicable federal, state, and local laws, regulations, and ordinances.

The term of the mining lease may be continued indefinitely as long as any mining, development, or processing is being conducted on the leased property on a continuous basis.

1.1.2 Royalty

Borealis Mining has a mining lease that requires a monthly payment of US$12,000 for advance royalty payments, which is adjusted each year for inflation. Once in production, the agreement attracts a net smelter royalty of 5 percent (%), which can be offset by the advance royalty payments made previously.

Any commercial production from adjacent claims owned by others and acquired by Borealis Mining within the Borealis Project area of interest will be subject to a 2% net smelter return (NSR) royalty to be paid to the royalty holders.

1.2 Access, Climate, Local Resources, and Infrastructure

The Borealis property is located about 16 road miles southwest of the small town of Hawthorne, Nevada, and is accessed via Lucky Boy Pass road. This wide, well-maintained, gravel road begins about 2 miles south of Hawthorne off of Nevada State Highway 359.

Hawthorne provides the nearest available services for both mineral exploration and mine operations, having substantial housing, adequate fuel supplies, and a sufficient infrastructure to take care of basic needs. Reno, 144 miles away by paved highway, is the nearest major hub and can provide any goods or services that are not available locally.

Prior to being reopened by Gryphon, and later operated by Waterton, the Borealis Project area had been reclaimed to early 1990s standards. Gryphon began construction of the mine and installed office buildings, an ADR plant, and associated infrastructure in 2011. The pits and the project boundary are fenced for public safety.

Currently, access to the pits and heap leaching areas is gained through locked gates. There is a current haul road connecting the East Ridge and Northeast Ridge pits to the crushing area and leach pad facilities, and an additional two-track road connects the other existing pits to the main Project area, generally following reclaimed historic haul roads. A production water well was drilled in June 2008, which provided water for the recent mining operation at Borealis; it is still currently active.

The elevation on the property ranges from 7,200 to 8,200 feet (ft) above sea level. Topography ranges from moderate and hilly terrain with rocky knolls and peaks to steep and mountainous terrain in the higher elevations. This relatively high elevation results in moderate summer weather with high temperatures in the 90 degrees-Fahrenheit (°F) range, while winters can be cold and windy with temperatures near 0°F. Average annual precipitation is approximately 10 inches, including significant winter snowfall. During recent operations, the mine only experienced limited weather-related interruptions.

Predominate vegetation species include pinion pine, Utah juniper, greasewood, a variety of sagebrush species, crested wheat grass and four-wing saltbush from previous reclamation activities (JBR Environmental Consultants (JBR), 2004).

1.3 Property History

In 1978, the Borealis gold (Au) deposit was discovered by S.W. Ivosevic (1979), a Houston International Minerals Company geologist (a subsidiary of Houston Oil and Minerals Corporation). The property was acquired through a lease agreement with the Whitney Partnership, which later became the Borealis Partnership, following Houston's examination of the submitted property. Initial discovery of gold mineralization in the Borealis district and subsequent rapid development resulted in production beginning in October 1981 as an open-pit mining and heap leaching operation. Tenneco Minerals, Inc. (Tenneco) acquired the assets of Houston International Minerals in late 1981 and continued production from the Borealis open pit mine. Subsequently, several other gold deposits were discovered along the generally northeast-striking Borealis trend and mined by open-pit methods. Also, several small deposits were discovered further to the west in the outlying area known as Orion's Belt (encompassing the Cerro Duro, Jaime's Ridge, and Purdy Peak deposits). Tenneco's exploration in early 1986 discovered the Freedom Flats deposit, and then in October 1986, Echo Bay Mines (Echo Bay) acquired the Nevada assets of Tenneco Minerals.

With the completion of mining of the readily available oxide material in the Freedom Flats deposit and other deposits in the district, active mining was terminated in January 1990, and leaching operations ended in late 1990. All eight open-pit operations are reported to have produced 10.7 million tons (Mt) of material averaging 0.059 troy ounces per short ton (opt) Au (Golden Phoenix, 2000). Gold recovered from the material placed on heaps was approximately 500,000 troy ounces (oz) plus an estimated 1.5 million troy ounces (Moz) of silver (Ag). Reclamation of the closed mine began immediately and continued for several years.

Echo Bay decided not to continue with its own exploration, and the property was farmed out as a joint venture in 1990 to 1991 to Billiton Minerals, which drilled 28 reverse circulation (RC) exploration drillholes totaling 8,120 ft on outlying targets. Billiton dropped the property with no retained interest. Santa Fe Pacific Mining, Inc. (Santa Fe Pacific) then entered into a joint venture with Echo Bay in 1992 to 1993 (Kortemeier, 1993), compiled data, constructed a digital drillhole database, and drilled 32 deep RC and core holes, including a number of holes into the Graben deposit. Santa Fe Pacific had success in identifying new sulfide-zone gold mineralization but terminated the joint venture because of reduced exploration budgets. Echo Bay completed all reclamation requirements in 1994 and then terminated its lease agreement with the Borealis Partnership in 1996.

In late 1996, J.D. Welsh & Associates, Inc. (Welsh) negotiated an option-to-lease agreement for the Borealis property from the Borealis Partnership and immediately joint-ventured the Project with Cambior Exploration U.S.A., Inc. (Cambior). During 1996, Welsh drilled 11 auger holes (totaling 760 ft) into Heap 1 to determine if there was sufficient remaining gold to consider reprocessing the heap. During 1997, Cambior performed a major data compilation program and several gradient Induced Polarization (IP) surveys. In 1998, Cambior drilled 10 holes, which succeeded in extending the Graben deposit and in identifying new zones of gold mineralization near Sunset Wash. Cambior terminated the joint venture in late 1998 because of severe budget constraints.

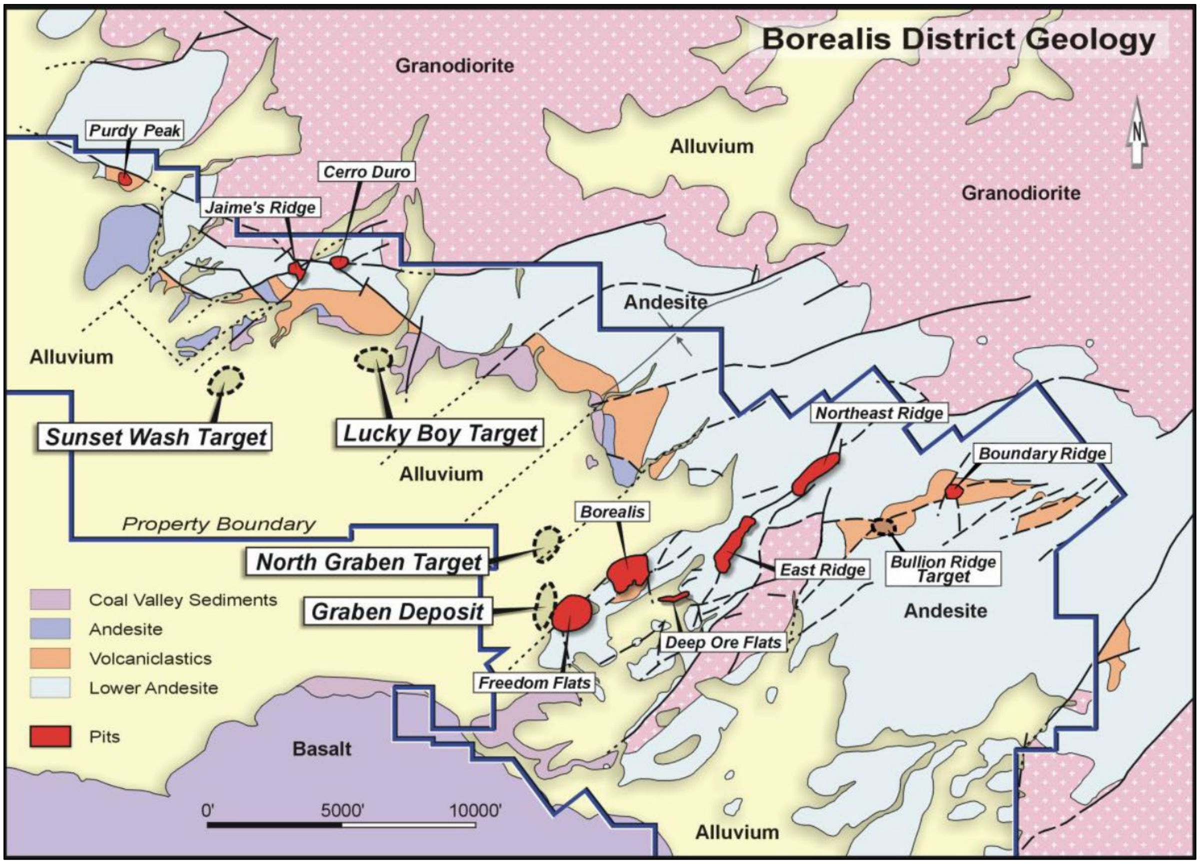
During the Cambior joint-venture period in late 1997, Golden Phoenix entered into an agreement to purchase a portion of the Welsh interest in the property. Welsh sold its remaining interest in the property to a third party, who in turn sold it to Golden Phoenix; therefore, in 2000 the company controlled 100% interest in the lease (Golden Phoenix, 2000). Golden Phoenix maintained the property during the years of low gold prices, compiled a database, validated the drillhole data, and developed new mineral resource estimates (MRE) for the entire property.

In July 2003, the Borealis property was joint ventured by Golden Phoenix with BMC, which is a wholly owned subsidiary of Gryphon. BMC, the operator of the joint venture, originally controlled the property through an option agreement with Golden Phoenix whereby BMC could earn a 70% joint-venture interest in the property. BMC had the right to acquire its interest in the Borealis property with a combination of qualified expenditures on work programs, and/or making payments to Golden Phoenix, and/or delivering a feasibility study (FS) over a period of $5^1/_2$ years beginning July 2003. In January 2005, BMC purchased 100% interest in the lease agreement, and Golden Phoenix surrendered its interest in the property. During 2004 and 2005 to 2007, Gryphon conducted two drilling programs. In 2010, BMC completed a third drilling program in the central portion of the property.

Gryphon began construction of the Borealis Project in June 2011, and the first loaded carbon was shipped in October 2011. Gryphon had anticipated that the first phase of construction would cost US$12.7 million and that doré sales would provide the necessary cash to bring the project to full production. Construction delays and reliance on inadequate or broken-down equipment ballooned costs while cashflow dwindled. Gryphon spent US$19.6 million by the end of the year, forcing management to arrange several additional capital raises, the great majority of which came from Waterton Global Value. Gryphon filed for voluntary Chapter 11 bankruptcy protection in July of 2013, triggering a protracted court battle over the fate of the Project. The case was dismissed in November 2015, and Waterton foreclosed on Gryphon. Waterton assumed control of BMC and operated the mine until early 2023, when the Project was sold to Borealis Mining Company Limited.

1.4 Geology and Mineralization

Epithermal gold and silver mineralization at Borealis is hosted by Miocene pyroclastic rocks/tuffs, andesite flows, dacite flows, and laharic breccias. These volcanic units together exceed 1,200 ft in thickness, strike northeasterly, and dip shallowly to the northwest. Pediment gravels cover the volcanic rocks at lower elevations along the mountain front where drilling has identified large areas of hydrothermal alteration. Structures are dominantly northeast-striking faults with steep dips and generally west-to-northwest-striking faults with steep southerly dips. Both of these fault systems lie on regional trends of known mineralized systems; thus, Borealis appears to be at a major intersection of structural and mineralized trends. Another strong control for alteration/mineralization within the district is a series of north to north-to-northeast-trending structures that host the Graben deposit and other exploration targets. A number of these pre-mineral faults in the district may have been feeders for high-sulfidation hydrothermal systems. Figure 1-2 illustrates the local geology of the Borealis district and Project area.



Source: Echo Bay, circa 1989, modified to reflect new property boundaries currently controlled by BMC.

Figure 1-2: Local Geology of the Borealis District and Project Area

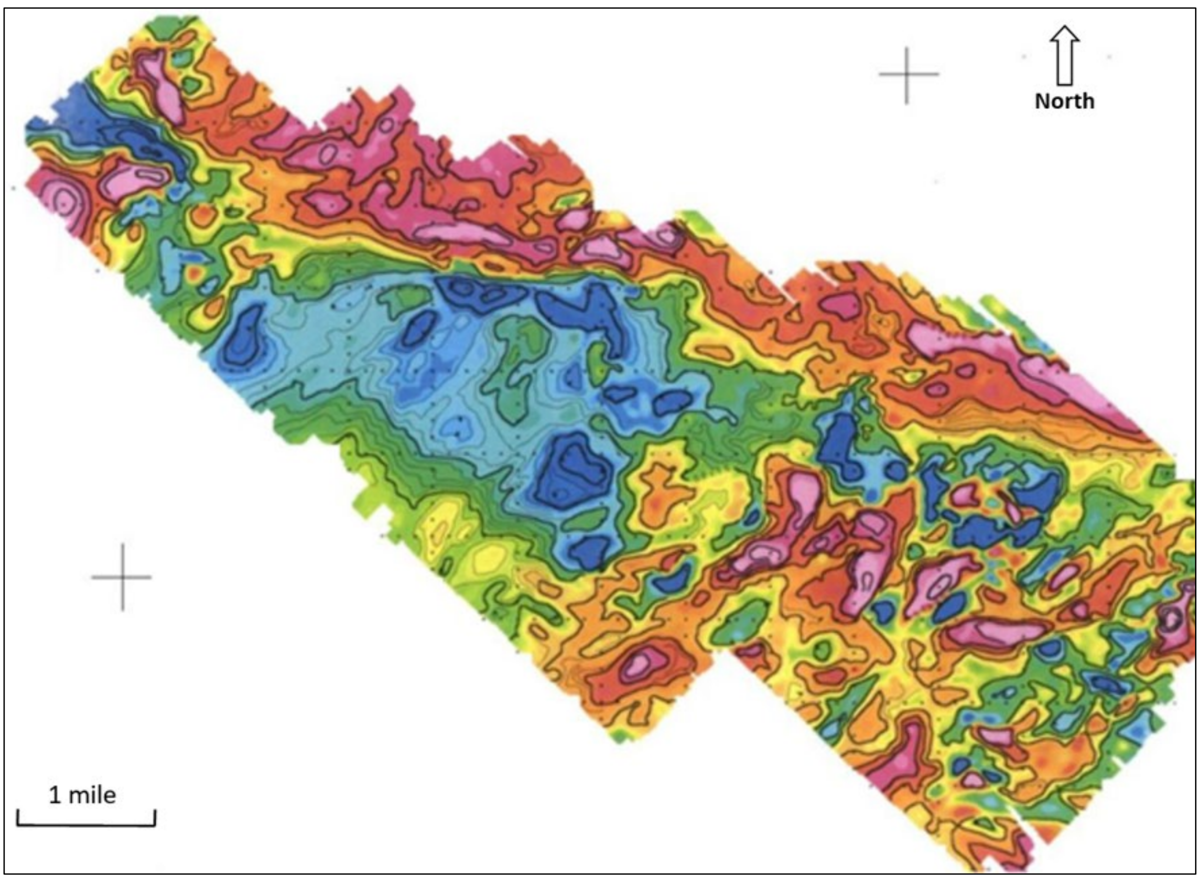
Gold mineralization is often associated with hydrothermal breccias, pervasive silica, and sulfides, principally pyrite. It is likely that the higher-grade deposits may have been localized along the intersections of small second-order faults with the major feeder structures. Many of the oxide deposits at the project site, such as the Borealis deposit, have a flat-lying tabular shape and appear to have formed within gently dipping volcanic units. The pyroclastic/tuff unit is the most favorable host for gold mineralization. Alteration and mineralization closely associated with mineralized material are fine-grained vuggy to massive silica and pyrite often with and enveloped by advanced-argillic alteration including alunite and dickite. Outward from the central silica zone is a zone that may contain kaolinite, quartz, pyrite, dickite, and diaspore, and is surrounded by montmorillonite and pyrite, and finally an outermost broad propylitic halo with minor pyrite. Large bodies of opaline and microcrystalline silica occur peripheral to some mineralized zones. During its emplacement, finely disseminated gold found in the Borealis mineralizing system was enclosed in pyrite. In the oxide zone, the upper reaches of the system, natural weathering, and oxidation liberated this gold and made it available to extraction by cyanidation. Gold still bound in pyrite or pyrite-silica is not recovered easily by a simple cyanide heap leach operation and requires more-complicated and costly treatment.

Widely spaced historic drilling suggests that nearby pediment gravels cover the majority of the altered and mineralized volcanic rocks of the Borealis system, of which the historic Borealis mine area was only a small, visibly outcropping part. The currently known extents of alteration form a 7 mile long zone in the southern and southwestern parts of the district, and the pediment gravels cover many favorable exploration targets.

1.5 History of Exploration Activities

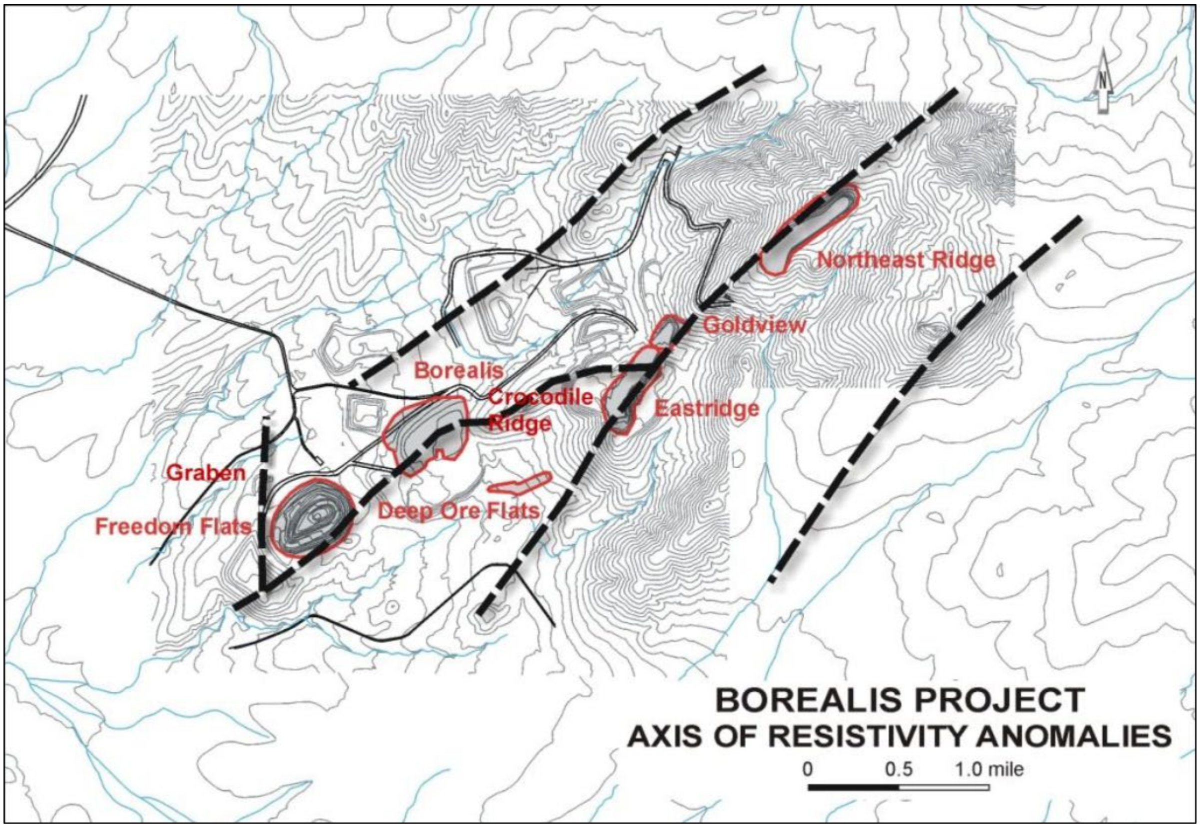
Since the late 1970s, significant exploration has been completed at the Borealis property with the primary objective of finding near-surface oxidized gold deposits. Exploration work has consisted of field mapping, surface sampling, geochemical surveys, geophysical surveys, and shallow exploration drilling.

Resistivity surveys were successfully used in the early exploration of the district to track favorable trends of strong silica alteration that is commonly associated with gold deposits. Chargeability anomalies were found later with the use of IP surveys that penetrated deeper to the sulfide zones and were found to reflect strong sulfide systems, such as the Graben zone. Aeromagnetic data provide useful tools for mapping of lithologic units and medium-to-large scale structures and can identify potential hydrothermal alteration systems in some terranes; however, it is generally not a primary tool for locating mineralized zones in epithermal deposits like Borealis. Figure 1-3 shows airborne Total Magnetic Intensity data over the Borealis Project. Figure 1-4 shows an example of geologic interpretation from EM data.



Source: Echo Bay, circa 1989

Figure 1-3: 1989 Borealis District Aeromagnetic Survey Map



Source: Gryphon, 2005

Figure 1-4: Selected Resistivity Anomaly Trends of the Borealis District

Areas with known occurrences of gold mineralization which are defined by historical exploration drilling and had historical mine production include Northeast Ridge, Gold View, East Ridge, Deep Ore Flats (also known as Polaris), Borealis, Freedom Flats, Cerro Duro, and Jaime's Ridge. All of these deposits still contain gold mineralization remaining in place, contiguous with the portions of each individual deposit that were mined.

1.6 Drillhole Database

The current exploration drillhole database for the Borealis Project contains 2,738 drillholes with a total drilled length of 822,191 ft. These holes were drilled by several different operators on the property. Drillhole types include diamond core holes, RC holes, and rotary holes. Drillhole sampling lengths are generally 5 ft for the RC holes but vary for the core holes based on geologic intervals. Gold assays in parts per billion (ppb) and ounces per ton are provided for most of the drillhole sample intervals. Silver assays in parts per million (ppm) and ounces per ton are also provided for many of the sample intervals.

Mineralized zones covered by these drillholes include Northeast Ridge, East Ridge, Deep Ore Flats, Borealis, Freedom Flats, and Graben. Except for Graben, all have been partially mined by previous operators of the Project; the Borealis and Deep Ore Flats Pits are backfilled with waste from the Freedom Flats Pit. The drillholes in the west model area are mostly in the Cerro Duro, Jaime's Ridge, and Purdy Peak areas, at approximately 3 miles northwest of the main Borealis Mine site. Cerro Duro and Jaime's Ridge areas were also partially mined. Drillholes in the East Model area are mostly in the Boundary Ridge and Bullion Ridge areas, about 1 mile northeast of the main Borealis Mine site. Neither of these areas have been mined.

1.7 Sample Preparation, Analysis, and Security

1.7.1 Historic

Little documentation has been discovered discussing historic sample preparation, analysis, and sample security. SRK recommends Borealis search for documentation, but it may not exist.

2010 Gryphon Heap Leach Drilling Program

During November 2010, Gryphon drilled 23 RC holes into the Freedom Flats portion of the Leach Pad 1 and five holes into the re-leach portion of Pad 1. A total of 1,630 ft were drilled, with individual hole depths ranging from 30 to 85 ft. The drilling program planned that no hole would penetrate the plastic liner, and each hole was terminated approximately 10 ft above it. 5 ft samples were collected over each hole, and these were assayed for both gold and silver, soluble gold and silver, mercury, sulfur, and other elements. SRK has not been provided with any description of sample preparation, analytical methods, or sample security.

1.8 Data Limitations

Much of the data from historical records of drilling, sampling, sample security, and assay procedures are not well documented. Previous verification exercises did not identify material issues with the data. SRK has not conducted sufficient work to verify or validate the quality of the current database.

SRK recommends the historical data (drillhole and QA/QC data) be compiled into a comprehensive database and a current data verification exercise be completed.

1.9 Mineral Processing and Metallurgical Testing

Eight open pit mines were developed at the Borealis Mine site during its operating years from 1981 to 1990; they include the Northeast Ridge, Gold View, East Ridge, Deep Ore Flats, Borealis, Freedom Flats, Jaime's Ridge, and Cerro Duro mines. Each pit has associated waste rock disposal areas proximal to their mine areas. Two of the pits (Borealis and Deep Ore Flats) were backfilled with mine waste produced from proximal pits. Processing of the mineralized material was by conventional cyanide-agglomerated heap leaching using both permanent and reusable pads. Precious metals were recovered using a Merrill-Crowe process.

Historical heap leach operations throughout the 1980s typically produced gold recoveries in the upper 70% to mid-80% range. This material was primarily oxide and mixed oxide-sulfide and required cement agglomeration to achieve suitable solution percolation, pH control, and precious metal dissolution. Previous heap leach operations also processed run-of-mine (RoM) material (uncrushed), which were typically low-grade material that was stacked on the upper lifts of the heap leach pad (HLP). Historical gold recoveries for RoM ranged from 20% on the RoM from the East Ridge pit to 50% for the Northeast Ridge pit.

More-recent and modern metallurgical testing was completed between 2004 and 2005 to support the last-issued engineering study prior to Gryphon putting the Borealis Mine back in production.

Section 6.7 provides a summary of all historic metallurgical test work. To the best of the authors' knowledge, no further metallurgical work has been completed since 2010.

Table 1-1 summarizes the projected metal recovery from the respective mineralized material locations based on the 2004 to 2005 metallurgical program.

Table 1-1: Estimated Gold Recovery (2004-2005 Program)

Area	Range of Au Recovery (%)	Estimated Au Recovery (%)
Borealis	62 - 86	75
East Ridge/Goldview	62 - 86	75
Crocodile Ridge	59 - 85	75
Freedom Flats	20 - 80	75
Boundary Ridge	40 - 92	75
Northeast Ridge	37 - 85	75
West Model Pits	46 - 92	75
New RoM Material	55 - 94	55
Legacy Leach Pads	29 - 40	29
Northeast Ridge RoM Pads	-	40
Borealis Waste Dump	62 - 86	55

Source: Telesto, 2011

1.10 MREs

Numerous Mineral Resource estimates have been completed on the Project by previous explorers. These estimates are not considered as current and SRK will perform further work to provide a current Mineral Resource Estimate at the Project. The historic MREs are discussed in Section 6.4, these estimates were made prior to the acquisition of the Project by Borealis. Further work is required by the QP to update the Mineral Resources and verify these historical estimates. The QP currently has not done one sufficient work to classify the historical estimate as current mineral resources, and the Issuer (Borealis), is not treating the historical estimate as current mineral resources.

Borealis has commissioned SRK to act as independent engineers and QP's for the review and assessment of the Project and to develop a strategic plan to progress the Project to an advanced exploration project as well as the declaration of Mineral Resources in 2024.

1.11 Other Important Considerations

The Borealis property is located on public lands partly within the Humboldt-Toiyabe National Forest, Bridgeport Ranger District, and BLM-administered lands. Because most activity to date has been within the United States Forest Service (USFS)-administered lands, the plan of operations (PoO) for this activity is subject to USFS approval and environmental analysis under the National Environmental Policy Act (NEPA). A project of this magnitude typically requires the preparation and approval of either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS), with the EIS process generally being longer and more comprehensive. Since the Borealis Project area has been extensively affected by previous mining operations, the USFS determined that resuming mining operations at the Borealis property would have no significant impact to public lands and that an EA would satisfy the NEPA requirements for this Project. The Cerro Duro, Jaime's Ridge, and Purdy Peak resources and the exploration targets in the Central and West Pediment areas are within the BLM jurisdiction and require BLM approval for exploring or mining.

1.12 Permitting

The principal operating permits required for construction, operation, and closure of the Borealis mine have been acquired from Nevada state and federal regulatory agencies as of the date of this report. Except for Crocodile Ridge, which was not part of the approved USFS EA and PoO, the permits received cover an approximate 10 Mt project within the 457 acre central operating area and include an exploration program within that operating area that recognizes the potential to expand the resource base with successful exploration results. Expansion of the approved project plans will require modification of the USFS EA and PoO and state operating permits. There are no known issues that would preclude the approval of such routine modifications by the applicable regulatory agencies.

The operating permits exclude some of the Middle Ridge area and Orion's Belt (West Model). The deposits in Orion's Belt have been subject to previous mining operations and have been successfully reclaimed. No fatal flaws or material concerns which would preclude the permitting and development of mining operations in these areas have been identified, although the timing of such permitting processes is uncertain.

1.13 Conclusions and Recommendations

The Borealis Gold Project is focused on generating an updated CIM compliant MRE and continuing exploration to discover new deposits within the greater Borealis property.

It is the QP's opinion that the historic information is suggests there is sufficient potential at the project to warrant additional work as recommended in Section 26 to support a MRE compliant with CIM guidelines. SRK has not completed sufficient work to verify historic data and to define a current Mineral Resource for the Project, until sufficient verification drilling and additional supporting studies be completed.

In SRK's opinion, this project has been historically exploited, but remains a property of interest. A large historical database exists which if validated, could lead to further assessment of the potential of the Project. It is the QP's view, that the potential warrants the additional work required to validate the historic data. Additionally, there remains potential based on regional geology that warrants further exploration through geophysics and drilling to support identifying additional potential exploration targets. Once this work is completed, SRK would recommend an updated MRE for the project.

SRK considers there to be two phases of work that need to be completed on the Project to advance to a Mineral Resource. These can be broken down into two key areas of focus:

- Data Validation and Organization of the historical datasets
- Exploration, drilling and sampling of potential extensions to existing mineralization and the identification of new exploration targets (note, it is uncertain if exploration will result in the delineation of new Mineral Resources)

Assuming these two areas of focus SRK is recommending the following work programs.

1.14 Data Organization

Borealis Mining Company Limited has recently come into significant historical data related to the Project that are in varying states of organization. The existing Borealis database will require updating to reflect this additional information but that will also include focus on validation of the historical dataset, and all the associated QA/QC data.

To preserve data integrity, it is recommended that future core and chip logging be done directly into the database rather than on intermediary forms or in spreadsheets that are later compiled. Any historic data, such as blasthole data, multi-element geochemistry, or grade-control data, should also be imported into the database if it is located.

Once the database compilation is completed, it will need to be validated against the source documents, which may also include validation in the field of coordinates and interpretation from historical core. This verification should be completed prior to the next MRE and should be done under the guidance of the QP for the MRE.

1.15 Exploration

As previous authors have noted, SRK agrees that the greatest potential in the district lies beneath a large gravel-covered area at the mountain front with several potential blind deposits (with no surface expression). The Graben zone is an example of this type of deposit, and other high-potential targets include North Graben area, West Pediment (including Sunset Wash and Vuggy Hill), Central Pediment (Lucky Boy), and others yet to be named.

Modern geophysical surveys, such as airborne magnetics, that cover the entire property are recommend detect possible fault structures under pediment cover. Hyperspectral studies, which may aid in mapping favorable lithologies and alteration, should be conducted over the entire property. Favorable trends and intersections should be further examined using Induced Polarization and Resistivity (IP-Res) surveys to identify favorable alteration associated with gold. SRK recommends compilation and review of historic and future geophysical data to assist in drill planning.

Additionally, SRK recommends a LIDAR or similar survey be conducted to provide accurate elevation control.

Additional field geology to ground truth structures mapped from geophysical surveys should be completed where possible, in order to corroborate structural interpretation.

A multi-disciplinary geologic model of the district should be created. This model should include hydrogeologic, structural, geochemical, and metallurgical data and will support further advancement of the Project through engineering studies and ease permitting.

Current geologic models of some prospect areas may not be accurate, as the vast majority of drill data that they were based on came from RC chips rather than core. Of particular note, the current Graben model shows a very shallowly dipping fault forming the upper surface of the mineralized zone. However, normal faults are not known to form at such shallow angles, and it is likely that the near-horizontal mineralized zone is instead a replacement body along a favorable stratigraphic unit, such as a tuff layer. Permeable layers can be intensely altered to clays by the mineralizing fluids, and may appear as a fault to inexperienced loggers, particularly when looking at chips instead of coherent core. Properly identifying strata-bound versus fault-hosted mineralization will have a significant impact on exploration strategy. Relogging of chips from RC holes that penetrated the shallow Graben structure is recommended.

As with the proposed modeling, a multi-disciplinary approach is recommended for drilling. It is recommended that future drilling campaigns are diamond core rather than RC. This core provides superior structural interpretation and more-accurate identification of alteration and can also be used to support concurrent metallurgy, geochemical, and hydrogeologic programs to advance the Project.

Borealis Mining intends to drill 11,500 ft of core in the Graben zone to expand the resource and upgrade resource categorization. Other high-priority prospect areas may also receive drilling, depending on considerations such as drill scheduling and weather, etc. A modern airborne magnetic survey that will cover the entire property is also planned. Additional drilling is planned to follow up on favorable drilling results, depending on the success of the initial drill program. The total anticipated expenditure for this first phase of work is approximately US$2.25 million.

Most of the previous metallurgical studies were focused on oxide material. Early metallurgical analysis of sulfide material from Graben and other sulfide prospects is recommended to help prioritize drill dollars and allow Borealis Mining to make early go/no go decisions on different prospect areas depending on deleterious mineral contents, etc.

Table 1-2: Proposed Exploration Budget

Activity	Cost (US$)
Drilling	1,600,000
Geophysics	300,000
Data Compilation/Verification	50,000
Geological Modeling	50,000
MRE and TR	150,000
Metallurgy	90,000
Subtotal	**$2,240,000**

Source: SRK, 2023

2 Introduction

2.1 Terms of Reference and Purpose of the Report

This report was prepared as a project status NI 43-101 Technical Report for Borealis Mining Company Limited by SRK Consulting (U.S.), Inc. on the Borealis Mining Project.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Borealis Mining Company Limited subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Borealis Mining Company Limited to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Borealis Mining Company Limited. The user of this document should ensure that this is the most-recent Technical Report for the property, as it is not valid if a new Technical Report has been issued.

2.2 Qualifications of Consultants (SRK)

The consultants preparing this Technical Report are specialists in the fields of geology, exploration, mineral resource and mineral reserve estimation and classification, underground mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

None of the consultants or any associates employed in the preparation of this report has any beneficial interest in Borealis Mining. The consultants are not insiders, associates, or affiliates of Borealis Mining. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Borealis Mining and the consultants. The consultants are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience, and professional association, are considered Qualified Persons (QP) as defined in the NI 43-101 standard for this report and are members in good standing of appropriate professional institutions. Appendix A provides QP certificates of authors. The QP's are responsible for specific sections as follows:

- Douglas Reid, P.Eng. Principal Consultant (Resource Geology) (referred to in this document as QP or SRK) is the QP responsible for all sections of this Technical Report.

2.3 Details of Inspection

Table 2-1 provides a list of site visit participants.

Table 2-1: Site Visit Participants

Personnel	Company	Expertise	Date of Visit	Details of Inspection
Douglas Reid	SRK Consulting (U.S) Inc.	Mineral Resources	June 21, 2023	Site visit to view open-pit exposures and facilities and examine historic data
Christopher Olson	SRK Consulting (U.S.) Inc.	Geology	June 21, 2023	Site visit to view open-pit exposures, facilities, and examine historic data, drill core chips, pulps, etc.

Source: SRK, 2023

2.4 Sources of Information

This report is based in part on technical reports, internal company reports, databases, previous mineral resource studies, maps, company letters from previous explorers, and public information as cited throughout the report and referenced in Section 27.

Borealis Mining has commissioned this report to serve as a summary of the current state of the Borealis Project and provide a strategic plan to advance the Project forward. Borealis Mining supplied SRK with as much of the available information from previous explorers as they had access to at the beginning of this process, and further efforts are ongoing to organize existing data and digitize additional paper files.

Project information provided by Borealis Mining includes the following:

- Drillhole database tables in Excel and Access formats, compiled by previous explorers
- Geological maps
- Plan and section maps of various geophysical surveys
- Gryphon press releases (2003 to 2012)

2.5 Effective Date

The effective date of this report is October 10, 2023.

2.6 Units of Measure

The US System for weights and units has been used throughout this report. Tons (t) are reported in short tons of 2,000 lb. All currency is in U.S. dollars (US$) unless otherwise stated.

2.7 Definition of Terms

Table 2-2 provides a list of general mining terms that may be used in this report.

Table 2-2: Definition of Terms

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of gold within mineralized rock.
Hangingwall	The overlying side of an orebody or slope.
Haulage	A horizontal underground excavation which is used to transport mined ore.
Hydrocyclone	A process whereby material is graded according to size by exploiting centrifugal forces of particulate materials.
Igneous	Primary crystalline rock formed by the solidification of magma.
Kriging	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
Level	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-Mine plans.
LRP	Long Range Plan.
Material Properties	Mine properties.
Milling	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve.
Pillar	Rock left behind to help support the excavations in an underground mine.
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	**All expenditures including those of an operating and capital nature.**
Variogram	A statistical representation of the characteristics (usually grade).

2.8 Abbreviations

Table 2-3 provides a list of abbreviations that may be used in this report.

Table 2-3: Abbreviations

Abbreviation	Unit or Term
%	Percent
<	less than
>	greater than
°	Degree
°F	degrees Fahrenheit
µm	Micron
AAL	American Assay Laboratories
ADR	adsorption, desorption, and recovery
Ag	Silver
Au	Gold
BA	Biological Assessment
BAPC	Bureau of Air Pollution Control
BE	Biological Evaluation
Behre Dolbear	Behre Dolbear & Company, Inc.
BLM	U.S. Bureau of Land Management
BMC	Borealis Mining Company Limited and Borealis Mining Company, LLC
BMRR	Bureau of Mining Regulation & Reclamation
Borealis	Borealis Mining Project
Borealis Mining	Borealis Mining Company Limited and Borealis Mining Company, LLC
BSDW	Bureau of Safe Drinking Water
Cambior	Cambior Exploration U.S.A., Inc.
cm	Centimeter
DRI	Desert Research Institute
EA	Environmental Assessment
Echo Bay	Echo Bay Mines
EIS	Environmental Impact Statement
EM	Electromagnetic
EPA	Environmental Protection Agency
ERRCP	Emergency Release, Response and Contingency Plan
ET	evapotranspiration
FCC	Federal Communications Commission
FONSI	Finding of No Significant Impact
FS	feasibility study
ft	Foot
ft^2	square foot
ft^3	cubic foot
g	Gram
g/L	grams per liter
g/mt	grams per metric tonne
gal	Gallon
Golden Phoenix	Golden Phoenix Minerals, Inc.
gpm	gallons per minute
Gryphon	Gryphon Gold Corp.
HLP	heap leach pad
Inspectorate	Inspectorate America Corp.
IP	Induced Polarization
JBR	JBR Environmental Consultants, Inc.
KCA	Kappes, Cassiday & Associates
kg	Kilograms
kg/mt	kilogram per metric tonne
km	Kilometer

Abbreviation	Unit or Term
kt	thousand tons
lb	Pound
Ma	million years ago
mL	Milliliter
mm	Millimeter
MOPTC	Mercury Operating Permit to Construct
Moz	million troy ounces
MRE	mineral resource estimate
MSHA	Mine Safety and Health Administration
Mt	million tons
mt	metric tonne
NaCN	sodium cyanide
NDEP	Nevada Department of Environmental Protection
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NI 43-101	Canadian National Instrument 43-101
NRHP	National Register of Historic Places
NSR	net smelter return
opt	troy ounces per short ton
oz	troy ounce
P_{80}	80% passing
PFS	prefeasibility study
PoO	plan of operations
ppb	parts per billion
ppm	parts per million
Project	Borealis Mining Project
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QP	Qualified Person
RC	reverse circulation
RCE	Reclamation Cost Estimate
RoM	run-of-mine
Santa Fe Pacific	Santa Fe Pacific Mining, Inc.
SHPO	State Historical Preservation Officer
SPCC	Spill Prevention, Control and Countermeasure
SRK	SRK Consulting (U.S.), Inc.
SWPPP	Storm Water Pollution Prevention Plan
t	short ton (2,000 pounds)
T&E	threatened and endangered
Technical Report	Canadian National Instrument 43-101 Technical Report
Tenneco	Tenneco Minerals, Inc.
USFS	United States Forest Service
VLF	very low frequency
Welsch	J.D. Welsh & Associates, Inc.
WPCP	Water Pollution Control Permit
WRF	waste rock facility

3 Reliance on Other Experts

The consultant's opinion contained herein is based on information provided to the consultants by Borealis Mining throughout the course of the investigations. SRK has relied upon the work of other consultants in the Project areas in support of this Technical Report.

The QPs have not performed an independent verification of land title and tenure information as summarized in Section 4 of this report. The QP did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s). The QPs have been involved in discussions concerning previous legal disputes on the Project, and the QPs were informed by Borealis Mining Company Limited that there are now no known litigations potentially affecting the Project.

The information in Section 4 (Property Description and Location) has been provided by Borealis Mining Company Limited. These items have not been independently reviewed by SRK, and SRK did not seek an independent legal opinion of these items. However, they are supported by a title report by Erwin Thompson Faillers, Borealis Mining Company Limited's attorney, dated April 17, 2023.

The Consultant's opinion contained herein is based on information and historical provided to the Consultants by Borealis. SRK has relied upon this information to discuss historic Mineral Resources, Mineral Reserves and Metallurgy in this Technical Report. SRK has relied on Borealis internal experts for details on information related to environmental permitting status.

The consultants used their experience to determine if the information from previous reports was suitable for inclusion in this Technical Report and adjusted information that required amending. This report includes technical information, which required subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the consultants do not consider them to be material.

4 Property Description and Location

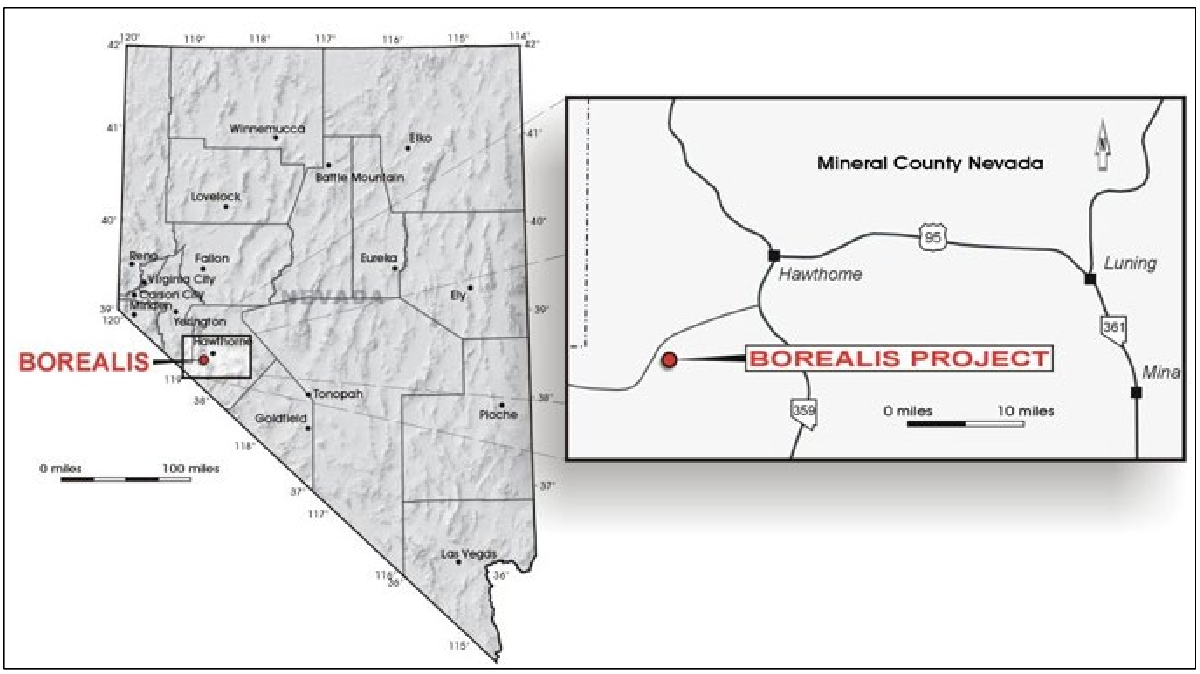
4.1 Property Location

The Borealis property is located in southwest Nevada, approximately 16 road miles southwest of the town of Hawthorne in the Walker Lane Mineral Belt and 12 miles northeast of the California border. Hawthorne is 130 highway miles southeast of Reno and 314 highway miles northwest of Las Vegas.

The project area is located in:

- T6N, R28E Sections 10-14
- T7N, R28E Sections 33-36
- T6N, R29E Sections 2-24, and 26-29
- T7N, R29E Sections 31

Mount Diablo Meridian, Mineral County Nevada, the approximate center of the property, is at latitude 38°22’55” No., longitude 118°45’34” W. Figure 4-1 shows the location of and access to the Borealis Project.



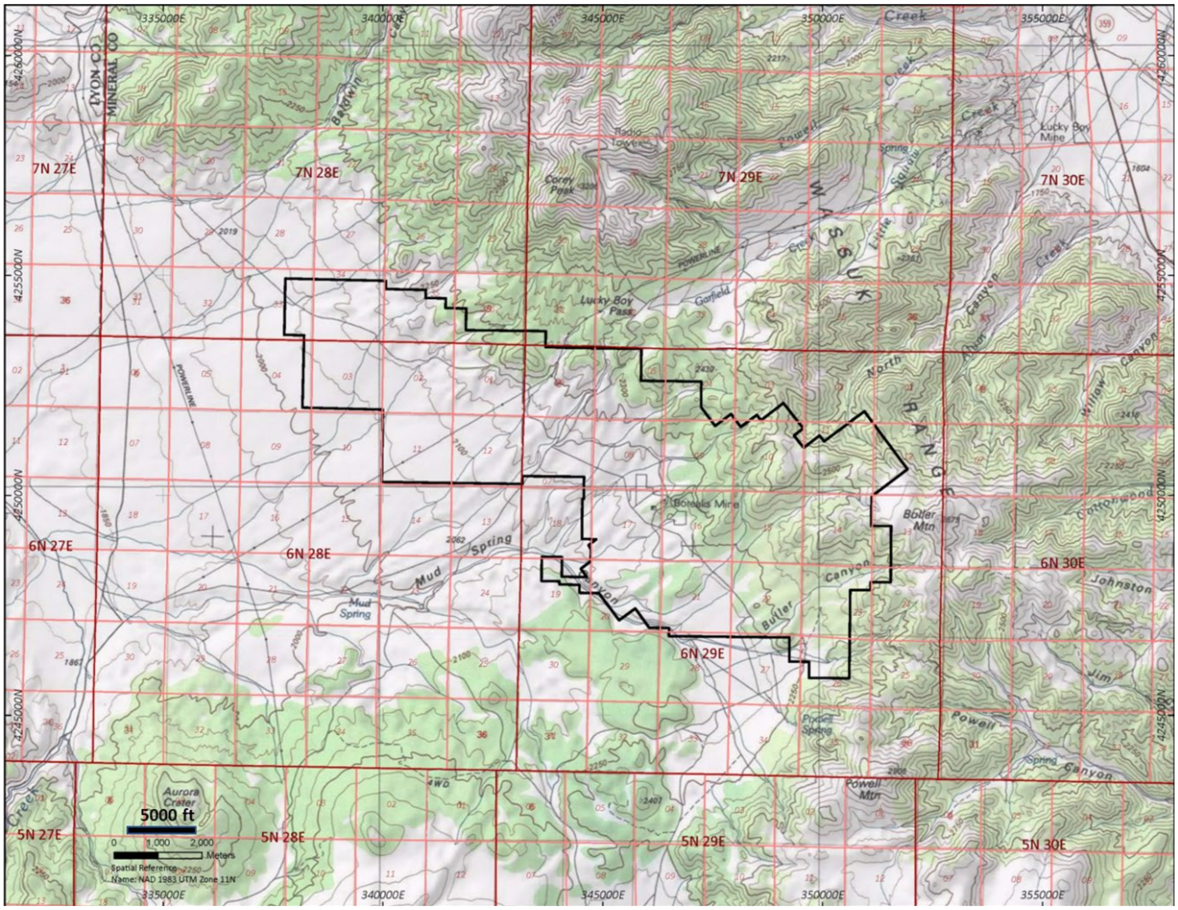
Source: Gryphon, 2005

Figure 4-1: Location Map of the Borealis Project

4.2 Property Description and Ownership

4.2.1 General Property Description

The Borealis property is comprised of 751 unpatented mining claims of approximately 20 acres each, totaling about 15,020 acres and one unpatented mill site claim of about 5 acres. Of the 751 unpatented mining claims, 128 claims are owned by others but leased to BMC, and 623 of the claims were staked by Golden Phoenix or Gryphon and transferred to BMC. These claims are shown in Figure 4-2. Note this figure is shown in a metric grid.



Source: Borealis Mining Company Limited, 2023

Figure 4-2: Borealis Project – Claim Outlines

The lands on which the claims are located were open to mineral location at the time of claim staking. There are no apparent conflicts with any privately owned land. There are some overlaps with surface improvements, such as a power line right-of-way and stock watering facilities, but those improvements do not prevent the location of mining claims. The conflicting third-party RAM claims, mentioned in the previous report, were terminated on September 1, 2015, and no longer exist, eliminating that prior conflict. Currently, there are eight junior third-party lode mining claims that partially conflict with (overlap) some of the senior Subject Claims at the perimeter of the Subject Property in Sections 7, 18, and 19 or T6N, R29E. The RM Claims were staked on September 9, 2016, and are owned by Nevada Select Royalty, Inc., a Nevada corporation. Assuming the validity of the senior Subject Claims, the Subject Claims control the conflict areas, and the conflicting portions of the junior RM Claims are invalid. Such perimeter claim conflicts are quite common at mining properties, and no conflicts were found within the interior area of the Subject Property.

A review of federal and county title records relating to the Borealis property was completed by Wolcott, LLC, a professional mineral title examination company with substantial experience in conducting mining claim title examinations. Wolcott, LLC, which also completed the title research for the previous report in 2012 at Gryphon's request, was asked by Waterton to perform an update search of all relevant land records subsequent to the last report. Wolcott, LLC prepared a report of its findings, dated August 30, 2021, and provided that report to the law firm of Parr, Brown, Gee and Loveless, who reviewed the report and prepared a Title Update Report dated September 13, 2021. All of the claims are shown in the BLM records as being in good standing.

Earlier reviews of land records were conducted in 2003 by Parr Waddoups Brown Gee and Loveless, attorneys at law, and Roger Gash, who is a Certified Professional Landman and Nevada Commissioned Abstractor. Subsequent updates were completed in 2004 and January and May 2005. The review began with the 1996 conveyance of the property out of Echo Bay. The review of the claims did not go back to the original location dates for the various claims, some of which dated back to 1953; this was because Gryphon was comfortable with the assumption that Echo Bay had successfully operated the property without legal challenges or significant problems.

4.2.2 Ownership, Purchase Agreement, and Mining Lease

Mineral rights, through BMC as the owner or lessee of the claims, allow BMC to explore, develop, and mine the Borealis property, subject to the prior procurement of required operating permits and approvals, compliance with the terms and conditions of the mining lease, and compliance with applicable federal, state, and local laws, regulations, and ordinances. The company believes that all of its claims are in good standing.

The 128 leased claims are owned by John W. Whitney, Hardrock Mining Company, and Richard J. Cavell, who are referenced to as the Borealis Owners. BMC leases the claims from the Borealis Owners under a mining lease dated January 24, 1997, and amended as of February 24, 1997. The BMC Lease was assigned to BMC by the prior lessee, Golden Phoenix. The mining lease contains an area of interest provision, such that any new mining claims located or acquired by BMC within the area of interest after the date of the mining lease shall automatically become subject to the provisions of the mining lease. The mining lease can be continued indefinitely for so long as any mining, development, or processing is being conducted on the leased property on a continuous basis.

The remainder of the Borealis property consists of 623 unpatented mining claims and one unpatented mill site claim staked by Golden Phoenix, Gryphon, or BMC. Claims staked by Golden Phoenix were transferred to BMC in conjunction with the January 28, 2005, purchase of all of Golden Phoenix's interest in the Borealis property. A total of 202 claims of the total 751 claims held by Gryphon are contiguous with the claim holdings, are located outside of the area of interest, and are not subject to any of the provisions of the lease.

All of the mining claims (including the owned and leased claims) are unpatented, such that paramount ownership of the land is in the United States of America. Claim maintenance payments and related documents must be filed annually with the BLM and with Mineral County, Nevada, to keep the claims from terminating by operation of law. BMC is responsible for those actions.

SRK verified that required documents were submitted and all fees have been paid to the BLM on August 17, 2023, and to Mineral County on maintenance requirements for the then existing claims. County filing fees plus document fees were paid to Mineral County on August 18, 2022, in fulfillment of the annual filing requirements, and fees are not due for the current year until November 1, 2023.

4.2.3 Royalty

Borealis Mining has a mining lease that requires a monthly payment of US$12,000 for advance royalty payments, which is adjusted each year for inflation. Once in production, the agreement attracts a net smelter royalty of 5%, which can be offset by the advance royalty payments made previously.

Any commercial production from adjacent claims owned by others and acquired by Borealis Mining within the Borealis Project area of interest will be subject to a 2% NSR royalty to be paid to the royalty holders.

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

5.1 Topography, Elevation, and Vegetation

The elevation on the property ranges from 7,200 to 8,200 ft above sea level. Topography ranges from moderate and hilly terrain with rocky knolls and peaks to steep and mountainous terrain in the higher elevations.

The vegetation throughout the Project area is categorized into six main community types: pinyon/ juniper woodland, sagebrush, ephemeral drainages, and areas disturbed by mining and reclaimed. Predominate species include pinyon pine, Utah juniper, greasewood, a variety of sagebrush species, crested wheat grass, and fourwing saltbush in previously reclaimed areas (JBR, 2004).

5.2 Accessibility and Transportation to the Property

Access to the Borealis property is gained from the Lucky Boy Pass gravel road located about 2 miles south of Hawthorne from Nevada State Highway 359 (Figure 4-1). The Borealis property is about 16 road miles from the small town of Hawthorne, Nevada.

Hawthorne provides the nearest available services for mineral exploration, development work, and mine operations and is located about 16 miles to the northeast of the Project area via a wide, well-maintained, gravel road. Hawthorne has substantial housing available, adequate fuel supplies, and sufficient infrastructure to take care of basic needs. For other goods and services, sources in Reno, Las Vegas, or other outlying towns could supply anything required for exploration program support and future mine development. Reno is about 144 highway miles northwest of Hawthorne, and Las Vegas is roughly 331 highway miles to the southeast.

5.3 Climate and Length of Operating Season

The elevation on the property ranges from 7,200 to 8,200 ft above sea level. This relatively high elevation produces moderate summers with high temperatures in the 90°F range. Winters can be cold and windy, with temperatures dropping to 0°F. Average annual precipitation is approximately 10 inches, part of which occurs as up to 60 inches of snowfall. Historically in the 1980s, the mine operated throughout the year with only limited weather related interruptions. It is anticipated that the mine will operate year-round as was done in the past without unusual problems.

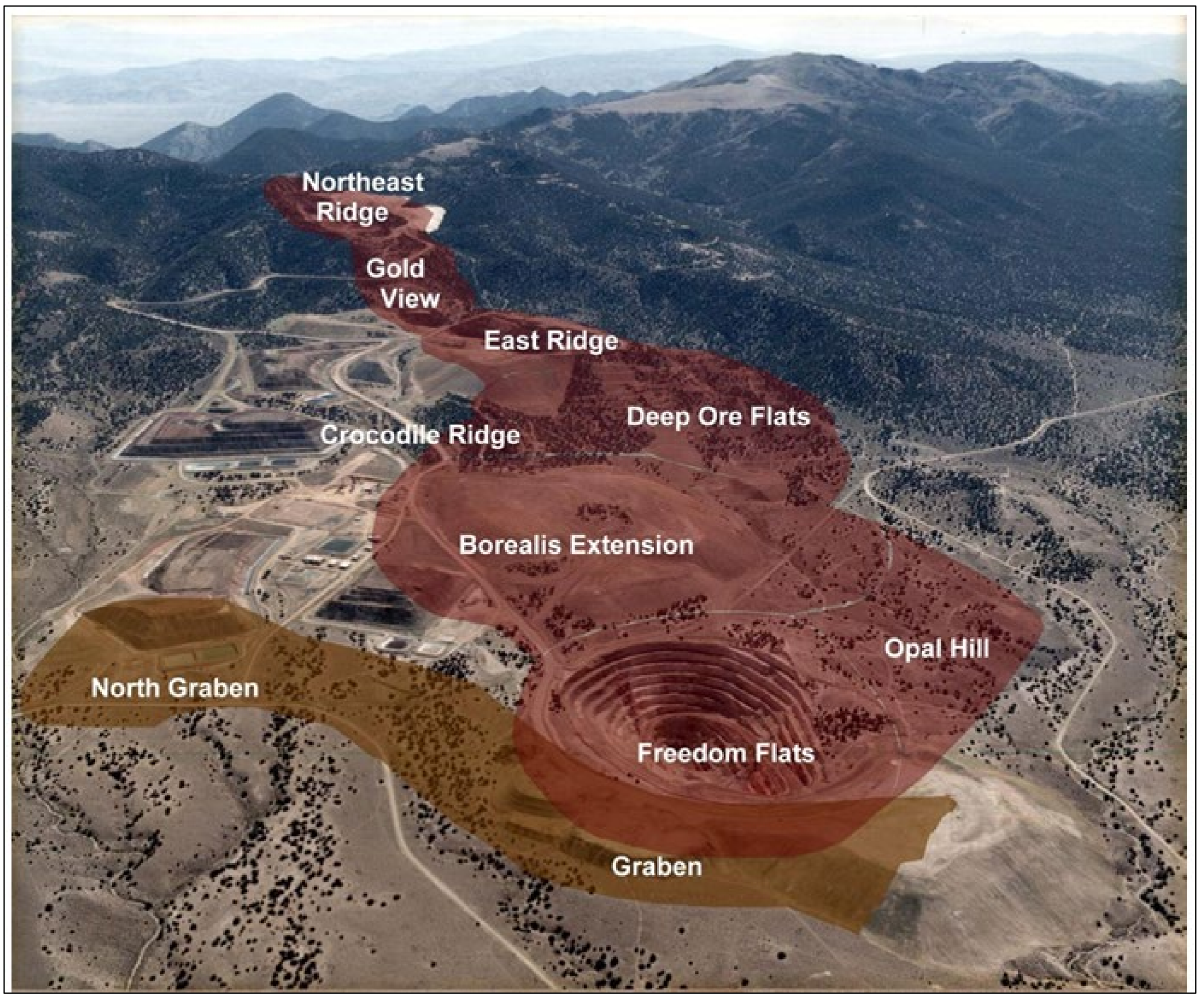
5.4 Sufficiency of Surface Rights

The Borealis property is comprised of 751 unpatented mining claims of approximately 20 acres each, totaling about 15,020 acres and one unpatented mill site claim of about 5 acres. Of the 751 unpatented mining claims, 128 claims are owned by others but leased to BMC, and 623 of the claims were staked by Golden Phoenix or Gryphon and transferred to BMC.

These claims cover all of the past-producing resource areas as well as the prospective lands for future exploration that are discussed in this report.

5.5 Infrastructure Availability and Sources

The Borealis Project site (Figure 5-1) was an active mine site as recently as early 2023. However, prior to Gryphon restarting mining in 2012, the property was reclaimed by Echo Bay to early 1990s standards, before new, more-modern state regulations were promulgated. The most-recent production, after this earlier reclamation by Echo Bay, produced from HLPs and from the East Ridge/ Goldview pit area. As such, some locations in the Project area have been undisturbed since the earlier reclamation, and some locations are presently in as-mined condition. The pits and the Project boundary are fenced for public safety. Currently, access to the pits and heap leach areas is gained through a locked gate. Office buildings, laboratory, Adsorption, Desorption, and Recovery (ADR) plant, and storage facilities were constructed or installed on-site after 2011 and are in good condition. Roads in the Project area are a mix of currently open and maintained haul roads to recently operating pit areas and two-track roads along previous reclaimed roadways accessing parts of the Project that were not recently operational.



Source: Echo Bay, circa 1991; modified by Gryphon, 2004

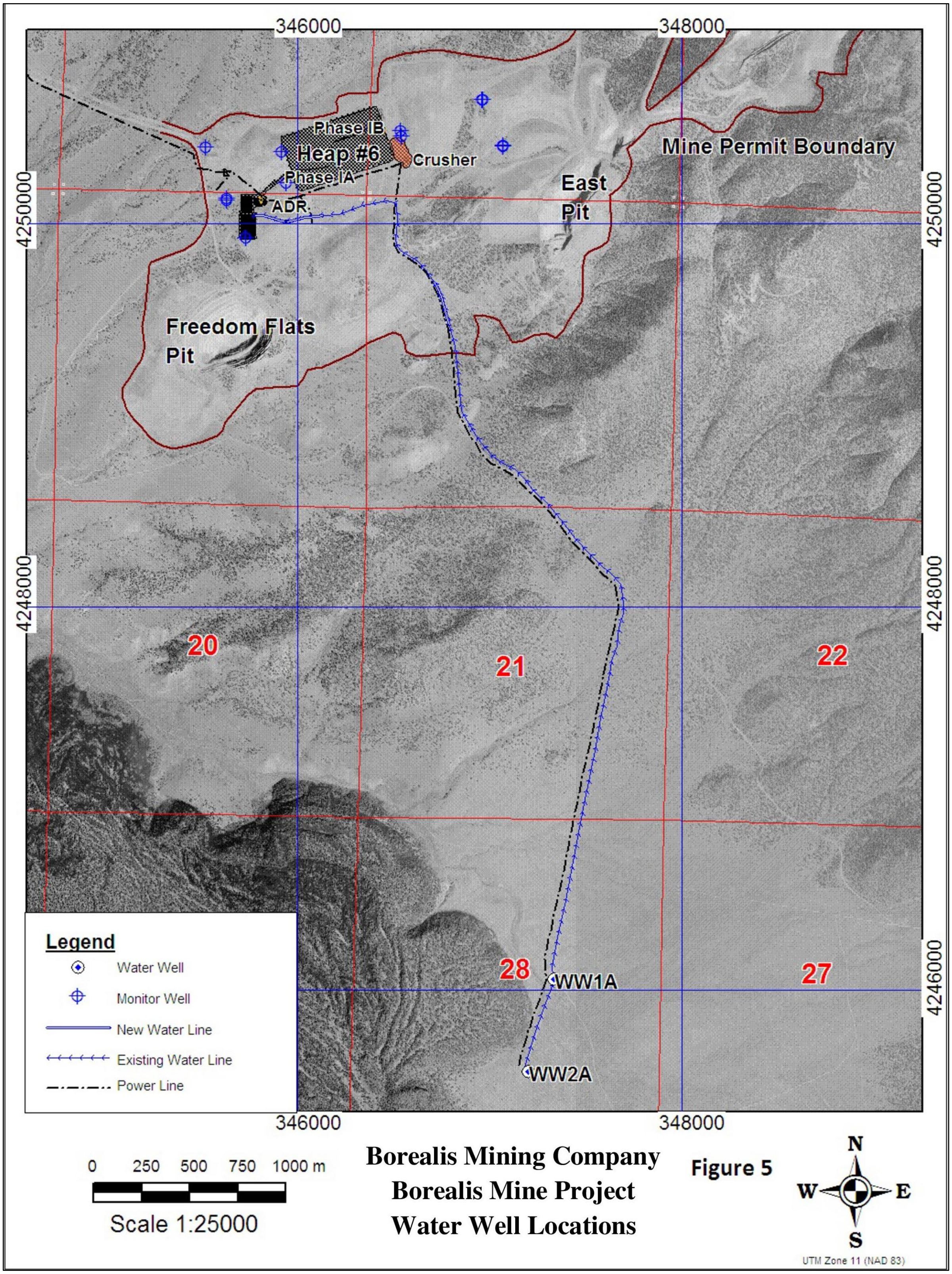
Figure 5-1: Photograph of a Portion of the Borealis District, Circa 1991 View to the East with Freedom Flats Pit in the Foreground

5.5.1 Power

Power is supplied to the mine via 69kV overhead line. Power is fed to Borealis Mine from the Hawthorne Substation located approximately 14.5 miles from the site. Overhead line is fed to the main transformer which then powers the ADR plant and mine facilities. Current facilities are fully powered and operational.

5.5.2 Water

Water is supplied to the mine from a topographically isolated basin. Two wells are located approximately 3 miles from the mine facilities (Figure 5-2). Mine water infrastructure is in place and currently in operable condition.



Source: Borealis, 2023

Figure 5-2: Water Well Location Map, Borealis Project

6 History

6.1 History of the District

The original Ramona Mining District, now known as the Borealis Mining District, produced less than 1,000 oz of gold prior to 1981. In 1978, the Borealis gold deposit was discovered by S.W. Ivosevic (1979), a Houston International Minerals Company geologist (a subsidiary of Houston Oil and Minerals Corporation). The property was acquired through a lease agreement with the Whitney Partnership, which later became the Borealis Partnership, following Houston's examination of the submitted property. Initial discovery of gold mineralization in the Borealis district and subsequent rapid development resulted in production beginning in October 1981 as an open pit mining and heap leaching operation. Tenneco acquired the assets of Houston International Minerals in late 1981 and continued production from the Borealis Mine pit. Subsequently, several other gold deposits were discovered and mined by open pit methods along the generally northeast-striking Borealis trend. Also, several small deposits were discovered further to the west in the Orion's Belt area. Tenneco's exploration in early 1986 discovered the Freedom Flats deposit beneath thin alluvial cover on the pediment southwest of the Borealis Mine pit. In October 1986, Echo Bay acquired the assets of Tenneco Minerals.

With the completion of mining of the readily available oxide material in the Freedom Flats deposit and other deposits in the district, active mining was terminated in January 1990, and leaching operations ended in late 1990. Echo Bay left behind a number of oxidized and sulfide-bearing gold mineral resources (Kirkham, 1987). All eight open pit operations are reported to have produced a total of 10.7 Mt of material averaging 0.059 opt Au (Golden Phoenix, 2000). Gold recovered from the heaps was approximately 500,000 oz, plus an estimated 1.5 Moz Ag. Echo Bay chose to close the mine instead of continuing development of the remaining mineral resources due to impending new environmental closure regulations and the desire to focus on their McCoy/Cove gold-silver deposits south of Battle Mountain, Nevada. Reclamation of the closed mine began immediately and continued for several years to meet the deadline for the less-restrictive regulations. Echo Bay decided not to continue with its own exploration, and the property was farmed out as a joint venture in 1990 to 1991 to Billiton Minerals, which drilled 28 RC exploration holes on outlying targets totaling 8,120 ft. Billiton dropped the property with no retained interest. Their exit was attributed to change in management direction and restructuring.

Santa Fe Pacific then entered into a joint venture with Echo Bay in 1992 to 1993 (Kortemeier, 1993), compiled data, constructed a digital drillhole database, and drilled 32 deep RC and deep core holes totaling 31,899.3 ft, including a number of holes into the Graben deposit. Santa Fe Pacific had success in identifying new sulfide-zone gold mineralization but terminated the joint venture because of reduced exploration budgets. Echo Bay completed all reclamation requirements in 1994, showcased the reclamation, and then terminated its lease agreement with the Borealis Partnership in 1996.

In late 1996, Welsh negotiated an option-to-lease agreement for the Borealis property from the Borealis Partnership. Welsh performed contract reclamation work for Echo Bay and was responsible for treating the drain down of the leach solutions. During this time, Welsh recognized the excellent remaining gold potential, and upon signing the lease, immediately joint-ventured the Project with Cambior. During 1997, Cambior performed a major data compilation program and several gradient IP surveys. In 1998, the company drilled 10 holes totaling 10,413.5 ft, which succeeded in extending the

Graben deposit and in identifying new zones of gold mineralization near Sunset Wash. Cambior terminated the joint venture in late 1998 because of severe budget constraints (Benedict and Lloyd, 1998).

During the Cambior joint-venture period in late 1997, Golden Phoenix entered an agreement to purchase a portion of Welsh's interest in the property. Welsh sold its remaining interest in the property to a third party, who in turn sold it to Golden Phoenix; therefore, in 2000, the company controlled 100% interest in the lease (Golden Phoenix, 2000). Golden Phoenix personnel reviewed project data, compiled and validated a digital drillhole database (previously not in a computer-based resource modeling input form), compiled exploration information, developed concepts, maintained the property during the years of low gold prices, and developed new MREs for the entire Borealis property.

In July 2003, the Borealis property was joint ventured by Golden Phoenix with BMC, which is a wholly owned subsidiary of Gryphon. BMC, the operator of the joint venture, originally controlled the property through an option agreement with Golden Phoenix whereby BMC could earn a 70% joint-venture interest in the property. BMC had the right to acquire its interest in the Borealis property with a combination of qualified expenditures on work programs, and/or making payments to Golden Phoenix, and/or delivering an FS over a period of 5$^1/_2$ years beginning July 2003. In January 2005, BMC purchased 100% interest in the lease agreement, and Golden Phoenix surrendered its interest in the property.

BMC, under leadership from Gryphon, expended a considerable effort consolidating the available historical data after acquiring an interest in the property. Files were located in the offices of Whitney and Whitney, Inc. (consultants to the Borealis Partnership), Golden Phoenix, and Kinross Gold (successor to Echo Bay), all in Reno, Nevada. General information and data included, but are not limited to, a variety of historical production records, geologic reports, environmental reports, geophysical and geochemical surveys, historical land and legal documents, drillhole logs, and assay data. It was estimated that more than 150,000 pages of information were located, digitized, and collated in a database. Gryphon geologists utilized this database to re-evaluate the district and generate drill targets. Several drilling campaigns were completed during the years that Gryphon owned the Project, the most recent being 2012 when a 47 hole sonic drill program testing Leach Pad #3 and other historic waste dumps was completed.

6.2 Past Production

Table 6-1 tabulates the past gold production from pits at Borealis, as reported by recent operating companies. Past gold production totaled approximately 10.6 Mt averaging 0.057 opt Au, although a report published in 1991 by Echo Bay (Eng, 1991) indicated that 10.7 Mt averaging 0.059 opt Au (635,000 oz) were mined through 1989. Mine production resulting from limited operations in 1990 is not included in either figure. Although no complete historical silver production records were found, the average silver content of material mined from all eight pits appears in the range of 5 oz Ag for each ounce of gold. It is likely that about 1.5 Moz of silver were shipped from the property in the doré bullion.

Table 6-1: Reported Past Borealis Production, 1981 to 1990

Deposit	Tons	Grade (opt Au)	Contained Gold (oz)
Crushed and Agglomerated Material			
Borealis	1,488,900	0.103	153,360
Freedom Flats	1,280,000	0.153	195,800
Jaime's Ridge/Cerro Duro	517,900	0.108	55,900
East Ridge	795,000	0.059	46,900
Gold View	264,000	0.047	12,400
Total	4,345,800	0.107	464,360
RoM Material			
East Ridge	2,605,000	0.021	54,700
Deep Ore Flats (Polaris)	250,000	0.038	9,500
Gold View	396,000	0.009	3,500
Northeast Ridge	3,000,000	0.025	75,000
Total	6,251,000	0.023	142,700
Grand Total	10,596,800	0.057	607,060

Note: Eng (1991) reports that the material mined contained a total of 635,000 oz Au.
Source: Telesto, 2011

Table 6-2: Recent Borealis Past Production, 2011 to 2022

Year	Ore (t)		Ore Contained (oz)			Recovered (oz)	
	Pit Mined*	Reprocessed*	Pit Au	Reprocessed Au	Pit Ag	Au	Ag
2011	-	199,674	-	6,223	N/A	605	N/A
2012	-	529,729	-	13,205	N/A	7,777	11,630
2013	239,012	1,192,996	4,762	21,874	142,328	10,519	20,881
2014	-	1,633,700	-	-	19,180	10,830	33,920
2015	-	516,300	-	-	-	1,446	6,321
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-
2021	1,097,997	-	12,493	-	29,114	3,936	6,472
2022	1,188,791	-	16,340	-	53,684	11,920	19,715
2023**						1,116	2,610

*Pit material refers to newly blasted and crushed material from producing pits. Reprocessed material is legacy heap and dump material that was re-worked.
** 2023 YTD data ending in August 2023 inclusive.
Source: Borealis Mining Co., 2023

6.3 Borealis Property Development Background

In October 2003, Gryphon engaged Behre Dolbear & Company, Inc. (Behre Dolbear), mining consultants, to develop a preliminary assessment for the redevelopment of the Borealis property. Behre Dolbear prepared a report titled, "The Borealis Gold Project, Nevada: A Preliminary Scoping Study of Project Development," dated June 7, 2004.

At that time, Behre Dolbear analyzed the historical data on the property and produced a series of recommendations to evaluate and potentially develop the Borealis property. Gryphon spent the next several years advancing the Project through various engineering studies, ultimately determining the project to be economic, following the completion of a 2011 updated prefeasibility study (PFS) by Telesto NV Inc.

Construction of the mine began on June 6, 2011, and, over the course of the next year and a half, completed the construction of the leach pad, pregnant and barren ponds, carbon columns, roads, grounds, and power distribution system. According to the last annual report filed by Gryphon in 2012, the "ADR plant was approximately 90% complete and operational" as of March 31, 2012, and the first doré bar was poured on March 30, 2012. Gryphon faced challenges sourcing material for leach pad construction, in addition to having issues with chronic equipment breakdowns and costly design failures. These factors contributed to significant cost overruns during the construction process, and several rounds of additional fundraising were necessary to keep the mine in operation. These efforts were ultimately unsuccessful, and, after a period of litigious uncertainty, Gryphon was foreclosed on by its primary creditor, Waterton Global Value, who assumed control of Borealis Mining. After resolution of the legal proceedings, BMC again operated the mine under Waterton's control from September 2016 until it was sold to Borealis Mining Company Limited in April 2023.

Between 2011 and 2022, a total of roughly 6.2 Mt of new pit material and re-worked heap and dump material were processed, containing 85,821 oz Au and 244,306 oz Ag. Recovered metal totaled 45,441 oz Au and 95,915 oz Ag; Table 6-2 details these results.

6.4 Previous Mineral Resource Estimates

Numerous Mineral Resource estimates have been completed on the Project by previous explorers. These estimates are not considered as current. These estimates were made prior to the acquisition of the Project by Borealis. Further work is required by the QP to update the Mineral Resources and verify these historical estimates. The QP currently has not done one sufficient work to classify the historical estimate as current mineral resources, and the Issuer (Borealis Mining), is not treating the historical estimate as current mineral resources.

Borealis has commissioned SRK to act as independent engineers and QP's for the review and assessment of the Project and to develop a strategic plan to progress the Project to an advanced exploration project as well as the declaration of Mineral Resources in 2024.

A summary of the historical estimates is presented in Table 6-3, and Table 6-4 provides Telesto's 2011 in situ resources (Telesto, 2011).

Table 6-3: Summary of In Situ Measured and Indicated Mineral Resources, March 2011

Deposit	Au Cut-Off (opt)	Tonnage (kt)	Grade (opt) Au	Grade (opt) Ag	Contained (oz) Au	Contained (oz) Ag	Au Cut-Off (opt)	Tonnage (kt)	Grade (opt) Au	Grade (opt) Ag	Contained (oz) Au	Contained (oz) Ag
	Measured											
	Oxide and Mixed Oxide						**Sulfide Resources**					
South Model (Borealis, Deep Ore Flats, Freedom Flats, and Crocodile Ridge)	0.007	696	0.018	0.25	12,500	172,600	0.015	4,328	0.053	0.30	229,400	1,302,700
North Model (Northeast Ridge and East Ridge)	0.007	13,640	0.012	0.10	159,000	1,364,000	0.015	1,100	0.024	0.08	26,400	88,000
East Model (Boundary Ridge and Bullion Ridge)	0.007	11,516	0.012	0.02	138,200	230,300	0.015	-	-	-	-	-
West Model (Cerro Duro, Jaime's Ridge, and Purdy Peak)	0.007	3,179	0.029	0.14	92,200	445,100	0.015	745	0.043	0.16	32,000	119,100
Total Measured	**0.007**	**29,031**	**0.014**	**0.08**	**401,900**	**2,212,000**	**0.015**	**6,173**	**0.047**	**0.24**	**287,800**	**1,509,800**
	Indicated											
	Oxide and Mixed Oxide						**Sulfide Resources**					
South Model (Borealis, Deep Ore Flats, Freedom Flats, and Crocodile Ridge)	0.007	4,042	0.018	0.25	72,800	1,002,400	0.015	19,774	0.053	0.30	1,048,000	5,952,000
North Model (Northeast Ridge and East Ridge)	0.007	1,122	0.012	0.10	13,100	112,200	0.015	66	0.024	0.08	1,600	5,300
East Model (Boundary Ridge and Bullion Ridge)	0.007	-	-	-	-	-	0.015	-	-	-	-	-
West Model (Cerro Duro, Jaime's Ridge, and Purdy Peak)	0.007	224	0.015	0.14	3,400	31,400	0.015	53	0.043	0.16	2,300	8,400
Total Indicated	**0.007**	**5,388**	**0.017**	**0.21**	**89,300**	**1,146,000**	**0.015**	**19,893**	**0.053**	**0.3**	**1,051,900**	**5,965,700**
	Measured and Indicated											
	Oxide and Mixed Oxide						**Sulfide Resources**					
South Model	0.007	4,738	0.018	0.25	85,300	1,175,000	0.015	24,102	0.053	0.30	1,277,400	7,254,700
North Model	0.007	14,762	0.012	0.10	172,100	1,476,200	0.015	1,166	0.024	0.08	28,000	93,300
East Model	0.007	11,516	0.012	0.02	138,200	230,300	0.015	-	-	-	-	-
West Model	0.007	3,403	0.028	0.14	95,600	476,500	0.015	798	0.043	0.16	34,300	127,500
Total Measured and Indicated	**0.007**	**34,419**	**0.014**	**0.10**	**491,200**	**3,358,000**	**0.015**	**26,066**	**0.051**	**0.29**	**1,339,700**	**7,475,500**

Note: Mineral resources are reported in situ. SRK cautions the reader that these estimates should not be considered as current and should not be relied upon but have been shown to provide context on the variation in the potential size of the deposit.
These resources have not been depleted to account for production since March 2011
Source: Telesto, 2011

Table 6-4: Summary of In Situ Inferred Mineral Resources, March 2011

Resource Zone	Au Cut-Off (opt)	Tonnage (kt)	Grade (opt)		Contained (oz)	
			Au	Ag	Au	Ag
South Model	0.007	-	-	-	-	-
North Model	0.007	8,094	0.008	0.11	62,400	912,000
East Model	0.007	7,907	0.009	0.02	75,000	158,100
West Model	0.007	2,175	0.027	0.11	58,000	244,800
Total	**0.007**	**18,176**	**0.011**	**0.07**	**195,400**	**1,314,900**

Note: Mineral resources are reported in situ. SRK cautions the reader that these estimates should not be considered as current and should not be relied upon but have been shown to provide context on the variation in the potential size of the deposit. These resources have not been depleted to account for production since March 2011.
Source: Telesto, 2011

It is SRK's view that the historic estimates are not current, as they do not reflect all of the current exploration completed on the Project, and that an updated MRE should be completed. SRK currently has not done one sufficient work to classify the historical estimate as current mineral resources, and the Issuer (Borealis Mining), is not treating the historical estimate as current mineral resources.

SRK opinion the work program outlined in Section 26 would be required to advance the project to a level of confidence required to support a current MRE. Some of the suggested programs are as follows:

- Geophysical surveys
- Twinning selected RC holes with core holes
- Additional core drilling to confirm and extend historic deposits
- Compilation and verification of historic data
- Review of historic QA/QC results
- Updated geology model
- Updated mineral resource incorporating additional drilling, geological modeling
- Updated metallurgical studies.

6.5 Previous Mineral Reserve Estimates

Table 6-5 provides Telesto's 2011 updated PFS reserves, both in situ and contained in legacy heaps and dumps (Telesto, 2011). The QP currently has not completed sufficient work to classify the historical estimate as current mineral reserves, and the Issuer (Borealis Mining), is not treating the historical estimate as current mineral reserves.

Table 6-5: Borealis Mineable Proven and Probable Oxide and Mixed Oxide Gold Reserves, March 2011

Model	Cut-Off Grade (opt)	Proven					Probable					Proven and Probable				
		Tonnage (kt)	Average Au Grade (opt)	Average Ag Grade (opt)	Contained Au (oz)	Contained Ag (oz)	Tonnage (kt)	Average Au Grade (opt)	Average Ag Grade (opt)	Contained Au (oz)	Contained Ag (oz)	Tonnage (kt)	Average Au Grade (opt)	Average Ag Grade (opt)	Contained Au (oz)	Contained Ag (oz)
South*	0.007	281	0.043	0.37	12,100	103,200	1,727	0.042	0.37	71,900	634,400	2,008	0.042	0.37	84,000	737,600
North	0.007	6,001	0.016	0.08	98,700	507,700	667	0.016	0.08	11,000	56,500	6,668	0.016	0.08	109,700	564,200
East**	0.007	3,756	0.017	0.02	63,900	75,100	38	0.017	0.02	600	800	3,794	0.017	0.02	64,500	75,900
West**	0.007	1,179	0.031	0.19	36,100	222,400	49	0.031	0.19	1,500	9,300	1,228	0.031	0.19	37,600	231,700
Legacy Heaps and Dumps	0.005	-	-	-	-	-	3,499	0.021	0.17	73,000	593,600	3,499	0.021	0.17	73,000	593,600
Total		**11,217**	**0.019**	**0.08**	**210,800**	**908,400**	**5,980**	**0.026**	**0.22**	**158,000**	**1,294,600**	**17,197**	**0.021**	**0.13**	**368,800**	**2,203,000**

Note: Rounding of tons as required by Form 43-101F1 reporting guidelines (Item 19) results in apparent differences between tons, grade, and contained ounces in the mineral resource.
*Permitted except for Crocodile Ridge
**Not permitted
Source: Telesto, 2011

Note that as a result of applying economic constraints, only a portion of all oxide and mixed oxide Measured and Indicated resources were converted to the reserves shown in Table 6-5 . Also note that as a result of applying economic constraints, only a portion of the resources shown in Section 6.4 were converted to the reserves shown in Table 6-5.

It is SRK's view that the historic reserves are not current and Borealis Mining is not treating them as such, and the information presented will be updated once a current MRE is available.

6.6 Historic Mineral Processing and Metallurgical Testing

A great deal of mineral processing and metallurgical test work was completed prior to the most-recent period of mine operation by Gryphon/Waterton, and it is dealt with at length in the historic Telesto PFS. This work focused entirely on oxide and mixed or transitional material types, as previous mining operations were planned to be traditional cyanide leach. A summary of that work is included below for reference.

This section was originally compiled by Gryphon's consulting metallurgist, Jaye T. Pickarts, P.E., and Principal Metallurgical Engineer, Knight Piésold and Co., and Samuel Engineering, Inc., a process design consulting group, contributed supporting information regarding preliminary metallurgical flowsheet concepts. Telesto Nevada updated this section with additional information in the 2009 PFS and new information in this report. Bulk density data and tonnage factors were developed and provided by contributing Gryphon authors, including Thom Seal, Ph.D., P.E., Mining-Mineral Process-Metallurgical Engineer. Dr. Seal did not visit the property, nor did he supervise any sampling or metallurgical tests. Dr. Seal only reviewed documents that Gryphon and Telesto provided in hard copy. Newer metallurgical testing was performed in 2010 and 2011 by Kappes, Cassiday & Associates (KCA) and is reported in Section 6.9. The report of this more-recent metallurgical work was prepared under the supervision of Mr. Dan Kappes.

6.6.1 Introduction

Gold mineralization at Borealis comprises large areas of silicification, hydrothermal brecciation, and advanced argillic alteration in Tertiary volcanic rocks. The volcanic stratigraphy consists of andesite flows, breccias, and tuffs. The gold deposits at Borealis are structurally controlled along a series of northeasterly trending normal faults that dip steeply to the northwest. Gold generally occurs as sub-micron (μm)-size particles in highly altered andesite and tuff along fracture surfaces during late-stage overgrowth on sulfide crystal faces (Eng, 1990, and Honea, 1988). Gold mineralization is finely disseminated and/or partially bonded with pyrite, and although there are very little mineralogy data available, historical operating reports suggest that some coarse gold may exist. Gold that is bound in pyrite or pyrite-silica is not easily recovered by simple heap leach cyanidation (Behre Dolbear, 2004). There are no reports of carbonaceous refractory components within the old heap or dump materials. The previous mine operator employed a Merrill-Crowe circuit to recover gold and silver, followed by a retort to remove mercury.

6.7 History of Metallurgical Studies

Historically, eight open pit mines were developed at the Borealis Project during its operating years from 1981 to 1990; they include the Borealis, East Ridge, Deep Ore Flats, Gold View, Freedom Flats, /Northeast Ridge, Jaime's Ridge, and Cerro Duro mines. Each pit has associated waste rock disposal areas proximate to the mine area. Two of the pits (Borealis and the Deep Ore Flats) were backfilled with mine waste produced from proximate pits. Processing was by conventional cyanide-agglomerated heap leaching using both permanent and reusable pads. Precious metals were recovered using a Merrill-Crowe process. Historical data for this section was drawn from Bechtel Group, Inc., (1980), Houston International Minerals Corporation, (1981, 1982, 1983a, 1983b, 1983c, 1983d, 1983e, 1984, and 1986), Tenneco Minerals Company (1986), and Washington Group International, Inc., (2003).

According to reports, records, and personal communications, historical heap leach operations throughout the 1980s reportedly produced gold recoveries in the upper 70% to mid-80% range of range of total gold by fire assay (Whitney and Whitney, Inc., 1996). This material was primarily oxide and mixed oxide and utilized cement agglomeration to achieve suitable solution percolation, pH control, and precious metal dissolution. Previous heap leach operations also processed RoM (uncrushed), which were typically low-grade material that was stacked on the upper lifts of the HLP. Historical gold recoveries for RoM ranged from 20% to 50%, and silver recoveries were typically less than 20%. There has been no current test work performed on RoM-sized samples.

6.8 Previous Metallurgical Investigations (Existing Heaps and Waste Dumps)

In 2004, the first phase of metallurgical test work (Knight Piésold and Co., 2004) was developed for samples from sonic exploration drill samples. This work focused on determining the amenability of gold to cyanidation and the effect of particle size on gold recovery. For this program, the BMC geological staff (under the supervision of Roger Steininger, Ph.D., CPG) collected 249 samples from historical leach pad areas and waste dumps. The samples obtained from the sonic drilling were sent to American Assay Laboratories (AAL) in Sparks, Nevada for analysis. The sample areas included:

- Existing previously leached pads:
  - Pad #1 (Freedom Flats Heap and the Tailing Re-Leach Pad, 2.969 kt)
  - Pad #3 (RoM heap, ± 3,000 kt)
- Borealis Waste Dump

Shake leach testing, conducted by AAL on samples from these areas, consisted of a 200 gram (g) sample sized to 80% passing (P_{80}) 200 mesh and agitated leached for 2 hours. Solution assay results (with gold recoveries averaging about 84%, 82%, and 100%, respectively) indicated recoverable gold content in the existing Tailings Re-Leach Pad, the Freedom Flats Pad, and in half of the Borealis Waste Dump. Based on the shake test results, bottle roll leach testing was conducted by McClelland Metallurgical Laboratory on samples from these three locations.

Borehole composite samples were split, and duplicate bottle roll tests were conducted on material sized to 80% less than (<) 1$^1/_2$, 1, $^3/_4$, and $^1/_2$ inch. Triplicate head assays were run on the composite sample, and each test underwent a 72 hour cyanide leach, had triplicate tail assays, and the cyanide concentration was maintained at 1.0 grams per liter (g/L).

Only eight bottle roll leaching tests were conducted on samples from the northeast half of the Borealis Dump, which had better head assays. These bottle results indicated a gold recovery ranging from 61.9% to 81% with an average of 72%.

Table 6-6 shows a summary of these 2004 results (Knight Piésold and Co., 2004).

Table 6-6: 2004 Summary Metallurgical Results, Scoping Bottle Roll Tests Borealis Heap and Dump Composites, Phase 1

Composite	Test Number	P_{80} Feed Size (mm)	Au Recovered (%)	Au (g/mt)			Au Head Assay (g/mt)	Reagent Requirements (kg/mt)	
				Extracted	Tail	Calculated Head		NaCN Concentration	Lime Added
Tailings Re-Leach Pad Comp A	CY-1	38	41.9	0.26	0.36	0.62	0.68	0.23	2.6
Tailings Re-Leach Pad Comp A	CY-2	38	42.6	0.26	0.35	0.61	0.68	0.15	2.7
Tailings Re-Leach Pad Comp A	CY-3	25	38.5	0.25	0.40	0.65	0.68	0.08	3.2
Tailings Re-Leach Pad Comp A	CY-4	25	36.0	0.27	0.48	0.75	0.68	0.15	3.1
Tailings Re-Leach Pad Comp A	CY-5	19	42.2	0.27	0.37	0.64	0.68	0.16	5.9
Tailings Re-Leach Pad Comp A	CY-6	19	44.3	0.27	0.34	0.61	0.68	0.07	5.9
Tailings Re-Leach Pad Comp A	CY-7	12.5	44.4	0.28	0.35	0.63	0.68	0.23	2.6
Tailings Re-Leach Pad Comp A	CY-8	12.5	37.5	0.27	0.45	0.72	0.68	0.15	5.6
Tailings Re-Leach Pad Comp A	CY-25	12.5	39.7	0.27	0.41	0.68	0.57	0.15	2.9
N.E. Ridge Pad	CY-9	38	54.9	0.28	0.23	0.51	0.33	0.75	4.6
N.E. Ridge Pad	CY-10	38	48.3	0.29	0.31	0.60	0.33	0.45	5.5
N.E. Ridge Pad	CY-11	25	53.3	0.24	0.21	0.45	0.33	0.38	5.4
N.E. Ridge Pad	CY-12	25	51.2	0.22	0.21	0.43	0.33	0.30	6.3
N.E. Ridge Pad	CY-13	19	53.2	0.25	0.22	0.47	0.33	0.38	6.8
N.E. Ridge Pad	CY-14	19	51.3	0.20	0.19	0.39	0.33	0.38	6.0
N.E. Ridge Pad	CY-15	12.5	50.0	0.17	0.17	0.34	0.33	0.45	4.8
N.E. Ridge Pad	CY-16	12.5	45.5	0.15	0.18	0.33	0.33	0.31	5.1
N.E. Ridge Pad	CY-26	12.5	50.0	0.18	0.18	0.36	0.37	0.37	5
Borealis Dump	CY-17	38	61.9	0.26	0.16	0.42	0.39	0.10	7.9
Borealis Dump	CY-18	38	63.4	0.26	0.15	0.41	0.39	0.29	8.1
Borealis Dump	CY-19	25	63.6	0.28	0.16	0.44	0.39	0.28	8.5
Borealis Dump	CY-20	25	77.3	0.58	0.17	0.75	0.39	0.28	8.6
Borealis Dump	CY-21	19	71.4	0.25	0.10	0.35	0.39	0.25	8.1
Borealis Dump	CY-22	19	73.2	0.30	0.11	0.41	0.39	0.17	8.1
Borealis Dump	CY-23	12.5	81.0	0.34	0.08	0.42	0.39	0.08	7.7
Borealis Dump	CY-24	12.5	78.4	0.29	0.08	0.37	0.39	0.25	8.1

g/mt: Grams per metric tonne
kg/mt: Kilograms per metric tonne
mm: Millimeter
mt: Metric tonne
NaCN: Sodium cyanide
Source: Telesto, 2011

Additional metallurgical testing was conducted in 2006 (McClelland Laboratories (McClelland), 2006) for a phase two program that utilized samples collected from exploration drilling in unmined zones and four bulk samples collected from near-surface trenches. Sample composites were made by combining a split of each interval from each hole into a hole composite. Each composite and hole was then fire assayed for gold and silver.

Bottle roll leach tests were conducted on each of the RC drillhole composites that were made up from interval samples collected for each respective hole. Since these drillholes are related to development of the resource model, these metallurgical data were used to estimate the gold and silver recovery used in the Project production schedule. For pits and deposits where recent metallurgical data were unavailable, the best available data were sourced from historical records.

The samples were prepared by collecting a split of each sample interval and combined to create a composite from each hole. The split was based on the drilling depth of each respective hole and the quantity produced from each hole to prevent a bias from any particular hole. All samples were collected by BMC geological staff, and the composites were performed by McClelland Metallurgical Laboratory staff under the direction of the project metallurgist.

Each composite sample was fire assayed for gold and silver. Assayed head screen and tail screen analysis was also completed on each composite. Duplicate bottle roll tests were conducted on each composite for a 72 hour cyanide leach, maintaining 1.0 g/L cyanide concentration and 10.5 pH. Triplicate tail assays were conducted on each composite.

All of these metallurgical samples were sized to 80% $<{}^{3}/_{4}$ inch. However, since an RC rig was used in the drilling program, many of the samples were much finer and therefore used as received in the bottle roll tests. The feed size for these as received samples ranged from 1.15 to 19 mm depending on pit or deposit location. The fire assay work was completed by AAL, and the metallurgical testing was completed by McClelland Metallurgical Laboratory. 77 bottle roll tests were completed on the drillhole samples for the areas listed above. Table 6-7 provides detailed results of these bottle roll tests.

Table 6-7: Summary Metallurgical Results, Scoping Bottle Roll Tests, Borealis Composites, As Received Feeds

Composited Drillholes from Each Resource Area	Total Number of Drillholes	Total Number of Tests	Average Au Recovered (%)	Au g/mt			Au Head Assay (g/mt)	Reagent Requirements (kg/mt)	
				Extracted	Tail	Calculated Head		NaCN Concentration	Lime Added
Oxide and Mixed									
North East Ridge	9	23	70.0	0.35	0.15	0.49	0.49	0.16	2.91
Middle Ridge	6	14	75.0	0.35	0.12	0.46	0.41	0.07	2.20
East Ridge	11	23	63.4	0.28	0.16	0.45	0.44	0.24	4.96
Deep Ore Flats	3	8	72.6	0.36	0.14	0.49	0.57	0.11	1.83
Borealis Extend	1	1	78.3	0.18	0.05	0.23	0.00	0.07	16.90
Sulfide									
North East Ridge	4	10	21.2	0.06	0.22	0.28	0.34	2.99	1.74
Middle Ridge	1	3	47.0	0.2	0.24	0.45	0.45	4.48	1.73
East Ridge	5	13	11.4	0.03	0.26	0.3	0.26	1.05	3.28
Deep Ore Flats	1	3	0.0	0.0	0.39	0.39	0.41	0.5	3.43
Borealis Extent	5	18	13.1	0.13	0.86	0.99	1.05	0.81	6.15
Freedom Flats	3	6	8.61	0.04	0.41	0.45	0.48	0.08	2.35

Source: Telesto, 2011

For column test work (McClelland, 2006), bulk trench samples were obtained from four of the proposed production areas at the mine. Except for sample material coming from the Tailings Re-Leach Pad, which was previously mined and leached, the samples from East Ridge, Middle Ridge, and Northeast Ridge pits were in situ unmined and un-leached material. Each of these four bulk samples were blended, split, and sized for metallurgical testing. Duplicate bottle roll tests were conducted on each test sample that was sized to 80% <1½ , 1, ¾, and ½ inch size fractions in order to determine the material size for optimum gold recovery. Each bottle roll sample was leached for 72 hours, and triplicate tail assays were conducted. A split from each bulk sample was fire assayed for gold and silver and analyzed for sulfide sulfur content and mercury; Table 6-8 summarizes these tests.

Table 6-8: Summary Metallurgical Results, Column Test Work, Borealis Bulk Trench Samples

Location	Test Number	P_{80} Feed Size (mm)	Au Recovered (%)	Au (g/mt)			Au Head Assay (g/mt)	Reagent Requirements (kg/mt)	
				Extracted	Tail	Calculated Head		NaCN Concentration	Lime Added
Freedom Flats Leach Pad #1	P-1	38	20.1	0.29	1.15	1.44	1.24	0.22	2.5
Northeast Ridge Pit	P-2	38	75.0	0.60	0.20	0.80	0.80	0.41	1.0
Middle Ridge (NER Haul Rd)	P-3	25	80.0	0.36	0.09	0.45	0.42	0.60	1.5
East Ridge Pit	P-4	25	78.7	0.70	0.19	0.89	1.10	0.25	0.8

Source: Telesto, 2011

Agglomeration test work was also conducted on these samples to determine the amount of binding agent needed to ensure optimum solution percolation and agglomerate strength. Only the Tailings Re-Leach Pad material required a cement-binding agent, since this material was much finer than the expected pit run material.

Based on the results obtained in the sized bottle roll tests done or these trench samples, the one bottle roll size fraction that yielded the best bottle roll recovery (80% <$^3/_4$ inch) was then agglomerated and loaded into 12 inch diameter, 20 ft columns for leaching. Barren solution containing 0.25 g/L NaCN was added at an equivalent rate of 0.005 gallons per minute (gpm) per square foot (ft^2). Each column was put under leach at for a minimum of 45 days to simulate the expected leach cycle. Leaching continued until the gold grade in the pregnant solution reached a point where no additional recovery was observed. Each column then had a 3 to 7 day rest cycle, and again barren solution was applied for another 10 days to complete the leach cycle.

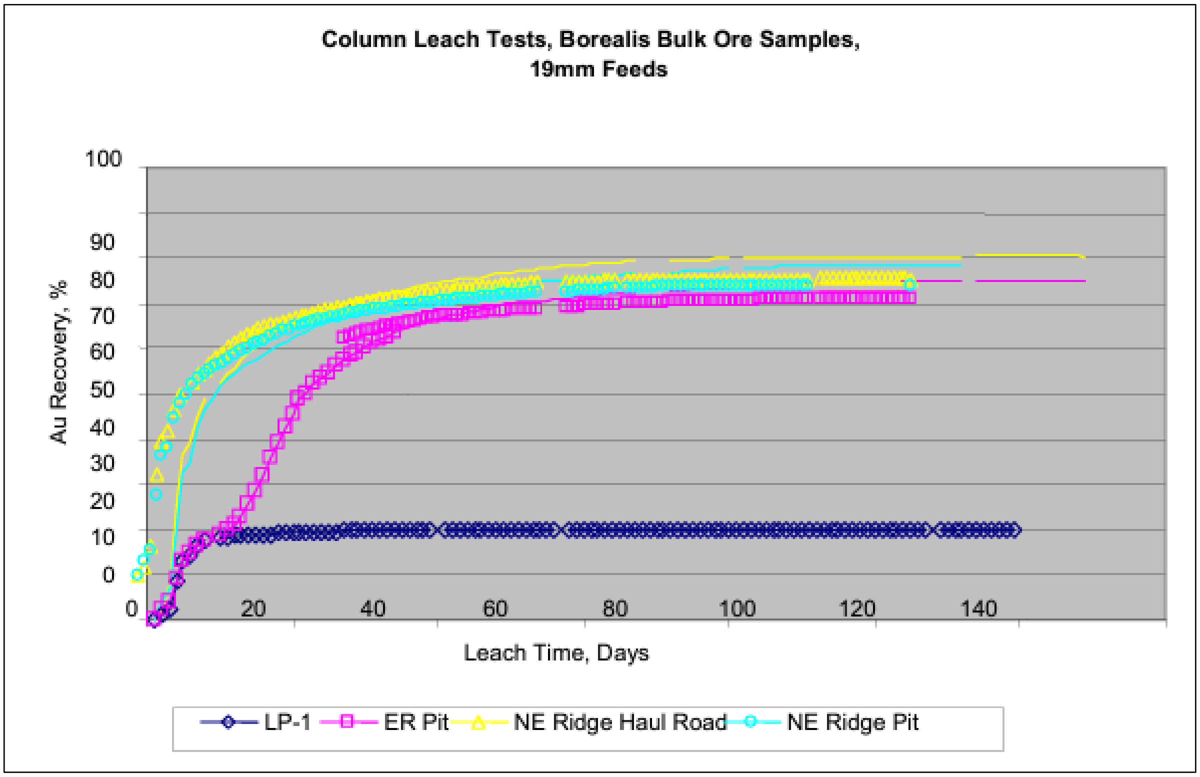
At that point, rinsing was initiated to simulate and quantify the heap closure requirements. The leaching times for the columns are as follows:

- Column P-1, Tailings Re-Leach Pad: 56 days
- Column P-2, East Ridge Pit: 80 days
- Column P-3, Middle Ridge Pit: 80 days
- Column P-4, Northeast Ridge Pit: 80 days

Rinsing continued for 30 to 60 days depending on the material type, and the material was allowed to drain for approximately 20 days. The entire cycle, from leaching through drain down, ranged from 119 to 129 days. This quick leach cycle could then translate to the ADR plant and could speed up the production of doré metal. It may also be possible to increase the crush size of the agglomerate, which would reduce operating cost without significantly impacting metal production.

In addition to the metallurgical data that was collected from these tests, several design data sets were collected, such as moisture content during leach, drain down moisture content, reagent consumptions, and drain down rate. All of the assay and metallurgical work were conducted in Sparks, Nevada, by AAL and McClelland Metallurgical Laboratory, respectively.

Figure 6-1 shows column leach curves for the 2005 column test work (Tailings Re-Leach Pad (LP-1), East Ridge, Middle Ridge, and Northeast Ridge).



Source: Telesto, 2011

Figure 6-1: Gold Leach Rate Profiles

6.8.1 Reagent Consumption

There appears to be more of a correlation between the cyanide consumption and material type than the particle size or historical gold content. Material that has higher oxide content had the highest cyanide consumption and moderate lime consumption. Historically, material from the Borealis property consumed 0.5 pounds (lb) of cyanide per ton of material and 10 lb of cement per ton of material. For these metallurgical tests, cement was used in the previously mined and twice leached Tailings Re-Leach Pad material, since they had higher fines content. All of the other samples tested used lime as the agglomeration binder and for alkalinity control. The column data show that the cyanide consumption ranged from the historical 0.5 to 1.3 lb/t; this may be attributed to the higher sulfide sulfur content in portions of the mineralized material. Lime consumption was substantially lower than the historical cement consumption, ranging from 1.6 to 5.0 lb/t, without a loss in agglomerate strength.

6.8.2 Results of 2004 to 2006 Test Programs

All of the metallurgical samples demonstrated variability in the head gold content, especially those from Northeast Ridge. This can be explained by reviewing the mineralogy of the Borealis deposit, which indicates varying levels of oxides, sulfides, and associated gold throughout the deposit and the legacy heaps and dumps.

For pits and deposits where recent metallurgical data were unavailable, the best-available data were sourced from historical records. The column data were mainly used for engineering design purposes since the bulk samples were obtained from only one location within the respective deposit and may not fully represent the resource.

Table 6-9 summarizes the estimated metal recovery from the respective locations based on bottle roll data.

Table 6-9: Summary of Historical Bottle Roll Gold and Silver Recoveries

Area	Recovery (%)			
	Au Range	Estimated Au	Ag Range	Estimated Ag
Borealis Upper	62 to 86	78.0	25 to 81	55.3
Borealis Main	62 to 86	78.0	25 to 81	55.3
Deep Ore Flats	59 to 85	74.1	28 to 51	39.0
Freedom Flats	20 to 80	75.0	-	23.2
East Ridge	40 to 92	63.4	8 to 33	23.2
Northeast Ridge	37 to 85	70.0	14 to 29	28.4
Middle Ridge	46 to 92	76.3	7 to 60	44.9
Orion’s Belt	55 to 94	75.3	52 to 71	54.6
Tailings Re-leach Pad	-	43.3	-	23.2
RoM Leach Pads	-	50.9	-	23.2
Dump Material	62 to 86	71.3	25 to 81	55.3

Source: Telesto, 2011

The Tailings Re-Leach Pad produced the lowest recoveries from both the bottle roll and column leach tests. This material is fairly fine grained and had undergone two full leaching cycles during the 1980s operation and would be expected to produce low recoveries. The variation in head grade samples may be attributed to coarse gold, solution channeling in the heap, or incomplete gold dissolution. This material also had the highest sulfide sulfur content (1.75%).

The samples tested in 2006 from the various trenches and drillholes (McClelland, 2006) produced significantly higher recoveries and somewhat better head assay consistency. Gold recoveries for the Northeast Ridge Pit and Middle Ridge area ranged from 70% to 76%. The East Ridge recovery data are somewhat lower (63% gold recovery) and may indicate a mixed oxide material. The preliminary metallurgical work that was conducted for the Deep Ore Flats and Borealis Extension indicate good gold recoveries ranging from 74% to 78% from bottle roll tests from potential in situ mineable material.

In reviewing all of the test data from the 2005 metallurgical column test work, except for the Tailings Re-Leach Pad, the other proposed production areas yielded high gold recoveries. Column data are typically very similar to what would be expected in an actual HLP for that sample provided; they were crushed to the same size, cyanide solution is applied at a steady application rate, reagent addition is kept constant, and there is sufficient oxygen to maintain the dissolution of gold. However, since these the bulk samples were obtained from only one location within each respective deposit, these recoveries may not be representative of actual metal recovery.

The historical production records indicate that the average silver recovery was 23.2%. Previous metallurgical test work produced recoveries ranged from 2.7% for the Tailings Re-Leach Pad to 44.9% for the Middle Ridge. Silver recovery data were unavailable for some of the pits and deposits and for the old heap and dump materials. Therefore, the best-available data were sourced from historical metallurgical test work for the pits and deposits and from the historical production records for the old heaps and dumps.

6.9 2010 Metallurgical Testing

The latest metallurgical testing was performed by Dan Kappes, Nevada Registered Engineer, KCA.

6.9.1 Freedom Flats Heap Leach Column Tests

Three bulk metallurgical test samples were collected for column leach tests from the Freedom Flats portion of Leach Pad #1 in November 2010. A truck with a large-diameter auger drill was contracted to drill down at least 20 ft into the pad to retrieve samples for metallurgical testing. The 18 inch auger drill drove a hole down so that it would advance about 3 ft with material retrieved within the 5 ft of auger flights. This allowed the auger to collect good representative samples from a hole that was deepened with each round. Once the sample was pulled out of the hole, it was dropped onto plywood sheets for temporary storage before splitting. The entire sample was then shoveled into a Gilson splitter with bar spacing set at 4 inches. After the sample was split into two piles, one pile was then shoveled into 5 gallon (gal) buckets, sealed with a tight lid, and labeled. The other pile from the split was bagged and retained for possible future test work. The bucket samples were loaded onto a trailer and transported directly to the laboratory. Each of the three metallurgical samples was contained in 15 buckets, with each weighing 50 lb. Steve Craig, Gryphon's QP, supervised the auger program and transported the samples to the laboratory for subsequent test work.

On November 5, 2010, KCA's laboratory facility in Reno, Nevada (a qualified metallurgical laboratory), received 44 5 gal buckets of bulk material from the upper portion of the previously leached Freedom Flats heap. The received material was described as drill cuttings from an 18 inch rotary auger drill, which represented three separate rotary auger drillhole locations on the heap.

A bottle roll test was conducted on a portion of material from each of the three separate bulk samples pulverized to 100% minus 150 mesh Tyler (P_{80} 200 mesh Tyler). The leach tests were completed over a 96 hour leach period.

Average gold extraction for the bottle roll leach tests was 68% based on an average calculated head grade of 0.0272 Au opt. Silver extraction for the same period averaged 79% based on a calculated head grade of 0.43 oz Ag/t. Sodium cyanide consumption averaged 0.99 lb/t with an average hydrated lime addition of 3.67 lb/t.

Column cyanide leach tests were conducted in duplicate for each of the three upper heap bulk samples utilizing as-received material. The averaged calculated size of the as-received material was P_{80} 0.75 inches.

Overall gold extraction for the column leach tests averaged 29% after 53 days of leaching based on an average calculated head grade of 0.0289 oz Au/t. Silver extraction for the same period averaged 3% based on an average calculated head grade of 0.42 oz Ag/t (see Table 6-10 for complete results). Sodium cyanide consumption averaged 0.86 lb/t. The as-received material was agglomerated with an average addition of 5.94 lb/t Portland Type II cement.

Table 6-10: 2010 Column Leach Test Results

KCA Sample No.	KCA Test No.	Description	Average Au Head Assay (opt)	Average Ag Head Assay (opt)	Extracted Au (%)	Extracted Ag (%)
46701	46705	#001	0.032	0.39	33	2
46701	46708	#001	0.032	0.39	29	2
46702	46711	#002	0.033	0.61	24	3
46702	46714	#002	0.033	0.61	22	3
46703	46717	#003	0.014	0.21	33	3
46703	46720	#003	0.014	0.21	36	3

Source: Telesto, 2011

Additional test work is currently being performed to determine if finer crushing will increase overall gold recovery in a heap leach operation.

6.9.2 Freedom Flats Pit Cyanide Soluble Shake Tests

Two test work programs were conducted by KCA laboratories from material from the floor of the Freedom Flats pit. The first was work conducted to establish a work index on both drill core and a grab sample followed by fire assay and cyanide soluble gold shake test (KCA, 2010). The second set of cyanide soluble tests was performed on mineralized composites of the three core holes that were drilled in May 2010. All samples were oxidized with minor amounts of pyrite present. Because the samples were exposed to natural conditions, they may not be truly representative of the material to be mined.

In the first test, each sample consisted of 22 kilograms (kg), which was crushed, split, and pulverized followed by determination of the fire assay gold content and then the soluble cyanide gold content. The process to determine the soluble gold content used a 15 g pulverized pulp sample, mixed with 30 milliliters (mL) of 5 g/L NaCN and then agitated for 24 hours. A clear liquid was produced and analyzed by flame atomic absorption spectrophotometer methods.

For the single drill core sample, the head grade was 0.286 opt Au, and the soluble cyanide grade was 0.225 opt Au. The estimated extraction was 79% of the fire assay gold amount. The grab sample produced similar results with an estimated extraction of 86% (KCA, 2010). This data suggests that the Freedom Flats mineralized material in the bottom of the pit is primarily oxide and is therefore amenable to extraction by cyanide heap leach methods.

The second set of tests, which were conducted on mineralized PQ drill core, are still underway, but preliminary results are available (KCA, 2011). These results still have to be formalized, but Table 6-11 reports this test work.

Table 6-11: Freedom Flats Pit Cyanide Soluble Shake Test Preliminary Results

Sample	Fire Assay Gold	Soluble Gold	Recovery (%)
GGC-FFC1	0.150	0.125	84
GGC-FFC2	0.481	0.379	79
GGC-FFC3	0.038	0.037	98

Source: Telesto, 2011

6.9.3 Bulk Density and Tonnage Factor

A number of bulk density tests have been conducted on the Borealis mineralized material since mining began in 1980. It was found that slight variations in the bulk density could be identified in mineralized material found in each of the different gold deposits. These variations are attributed to intensity and type of alteration overprinting the original volcanic rock, the number of porosity cavities generated from either hydrothermal fluid leaching or oxidized pyrite, and the total amount of sulfide pyrite present. Selection of an average, but conservative, bulk density number for calculating the overall Borealis gold resources is presented in this section.

SRK considers these results to be historic and has not performed sufficient review to verify these results. SRK recommends additional density determinations be conducted during the proposed drilling program.

To select the proper bulk density number, a review of the historic records was conducted. It was found that the range of the bulk densities from the mineralized material at Borealis have been reported from a low of 10.3 to 17.05 ft^3/t. The lower number was from silicified and pyritic rock from the Graben deposit, while the higher number comes from friable Freedom Flats mineralized material.

The historic overall tonnage factor for Borealis gold deposits is commonly reported as 13.5 ft^3/t in various reports, the last being Behre Dolbear (2004). Three density measurement data sets were identified from the historic database. A bulk sample of material was collected from East Ridge for metallurgical tests and produced at tonnage factor of 12.6 ft^3/t (Dixon, 1981), and a sample from Jaime's Ridge (also for metallurgical testing) had a tonnage factor of 12.9 ft^3/t (Dixon, 1983). The third historic data set is found in the Hoegberg report (Hoegberg, 2000), where sixteen samples were collected from the Borealis, Ridge, and Purdy Peak deposits (see Table 6-12). These reports and data present a reasonable indication of the tonnage factors for the deposits of interest.

Table 6-12: Summary of Tonnage Factors from the Historic Hoegberg Report

Deposit	Average Tonnage Factor (ft^3/t)
Borealis	12.1
East Ridge	12.5
Northeast Ridge	12.2
Purdy Peak	12.4

Source: Hoegberg, 2000

Gryphon produced two different reports on bulk density values. The first was from eight core samples from the Graben deposit used to determine specific gravities for sulfide bearing gold mineralization (McClelland, 2005). The average of these eight sulfide samples was 12.05 ft^3/t.

In 2007, McClelland measured multiple samples from Northeast Ridge, Middle Ridge, East Ridge, Crocodile Ridge, Freedom Flats Pipe, and Freedom Flats Notch (McClelland, 2007a). The samples were carefully chosen to contain leach cavities and/or sulfides; Table 6-13 summarizes these results.

Table 6-13: Summary of Tonnage Factors from the Historic McClelland Report

Deposit	Average Tonnage Factor for Each Area Tested (ft^3/t)
Northeast Ridge	13.3
Middle Ridge	13.0
Gold View	12.5
East Ridge	13.5
Crocodile Ridge	13.6
Freedom Flats Pipe	13.0
Freedom Flats Notch	16.4

Source: McClelland, 2007a

The in-situ bulk density values, as reported over the life of the Borealis Project, change as different sampling programs were conducted. For the Telesto 2011 PFS, the bulk density values shown in Table 6-14 were chosen to be the most representative of the mineralized material at Borealis in calculating gold resources.

Table 6-14: Historic Bulk Densities Used in Calculating Resource Estimations

Deposit	Type	Tonnage Factor (ft^3/t)
Heaps, Dumps, and Backfill	Previously mined	19.0
Unassigned Volcanic Rocks	Unmined	13.0
Oxide Volcanic Rocks	Unmined	13.0
Mixed Oxide Volcanic Rocks	Unmined	13.0
Sulfide Volcanic Rocks (Graben)	Unmined	13.0

Source: Telesto, 2011

6.9.4 Mixed Oxide Metallurgy

Exploration and mining at Borealis indicates that oxidation of sulfides (principally pyrite) is variable within the volcanic host rocks and generally decreases with depth. Unoxidized sulfide mineralization is known to occur beneath the Northeast Ridge, East Ridge, Borealis, Jaime's Ridge, Cerro Duro, and Freedom Flats pits and in the Graben prospect. Sulfide material is not amenable to heap leaching with cyanide without an oxidation step and is not considered in the economics presented in this report. However, there is a transition zone from oxidized mineralization to unoxidized mineralization that is designated as a Mixed Oxide material in the mine models. The Mixed Oxide zone is partially amenable to cyanide dissolution depending on the degree of oxidation of the sulfides. The degree of oxidation generally decreases with depth but is also influenced by rock fracturing, water, and rock chemistry. Although mineralized material at Borealis can contain visible iron pyrite sulfide, it appears that its presence alone does not correlate directly with the cyanide dissolution rate of gold. In 2005 and 2006, Gryphon re-examined drill chips and cores and reclassified the location of oxidation boundaries to better define the transition between oxide and sulfide mineralization. The resulting classification has been used to delineate a Mixed Oxide zone in the model.

The metallurgical recovery of gold and silver from the mixed oxide zone was tested in 2006 (McClelland, 2006) with bottle roll recovery tests from drill cuttings. No column test work has been performed on mixed oxide material due in part with the difficulty in obtaining a representative sample that has not oxidized during sampling and sample preparation. The results of bottle roll tests indicated that the recovery ranged from 11.4% to 47.4%. However, subsequent review of the results by Telesto has revealed that the material classified as Mixed Oxide material in this test work was in fact unoxidized/sulfidic material. This misclassification resulted in the assignment of low recovery rates to mineralized material and consequently affected the estimation of mineable reserves.

Therefore, in an effort to more-accurately define the estimated gold recoveries in Mixed Oxide material, Telesto reviewed the bottle roll test analyses conducted by McClelland in 2006 and compared the results to the original drill logs for the material subjected to the bottle roll tests. In this review, Telesto correlated the sulfide content and oxidation description in the drill logs with the reported recoveries for each bottle roll analysis. A total of 42 bottle roll tests were reviewed:

- 12 bottle roll samples (1.15 to 19 mm) were from East Ridge and Northeast Ridge (not previously mined):
    - Indicate that material previously classified as Mixed Oxide was misclassified and was in fact unoxidized, and in some cases contained up to 25% iron sulfide minerals.
    - Moderately high sulfide content bottle roll tests showing poor recoveries.
    - Should be considered to represent sulfidic/unoxidized material, not Mixed Oxide.
- 30 bottle roll samples (1.15 to 19 mm) were from the East Ridge, Middle Ridge, and Northeast Ridge areas. These bottle roll samples contained oxidized material with up to 5% iron sulfide and are considered to represent true Mixed Oxide material:
    - Telesto found that although 17 of these bottle roll samples contained iron sulfide minerals, they appeared to be significantly oxidized:
        - 10 of these samples averaged 72% Au recovery with a high of 85% and a low of 50% (McClelland, 2006).
        - Two bottle roll samples of oxidized material from the Middle Ridge area contained sulfides and averaged 75% Au recovery with a high of 77% and a low of 73% (McClelland, 2006).
        - Five bottle roll samples from the Northeast Ridge area averaged 56% Au recovery with a high of 67% and a low of 42% (McClelland, 2006).

Based on Telesto's review of historic production records, bottle roll tests conducted by McClelland in 2006, and the comparison of original drill log descriptions of the material used for these tests, Telesto concluded that mineralized intervals above the redox boundary in the drill logs will have similar gold recovery to Oxide and historic processed material (Whitney and Whitney, Inc., 1996). A recovery of 75% has been estimated for both Oxide and Mixed Oxide in the economic model presented herein. The economic crush size for Mixed Oxide material will need to be optimized, with additional metallurgical testing on representative samples (such as column leach tests) documented to confirm the 75% recovery model used for this material prior to the next stage of development and the mining of each prospective pit containing this material. Mixed Oxide material represents approximately 18% of the overall mineable material.

In practice, the estimation of the expected recovery from a Mixed Oxide zone can be determined at the on-site laboratory with dual assaying of blasthole samples and comparing a cyanide soluble assay to a fire assay. If the ratio of the assays is above the cut-off recovery percentage, the bench will be classified as Mixed material and will be heap leached. If the ratio is less than the cut-off percentage, the material will be classified as Mixed material and will be heap leached. If the ratio is less than the cut-off percentage, the material will be classified as designated waste and will be placed in a designated waste rock dump designed for isolation of sulfide mineralization.

6.10 QP Opinion

SRK has not completed sufficient work to verify any of the historical metallurgical results presented. It is SRK opinion based on the information provided that mineralization is potentially recoverable from the testwork completed, but it is SRK view that additional metallurgical sampling and testwork be conducted during the proposed drill program to verify these historical results and this should be completed prior to the updated MRE.

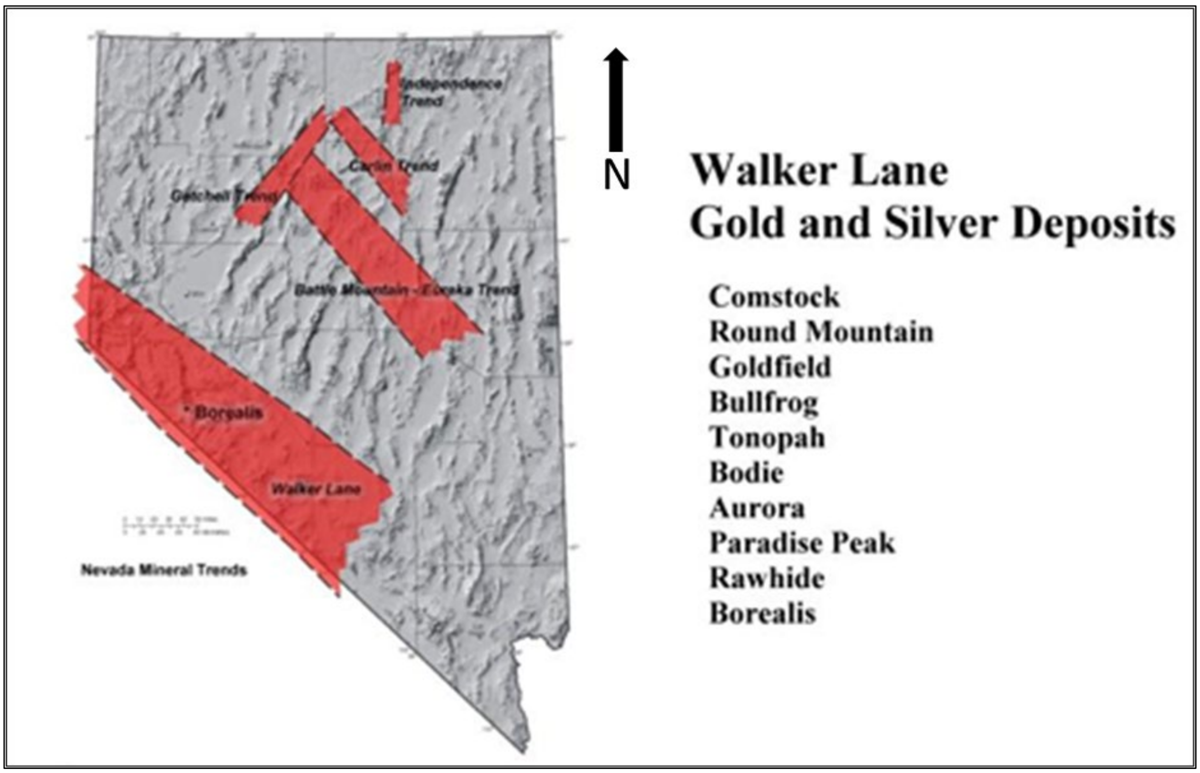
7 Geological Setting and Mineralization

7.1 Introduction

The last time a significant amount of new geologic data were generated was between 2005 and 2012, when Gryphon was managing the Project. The last recorded drilling was performed in 2012.

7.2 Regional Geology

The Borealis Mining District lies within the northwest-trending Walker Lane Mineral Belt of the western Basin and Range Province, which hosts numerous gold and silver deposits, as shown on Figure 7-1. The Walker Lane structural zone is characterized by regional-scale, northwest-striking, strike-slip faults, although none of these are known specifically in the Borealis district. Mesozoic metamorphic rocks in the region are intruded by Cretaceous granitic plutons. In the Wassuk Range, the Mesozoic basement is principally granodiorite with metamorphic rock inclusions (Eng, 1991). Overlying these rocks are minor occurrences of Tertiary rhyolitic tuffs, and more-extensive andesite and dacite flows and pyroclastic rocks, which are the local constituents of the broad Western Andesite Assemblage, a prolific mineralized host in the Walker Lane trans-tensional belt Near some fault zones, the granitic basement rocks exposed in the eastern part of the district are locally weakly altered and limonite stained.



Source: Gryphon, 2005

Figure 7-1: Walker Lane Gold and Silver Deposits

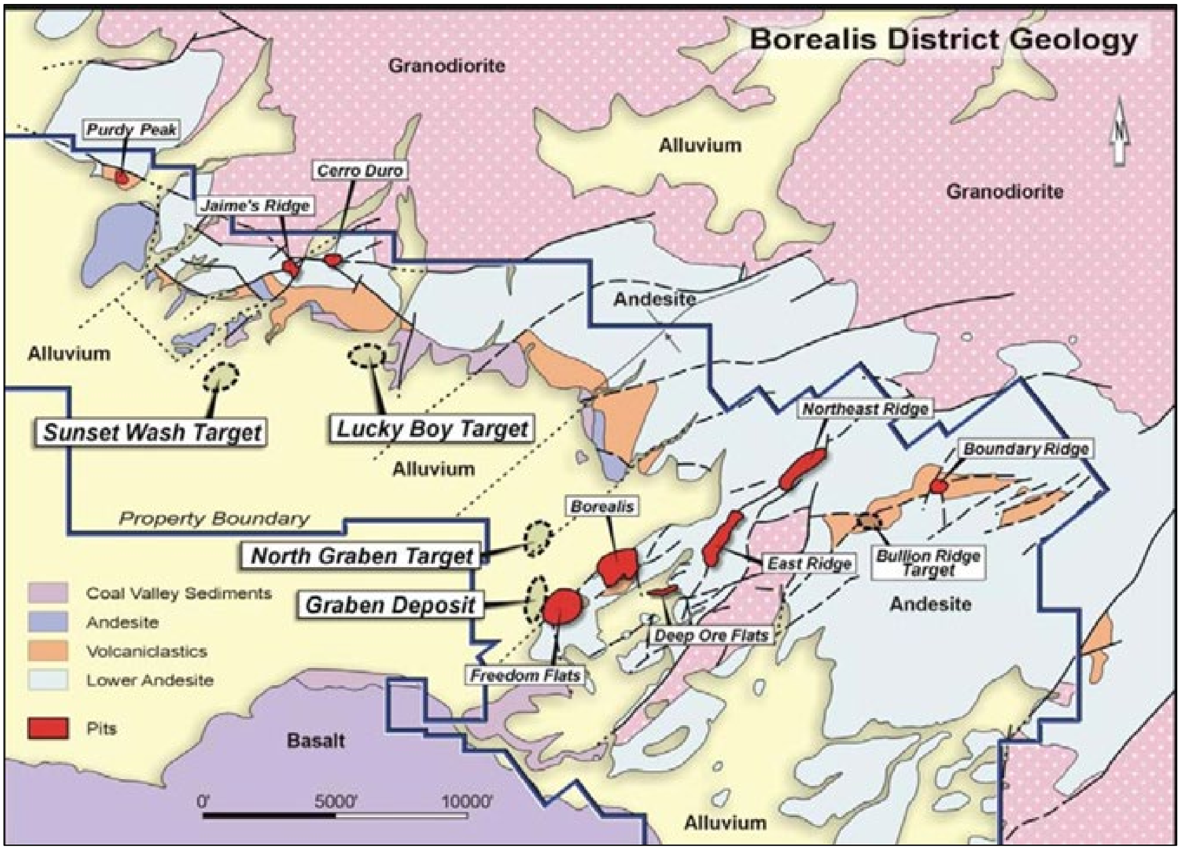
The oldest Tertiary rocks are rhyolitic tuffs in small, isolated outcrops, and most of these tuffs were probably eroded prior to the deposition of the younger volcanic rocks in the Borealis area. The rhyolitic tuffs may be correlative with regionally extensive Oligocene rhyolitic pyroclastic rocks found in the Yerington area to the north and within the northern Wassuk Range. On the west side of the Wassuk Range, a thick sequence of older Miocene andesitic and dacitic volcanic rocks unconformably overlies and is in fault contact with the granitic and metamorphic rocks, which generally occur east of the Borealis district. The ages of the andesites and dacites are poorly constrained due to limited regional dating, but an age of 19 to 15 million years ago (Ma) is suggested. In the Aurora district, located 10 miles southwest of Borealis, andesitic agglomerates and flows dated at 15.4 to 13.5 Ma overlie Mesozoic basement rocks and host gold-silver mineralization. Based on these data, a broader age range for the andesites in the Borealis region can be considered as 19 to 13.5 Ma.

Rocks of the Miocene Wassuk Group locally overlie andesites/dacites and underlie much of Fletcher Valley, a late Tertiary structural basin located west of the Borealis Mine area. The Wassuk Group is up to 8,200 ft thick near its type locality but is much thinner in the Borealis district, where its Coal Valley member is found. Much of the Wassuk Group sedimentary rocks in the Borealis area have been removed by erosion. The Wassuk Group consists of a sequence of interbedded, fluviolacustrine, andesitic/dacitic sedimentary rocks with less abundant andesitic lava flows near its base, and it ranges in age from 13 to 8 Ma. Pliocene and Quaternary fanglomerates and pediment gravels overlie the Wassuk Group, or overlie the older andesite/dacite where the Wassuk Group is missing, and thicken in the direction of Fletcher Basin to at least 300 ft.

The Borealis Mining District lies within the northeast-trending (Bodie) Aurora-Borealis Mineral Belt. The Aurora Mining District, with 1.9 Moz of past gold production (Vanderburg, 1937), lies 10 miles southwest of Borealis, and the Bodie Mining District with 1.5 Moz of gold production lies 19 miles southwest of Borealis in California (Silberman and Chesterman, 1991). All three mining districts are hosted by late Tertiary volcanic rocks. The intersection of northwesterly and west-northwesterly trending structures of the Walker Lane with the northeasterly trending structures of the Aurora-Borealis zone probably provided the structural preparation conducive to extensive hydrothermal alteration and mineralization at Borealis.

7.3 Local Geology

The Borealis district mineralization is hosted by upper and lower Miocene pyroclastic rocks/tuffs, andesite and dacite flows and breccias, and, to a lesser degree, laharic breccias, which together exceed 1,000 ft in thickness, strike northeasterly, and dip shallowly to the northwest (Figure 7-2). The andesite is divided into upper and lower volcanic packages, which are laterally extensive and constitute the predominant bedrock in the past-producing part of the district. These units host most of the gold mineralized deposits, and the most favorable host horizon is the pyroclastic unit at the base of the upper andesite and the tuffaceous contact zone between the two andesite/dacite units. An overlying upper tuff is limited in aerial extent due to erosion (Eng, 1991). All of these units are cut by steeply dipping northeast-trending, west-to-northwest-trending, and north to north-to-northeast-trending faults that probably provided conduits for mineralizing hydrothermal fluids in the principal mineralized trend. Pediment gravels cover the altered mineralized volcanic rocks at lower elevations along the range front and overlie many of the best exploration targets. Wide-spaced drilling indicates that pediment gravels cover the majority of the altered-mineralized area over a 7 mile long zone in the southern and southwestern parts of the district. Much of this area has received only minor testing with systematic multidisciplinary exploration. Figure 7-2 illustrates the local geology of the Borealis district and Project area.



Source: Echo Bay, circa 1989, modified to reflect new property boundaries controlled by Gryphon in March 2011

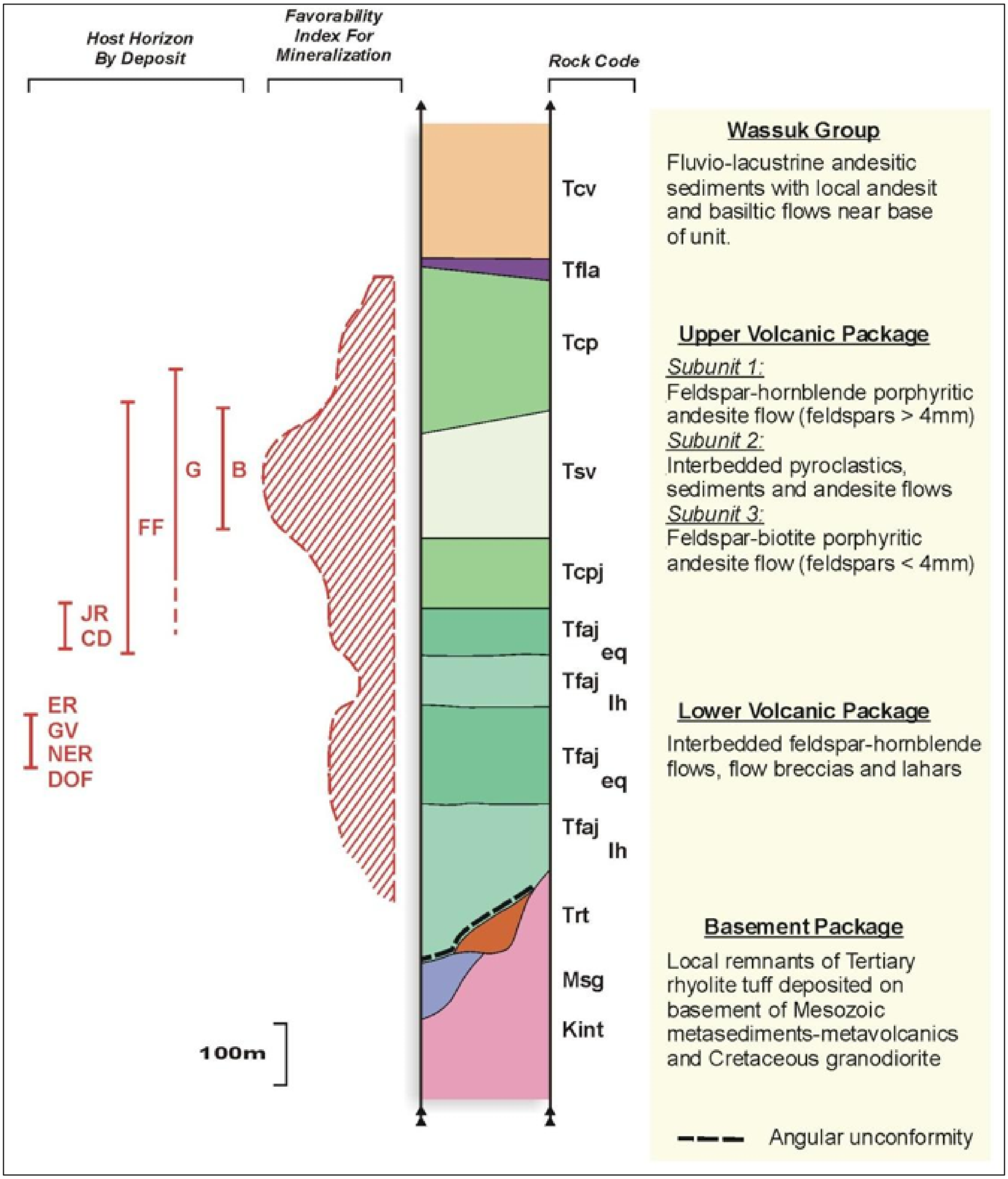
Figure 7-2: Geologic Map of the Borealis Project Area

7.4 Miocene and Younger Rocks

The lower andesite unit in the productive Borealis trend is the oldest volcano stratigraphic unit and is composed predominantly of andesitic flow breccias with less abundant lava flows and minor lahars. The unit is often mottled, ranging from light gray-green to purple-brown. The rocks typically are weakly porphyritic, containing phenocrysts of small feldspars and minor hornblende and biotite. Flow breccias consist of andesite clasts in the weakly altered groundmass of feldspar and clay minerals. These features cause the unit to be poorly indurated and incompetent. The lower andesite unit exceeds 500 ft in thickness and lies unconformably on, or is in fault contact with, Mesozoic basement rocks. The unit is not a favorable host rock, and only minor gold production has been derived from it.

The upper andesite unit is composed of green-gray, weakly to moderately porphyritic andesite lava flows that are more indurated and massive than those of the underlying lower andesite. These lavas contain 10% to 25% phenocrysts of feldspar with less abundant phenocrysts of biotite, hornblende, and pyroxene. An intermediate subunit in the lower part of the upper andesite consists of interbedded pyroclastic tuffs and sediments that host the greatest amount of gold mineralization. This unit is as much as 300 ft thick in the Freedom Flats deposit, and it is known to host mineralization in each of the deposits of the district.

Overlying the andesite units is the upper tuff. This unit consists of a complex interbedded sequence of volcanoclastic sedimentary rocks, lava flows of intermediate to mafic composition, and less abundant tuffs. The upper tuff is host to some of the gold mineralization in the Freedom Flats and Borealis deposits. Figure 7-3 shows the volcanostratigraphic section in the Borealis district.



Source: Gryphon, 1998 (based on information from Cambior exploration)

Figure 7-3: Volcanostratigraphic Section in the Borealis District

These andesites are part of the Western andesite assemblage and High K calc-alkaline series of intermediate flows that are related to continental margin subduction, and they are confined primarily to the Walker Lane trans-tensional belt. They form a favorable horizon that hosts many of the epithermal gold-silver deposits throughout the Walker Lane.

Overlying the upper tuff is the post-mineralization Wassuk Group, including the clastic sediments of the Coal Valley Formation, which consists of weakly cemented gravel, sandstone to conglomerate, and ash units, all of which appear to be locally derived. Lying above the Wassuk Group are Pliocene and Quaternary pediment gravels. The older gravel contains abundant clasts of opaline and chalcedonic silica. The younger gravel contains clasts of unaltered and propylitized andesitic/dacitic country rocks with less abundant clasts of silicified rock.

Intrusive rocks found in the Borealis area are often difficult to recognize due to intense alteration of both the host rocks and intrusive rocks. In the Freedom Flats pit, a fine- to medium-grained intrusive feldspar-biotite dacite porphyry that is relatively fresh to argillized was identified and contains up to 40% phenocrysts. This intrusion may be related to the igneous heat engine that drove the gold-bearing hydrothermal system in the Borealis district.

7.5 Structure

Regional structural trends that are important in the district are dominantly northeast-striking normal faults with steep dips and west-to-northwest-striking range-front faults with steep southerly dips. In addition, north to north-to-northeast-striking structures that host the Graben deposit and other exploration targets occur locally within the district. A pattern of northeast-trending horsts and grabens occur in the district according to Eng (1991). Two of the fault systems lay on regional trends of known mineralized systems, and Borealis appears to be at a major intersection of these mineralized trends. A number of the pre-mineral faults of all three orientations in the district may have been conduits for higher-grade hydrothermal mineralization, which often followed the planes of the faults and formed high-grade pods or pipes. Movement along most of the faults in the Borealis district appears to be normal, although some faults also display a strike-slip component of movement. Along the Borealis trend where most mining occurred in the district, rocks are mostly down dropped on the northwest side of northeast-trending faults, which forms part of a graben in which the Graben deposit occurs beneath thick alluvial gravels. The Graben deposit appears to be controlled by a north-to-northeast-trending structural zone dipping steeply to the east, and structures of this orientation are being recognized as more common in the district than previously thought.

All of these major faults acted as conduits for hydrothermal fluids or loci for development of mineralized hydrothermal breccias and silicification. Emplacement mechanisms of the mineralization included hydrothermal brecciation concurrent with, and followed by, pervasive silicification and sulfide/precious metal introduction within or adjacent to feeder structures. It is likely that some deposits, such as the high-grade pod in the Freedom Flats deposit, may have been initially localized along the intersections of small second order faults with the major feeder structures. In plan view, these high-grade pods are relatively small, and diligent effort is required to locate and define them.

In the western part of the Borealis district where the Cerro Duro, Jaime's Ridge, and Purdy Peak deposits occur, structures are predominantly west-to-northwest-trending normal faults, including some that separate Mesozoic granites from the Miocene volcanic rocks. These faults are responsible for localizing some of the mineralization in this part of the district along with northeast-trending faults.

Post-mineral movement of a series of the west-to-northwest trending, range-front faults suggest a progressive down dropping of the southern blocks toward the valley floor. A secondary set of structures is northeast striking and also may control alteration and mineralization trends on the pediment.

Speculation on the occurrence of a volcanotectonic depression or a caldera in the Borealis district is tentatively supported by aeromagnetic anomalies that form two or more circular patterns beneath the pediment. However, surface geology features are not definitive in identifying these structures, and confirmation of these possible volcanic structures and associated distinctive volcanic stratigraphy will depend on the results of drillholes that will explore the pediment area.

Post-mineral faulting is common and needs to be identified accurately, especially where mineralized material is terminated or offset by faulting. Post-mineral faulting may be oriented in the following ways:

- West-to-northwesterly, paralleling the range front
- Northeasterly, paralleling the other dominant regional and district faulting
- Likely northerly, by reactivating pre-mineral structures that likely controlled Graben mineralization

Post-mineral faulting has displaced portions of several of the previously mined deposits.

7.6 Mineralization

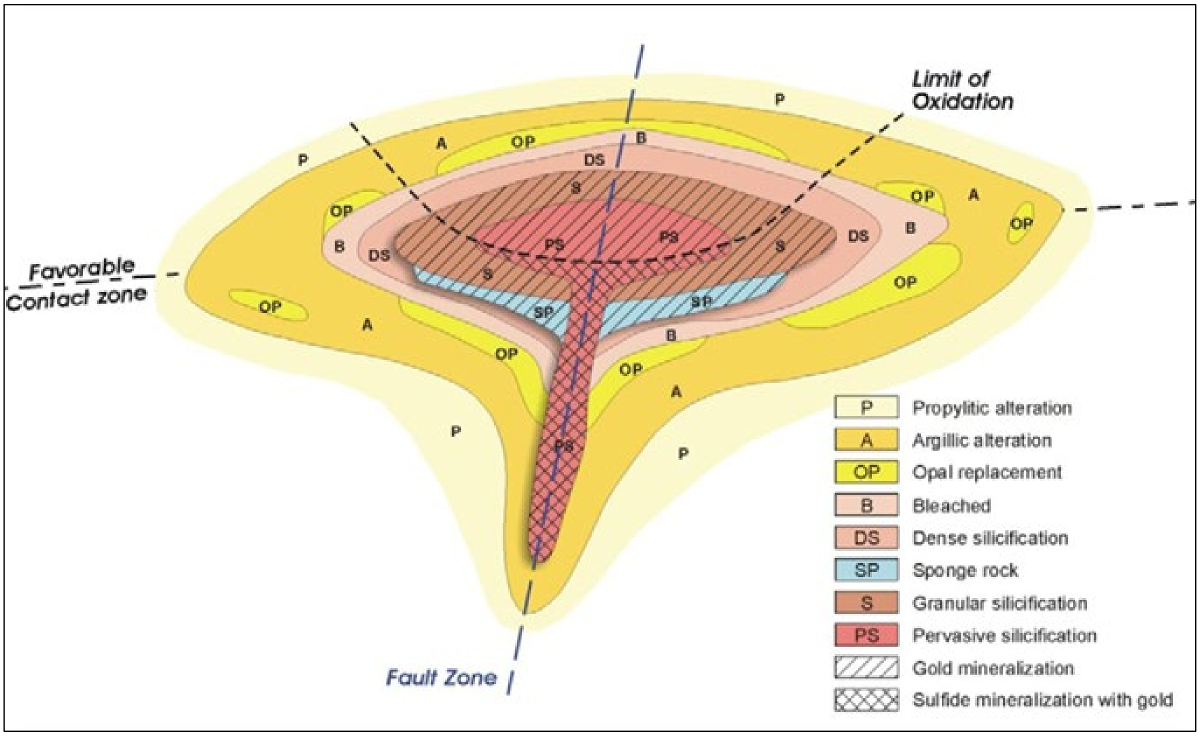
The unaltered volcanic rocks at Borealis consist of dacite and andesite pyroclastics, flows, and breccias. These rocks become active hosts to gold mineralization through nearby intrusive activity and structural preparation by hydrothermal activity. Once a gold-bearing hydrothermal system is activated, these host rocks became altered so that specific zoning is formed around feeder structures and within favorable volcanic stratigraphy. This alteration zoning is both horizontal and vertical, where low-temperature clay minerals (kaolinite and montmorillinite) form a halo around higher-temperature silica or silica/alunite altered rocks.

Gold mineralization in the Borealis area is often found in rocks that display various intensities of silica alteration. Gold is transported and contained in fine-grained pyrite and or marcasite, which is further hosted within silica. Once oxidation takes place, the pyrite/marcasite disappears, and micron-sized gold is left inside limonitic casts within the silica body. Gold mineralization is not found in lower-temperature clay altered rocks.

Exploration and development of any gold deposit at Borealis has to focus on the presence or absence of silicified rocks. With silica present, gold mineralization will likely be found; without silica, gold mineralization will not be found.

In modeling gold resources at Borealis, it is imperative the strong correlation of gold mineralization to silica altered rocks is captured. As long as there is drillhole control, the distribution and grade of the Borealis gold mineralization can be measured with confidence.

Alteration and mineralization most closely associated with higher grade mineralization are vuggy fine-grained silica, iron sulfides, and quartz veining. Hydrothermal breccia is also common. Alteration patterns grade outward from the central vuggy silica zone with variable alunite and dickite to a zone that may contain kaolinite, quartz, pyrite, dickite, and diaspore, which then grades outward into montmorillonite and pyrite, and finally to an outermost propylitic halo with minor pyrite (Figure 7-4). Advanced argillic alteration with alunite/dickite may overlap the kaolinite-bearing zones. The silver commonly forms a discontinuous halo around, and overlaps, the central gold mineralization. In addition, gold deposits are commonly surrounded by a halo of much-lower-grade gold mineralization that generally exceeds 0.002 opt Au. Arsenic and antimony are strongly anomalous in a broad envelope around any of these gold deposits. Previous fieldwork identified an early stage of chalcedonic silica alteration with pyrite containing elevated trace elements such as arsenic, antimony, and mercury, but it is largely devoid of precious metals mineralization. This early, barren silica alteration should be avoided when locating and optimizing drilling programs, although blind gold-bearing systems could underlie the barren silica. Post-mineral faulting is common and needs to be identified accurately, especially where mineralization is displaced or terminated by faulting.



Source: Echo Bay, circa 1989

Figure 7-4: Typical Alteration Patterns of the Borealis District Gold Deposits

Finely disseminated gold found in the Borealis mineralized system was initially enclosed within pyrite. In some portions of the deposits, through natural oxidation, the pyrite was converted to limonite and the gold was released; thus, gold was made available to extraction by cyanidation. Limited evidence suggests coarse gold exists, possibly in the high-grade zones. Gold still bound in pyrite or pyrite-silica is not easily recovered by a simple cyanide heap leach operation.

7.6.1 Oxidized Gold Mineralization

Oxidized deposits in the district have goethite, hematite, and jarosite as the supergene oxidation products after iron sulfides, and the limonite type depends primarily on original sulfide mineralogy and abundance. Iron oxide minerals occur as thin fracture coatings, fillings, earthy masses, as well as disseminations throughout the rock.

Depth of oxidation is variable throughout the district and is dependent on alteration type, structure, and rock type. Oxidation ranges from approximately 250 ft in argillic and propylitically altered rocks to over 600 ft in silicified rocks that are also fractured. A transition zone (referred to as mixed) from oxides to sulfides with depth is common.

Except for the Graben deposit, all of the known gold deposits are at least partially oxidized or mixed. Typically, the upper portion of a deposit is totally oxidized, the lower portion is unoxidized, and there is an extensive transition zone of partially oxidized sulfide-bearing gold mineralization. Oxidation has been observed as deep as 1,000 ft below the surface. Therefore, there is reason to believe that if additional gold deposits are found under alluvial cover, some portion of them may be oxidized.

7.6.2 Gold-Sulfide Mineralization

Gold-sulfide deposits in the district are mostly contained within quartz-pyrite alteration, with the sulfides consisting mostly of pyrite with minor marcasite and lesser arsenopyrite and cinnabar. Many trace minerals of copper, antimony, arsenic, mercury, and silver have also been identified. Pyrite content ranges from 5 to 20 volume percent, with local areas of nearly massive sulfides in the quartz-pyrite zone; it occurs with grain sizes up to a few millimeters. Euhedral pyrite grains are commonly rimmed and partially replaced with a later stage of anhedral pyrite overgrowths (Eng, 1990 and 1991). Study of this phenomenon in other epithermal districts in Nevada has shown that gold occurs only in the late overgrowths. This late overgrowth is important at Borealis, as gold in the rim area is more easily oxidized and thus recoverable through cyanidation.

The Graben deposit is the best example found to date of the size and quality of gold-sulfide deposits within the district. In addition, gold-sulfide resources occur in the bottoms of most of the pits, most significant of which is beneath the Freedom Flats pit. Potential targets below most pits would include the feeder structures, many of which would be expected to have high-grade gold-sulfide mineralization.

Within the lower-grade gold zone mineralization in the Graben deposit, there are at least three large pods of high-grade gold, based on a 0.10 opt Au cut-off. The shape and extent of each is imperfectly known. These pods plunge 450 to 600 ft to the east-to-southeast, are traceable for at least 400 ft down plunge, and are part of a zone of intermediate to high grade that is continuous throughout the length of known Graben mineralization. Some of the holes intercepting the Graben deposit have spectacular grades and thickness reminiscent of the long vertical intercepts in the Freedom Flats deposit. Examples of these intercepts in Freedom Flats include the following drillholes:

- FF-50, with 60 ft averaging 0.232 opt Au; FF-173, with 55 ft averaging 0.512 opt Au
- FF-223, with 20 ft averaging 0.470 opt Au and 75 ft averaging 0.241 opt Au; FF-229, with 110 ft averaging 0.856 opt Au
- GGCG-07, with 170 ft averaging 0.21 opt Au

Hydrothermal alteration displays systematic patterns around the Graben deposit's gold mineralization and other deposits in the district (Figure 7-4). Based on observations from relogging drill core and sample cuttings from the Coal Valley Formation above the mineralized zone in the Graben, there is abundant opal alteration and hematite that probably represents the upper portion and the last stage of the hydrothermal system. This changes downward into an argillic zone that contains alunite and dickite in the inner portion. The base of the argillic zone, above sulfide mineralization, is commonly the base of the oxidized zone, suggesting that at least a portion of the clay minerals may be supergene. Below the limit of oxidization, within areas of gold mineralization, silicification is the most common alteration type. Drillholes at the margin of the deposit commonly intersect sulfide-bearing argillic alteration. The lack of silicification above the oxide boundary and argillization below the limit of oxidization indicates that at least a portion of the argillic alteration is hypogene. The upper portions of the silicified zone are commonly dense chalcedonic quartz with pyrite. Toward the center of the silicified zone, quartz becomes grainy and in places is gray spongy or vuggy silica typical of acid leached alteration.

As noted above, the Graben deposit has a large sub-horizontal, low-grade zone surrounding steeply dipping high-grade zones. Although gold is mostly restricted to the breccia, not all of the breccia is gold bearing. Most of the pyrite occurs as disseminations in silicified rock, which is mostly in the hydrothermal breccia. Minor amounts of iron sulfide occur in veins and on rims of clasts. Iron sulfides extend beyond gold mineralization. Limited attempts at microscopy have identified only a few grains of free gold, generally <1 mm across (Bloomstein, 1992). Most of the gold in the sulfide zone is reported to be within pyrite grains.

8 Deposit Type

8.1 Hydrothermal Gold Deposits

The Borealis hydrothermal system is recognized as a high-sulfidation-type system, generally with high-grade gold occurring along steeply dipping structures and with lower grade gold surrounding the high grade and commonly controlled by volcanic stratigraphy in relatively flat-lying zones. Gold deposits with minor silver are hosted by Miocene pyroclastic rocks/tuffs, andesitic flows and flow breccias, dacite flows, and, to a lesser degree, laharic breccias, which are all reported to strike northeasterly and dip shallowly to the northwest. In the areas of some fault zones, the granitic basement rocks are weakly altered and limonite stained. Pediment gravels cover the altered-mineralized volcanic rocks at lower elevations along the mountain front, and there is potential for discovery of more blind deposits, similar to the Graben.

The Borealis hydrothermal system is defined as high-sulfidation (acid sulfate) based on the following features: presence of advanced argillic alteration with alunite, dickite, pyrophyllite, and diaspore deeper in the system; presence of large bodies of opaline silica; presence of many zones of acid leaching with feldspar phenocrysts removed leaving vuggy silica rock; presence of minor amounts of enargite; lack of adularia; and high iron-sulfide content, principally pyrite with minor marcasite.

Structures controlling mineralized deposits are both northeast-striking faults and generally west-to-northwest-striking faults. Another strong control within the district is a series of north to north-to-northeast-trending structures that host the Graben deposit and other exploration targets. Steeply dipping faults in the district may have been feeders for high-grade gold deposits. High-grade zones were likely to be formed by more than one episode of hydrothermal, possibly explosive, brecciation and silicification with accompanying metallic minerals. The vertical high-grade zone in the Freedom Flats deposit probably formed through this mechanism along a northeast-trending structure.

The Graben system appears to be localized along an elongate north-to-northeast-trending structural zone containing two or more high-grade pods that plunge steeply (45 degrees (°) to 60°) to the east. Hydrothermal brecciation and pervasive silicification are also common to the Graben system. The Graben deposit is somewhat different than other deposits in the district. Both the low-grade gold zone and hydrothermal brecciation are more extensive. Within the low-grade gold aureole are at least two apparently separate high-grade gold zones. Resource modeling identifies continuity of the moderate to high-grade zone for 2,000 ft in length and from 50 to 200 ft wide. There are less developed and extensive vuggy silica zones (Buchanan, 1981). Additionally, the apparent structural control has a north-to-northeasterly orientation, which was considered to be unusual in the district but is becoming more prominent as geophysical surveys are conducted. Due to extensive gravel cover in the pediment environment, additional blind deposits such as the Graben are anticipated to be discovered as exploration progresses beneath the alluvial cover.

Other gold deposits in the district have similar alteration features but may have been developed by less-explosive events. In these other systems, gold-bearing mineralizing fluids migrating upward along fault zones intersected favorable lithologic horizons where the gold-bearing fluids moved laterally and deposited lower-grade mineralization. This process created gold deposits that have a flat-lying attitude and appear to be lenticular in section. The original Borealis deposit and the lower-grade portions of the Graben deposit are examples. The Graben deposit has components of both styles of mineralization.

The surface footprints of the high-grade pods found to date are rather small, and they can be easily missed with patterns of too-widely spaced geophysical surveys and drillholes. Once a higher-grade zone is suspected, fences of drillholes with a 100 ft spacing should be conducted, and a 50 ft spacing may be required, but even this spacing may not be adequate to accurately define the high grade within the zones. Eng (1991) describes the underestimation of grades in the Freedom Flats deposit due to the drillholes missing small, very high-grade pods (greater than (>) 0.5 opt Au) of mineralization and to possible loss of fines during drilling. Another aspect not covered by Eng, but one that has become extremely important, is the orientation of drillholes with respect to controls of the mineralized zones. Because much of the high-grade gold occurs along steeply dipping structures, the mineralized zones can best be defined by angle drillholes oriented approximately normal to the dip of the controlling features. Most of the drilling on the property, including the Graben deposit, is vertical and therefore did not adequately sample the steeply dipping higher-grade zones. Drillhole orientation has compounded the underestimation of grades within the district. A coarse gold component has been considered but not proven, and if present, it can be captured with very careful sampling of drill cuttings and core, collecting large samples, and special assaying techniques.

Most deposits mined in the district, including the Borealis, have a generally flatter tabular shape, and they may have formed parallel to, and within, permeable portions of gently dipping pyroclastic/tuff units, volcanic flows and flow breccias, and along contact zones between lithologies. Beneath the northwest margin of the former Borealis pit, additional flat-lying gold zones of the Borealis Extension and another deeper zone are found. Steeply dipping high-grade feeder structures have been identified within the original Borealis deposit and extend beneath the pit. Similarly, other steeply dipping high-grade feeder structures have been identified within other deposits and can be projected below the limit of drilling. Substantial drilling is required to define the extent of these mineralized zones.

8.2 Graben Breccias

The core of the Graben deposit is characterized by a complex hydrothermal breccia that hosts most of the gold mineralization and extends vertically and laterally beyond the limits of the deposit. The form of the breccia is imperfectly known, but there are indications that it has steeply dipping roots and flares near its top into a sub-horizontal zone that may be controlled by lithology or contact zones. Several varieties of breccia are present, many of which may be variations of the same event. Two units seem to have consistent crosscutting relationships in several core holes; therefore, at least two periods of brecciation are present. The younger unit is light gray, and it intrudes the older black breccia. The light-gray breccia contains about 40% clasts that are matrix supported. Typically, the clasts are from a few millimeters to a few centimeters (cm) across in an extremely fine-grained light-gray siliceous matrix. The majority of the clasts contain 100% texture-destructive secondary silicification. In a few areas, clasts of moderately silicified and weakly argillized welded tuff and siltstone occur. This breccia commonly contains 1% to 5% pyrite, most of which is in the matrix.

The black breccia contains a variety of sub-textures that will be described together as part of this breccia, but it is recognized that some, or all, of these could be separate brecciation events. Black breccia contains 40% to 60% clasts up to 10 cm across in a dense siliceous matrix. Clasts are matrix supported and consist primarily of dark gray to black highly siliceous material of unknown origin with lesser amounts of silicified andesite, welded tuff, and massive iron sulfide clots. In places, the unit is extremely black and sooty as if there is an organic component or, alternatively, very fine-grained sulfides. Several of the drillholes pass from the breccia into altered andesite. The contact zone is characterized by a gradational decrease in brecciation into unbrecciated silicified andesite over a distance of a few feet. There is also a corresponding decrease in the amount of silicification into argillized andesite.

Two of the more-common textures within the black breccia are zones of banded matrix with few, if any, clasts and areas of vuggy textures. The banded zones typically occur with the banding at high angles to the core axis. The areas of vuggy texture appear similar to other areas of acid leaching on the property. Generally, the cavities are lined with quartz and pyrite. All of the breccias are cut by at least two periods of quartz veins, the oldest of which is white quartz up to 10 mm wide, and the younger is dark quartz-pyrite veins that are up to 5 mm wide and cut the white quartz veins. Pyrite and minor marcasite are concentrated in the matrix where clots of >50% iron sulfides are common. Generally, the matrix contains 5% to 25% iron sulfides, while the clasts contain 1% to 5% iron sulfides. The only feature within the breccia that seems to correlate with high grades of gold mineralization is the abundance of quartz veining of either type. While all of the breccias contain iron sulfides, not all breccias contain gold.

9 Exploration

9.1 Introduction

Since the late 1970s, exploration completed at the Borealis property focused on finding near-surface deposits with oxide-type gold mineralization. Exploration work consisted of field mapping, surface sampling, geochemical surveys, geophysical surveys, and shallow exploration drilling. Only limited drilling and geological field work was conducted in areas covered by pediment gravels, even though Freedom Flats was an unknown, blind deposit, without surface expression, when discovered.

Many geophysical surveys were conducted by others in the Borealis district since 1978. In addition, regional magnetics and gravity maps and information are available through governmental sources. The most useful geophysical data from the historic exploration programs has been induced polarization (chargeability), aeromagnetics, and resistivity.

Areas with known occurrences of gold mineralization (which have been defined by historical exploration drilling) and had historical mine production include Northeast Ridge, Gold View, East Ridge, Deep Ore Flats, Borealis, Freedom Flats, Jaime's Ridge, and Cerro Duro. All of these deposits still have gold mineralization remaining in place, contiguous with the portions of each individual deposit that were mined. Graben, Crocodile Ridge, Purdy Peak, Boundary Ridge, and Bullion Ridge are known gold deposits in the district that have not been mined.

Discovery potential on the Borealis property includes oxidized gold mineralization included as waste in the proposed mining reserve, gold mineralization adjacent to existing pits, new oxide gold deposits at shallow depth within the large land position, gold associated with sulfide minerals below and adjacent to the existing pits, in possible feeder zones below surface mined material and deeper gold-bearing sulfide mineralization elsewhere on the property. Both oxidized and sulfide-bearing gold deposits exhibit lithologic and structural controls for the locations and morphologies of the gold deposits.

9.2 Historical Exploration

The following areas have not been subject to historic mine production but have been historically explored and contain anomalous gold mineralization.

9.2.1 Borealis Extension Deposit

The Borealis Extension deposit occurs at shallow to intermediate depth beneath the northern and western parts of the former Borealis pit. Most of the mineralization begins at 110 to 375 ft below the surface. Generally, the top of this target occurs at or slightly below 7,000 ft elevation. The primary target is defined by 16 contiguous drillholes completed by previous operators that have potential economic intercepts. Thickness of low-grade mineralized intercepts ranges from 15 to 560 ft, with nine holes having from 155 to 560 ft of >0.01 opt Au; average thickness of the zone is 236 ft. Gryphon drilled an additional 16 holes into the deposit with mixed results. Further evaluation and drilling are required to fully evaluate this mineralized zone.

9.2.2 Graben Deposit

The Graben deposit has been defined with approximately 36 historical RC holes and 19 historical core holes. This drilling defined a zone of gold mineralization, using an 0.01 opt Au boundary, that extends at least more than 1,800 ft in a north-to-south direction, between 200 and 750 ft east-to-west, and up to 300 ft in thickness. The top of the deposit is from 500 to 650 ft below the surface. Near its southern margin, the axis of the deposit is within 800 ft of the Freedom Flats deposit, and along one portion of the southeastern margin, low-grade mineralization may connect with the Freedom Flats mineralization through an east-to-west-trending splay.

Through November 2007, Gryphon drilled an additional 58 RC drillholes into the Graben zone. All holes reported mineralized intervals. Gryphon's Graben drilling program was designed to test for extensions of the interior high-grade zones and to expand the exterior boundaries of the deposit. Drilling along the margins of the deposit, particularly along the northwestern portion, identified significant extensions of lower- and higher-grade gold zones, indicating that their boundaries are not well defined. Drilling for extensions of the northern and southern high-grade pods also revealed that these zones are larger than previously thought. Additional drilling in and around the Graben deposit is needed before it can be considered fully explored.

In mid-2007, a CSAMT survey was conducted over the Graben deposit as a test case. Several anomalies were identified that correlated favorably with known mineralization. The survey lines ended to the northwest in a similar-looking anomaly in an undrilled area. The initial interpretation is that this could be an extension of the Graben deposit.

The Graben zone has a strike length of more than 2,000 ft. Future drilling will both fill in gaps between widely spaced holes in the Graben and step out from the Graben zone in a north, east, and west direction to delineate more gold mineralization and to determine the boundaries of the zone.

9.2.3 North Graben Prospect

The North Graben prospect is defined by the projection of known mineralization, verified by drillhole sampling, and coincident with a large intense aeromagnetic low and an elongate chargeability (IP) high. This blind target lies on trend of the north-to-northeast-elongate Graben mineralized zone. In 1989, Echo Bay completed a district-wide helicopter magnetic/EM survey, which identified a large, intense-type aeromagnetic low in the North Graben area. This coincident magnetic low/chargeability high is interpreted as being caused by an extensive hydrothermal alteration-mineralization system. Five drillholes completed in the North Graben by Gryphon encountered a permissive geologic setting and trace levels of gold mineralization.

In early 2006, the company completed four holes into the North Graben geophysical anomaly, and one additional hole was drilled in 2007. All the holes intercepted hydrothermal system as indicated by several zones of silicification and pyrite up to 20%. None of the holes contained significant amounts of gold, but they were geochemically anomalous in gold and silver. Additional CSAMT lines were surveyed over the prospect.

9.2.4 Sunset Wash Prospect

The Sunset Wash prospect consists of a gravel-covered pediment underlain by extensive hydrothermal alteration in the western portion of the Borealis district. 16 holes drilled by Echo Bay indicated that intense alteration occurs within a loosely defined west-to-southwest belt that extends westerly from the Jaime's Ridge/Cerro Duro deposits. At the western limit of the west-to-southwest belt, Cambior's IP survey and drilling results can be interpreted to indicate that the alteration system projects toward the southeast into the pediment along a mineralized northwest-oriented fault. Cambior conducted a gradient array IP survey over the Sunset Wash area, effectively outlining a 1,000 ft x 5,000 ft chargeability anomaly. The anomaly corresponds exceptionally well to alteration and sulfide mineralization identified by Echo Bay's drillhole results. Two structures appear to be mapped by the chargeability anomaly: one is a 5,000 ft-long west-to-southwest-trending structure, and the other is a smaller, northwest-trending structure that cuts off the west-to-southwest structure at its western limit. Alteration types and intensity identified by the drilling, combined with the strong IP chargeability high and the aeromagnetic low, strongly suggest that the robust hydrothermal system at Sunset Wash is analogous to the mineralized systems at Graben and Freedom Flats.

Geologic observations based on mapping and drillhole logging indicate that both the Freedom Flats and Graben deposits are localized along a favorable horizon near the contact between the upper and lower volcanic units. This same contact zone appears to underlie the Sunset Wash pediment at a shallow depth. The target concept suggests that mineralization should favor zones where mineralizing structures crosscut the upper and lower volcanic contact. Cambior drilled three holes to test portions of the Sunset Wash geophysical anomaly and to offset other preexisting drillholes with significant alteration. Each of the three holes was drilled vertically to maximize the depths tested. The three holes were collared in the upper volcanic unit, but only one crossed the contact.

The westernmost of Cambior's three holes encountered the most encouraging alteration and best gold mineralization, suggesting that this drillhole is near the most prospective area. This drillhole intercepted hydrothermally altered rock from the bedrock surface to the bottom of the hole, including an extremely thick zone of chalcedonic replacement in the lower two-thirds of the hole.

Gryphon drilled three holes in the same area, all of which encountered strongly developed hydrothermal alteration with anomalous gold and favorable pathfinder trace elements.

9.2.5 Boundary Ridge/Bullion Ridge Prospect

The northeast-trending alteration zone extending along Boundary Ridge into Bullion Ridge contains intense silicification that is surrounded by argillization, with abundant anomalous gold. Widely spaced, shallow drillholes completed by previous operators have tested several of the alteration/anomalous gold zones and defined discrete zones of mineralized material.

Further exploration work will require permitting for drilling specific targets associated with the previously identified gold mineralization.

9.2.6 Central Pediment (Lucky Boy) Prospect

Another prospect area similar to North Graben and Sunset Wash is the Lucky Boy area, which may be in a shallower pediment environment in the central portion of the district near the range front. Historic drillholes in the periphery have found thick zones of silicification and traces of gold mineralization. Echo Bay's aeromagnetic map shows another magnetic low, and Cambior's IP map shows a coincident chargeability high in the area of the silicification.

Gryphon drilled eight RC holes in this area during late 2006 and 2007. All of these holes encountered intense hydrothermal alteration with anomalous gold and favorable trace element geochemistry. A subsequent CSAMT survey indicated that these holes may have encountered the margins of a high-sulfidation gold system. The target has been permitted for drilling.

10 Drilling

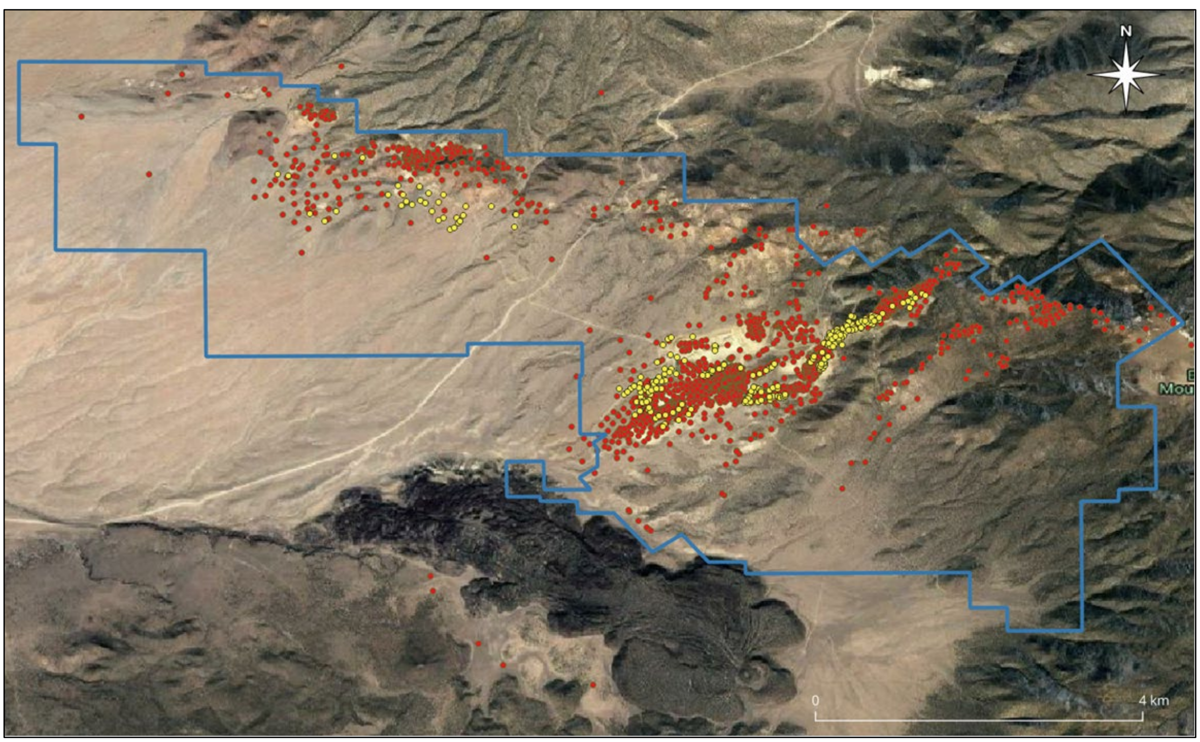
10.1 Gryphon Drilling

Gryphon conducted several drilling campaigns since it acquired the lease rights to the Borealis property in 2003. Table 10-1 summarizes each campaign's specific objectives. A map showing the locations of drillholes is shown in Figure 10-1.

Table 10-1: Summary Table of Borealis Project Drilling

Year	Objectives	Number of Holes	Total Footage (ft)
1978 to 2003	Deposit discovery, exploration and delineation	2,331	653,291
2004	Test heaps and dumps	32	2,478
2005 to 2006	Oxide gold expansion adjacent to past producing pits, some deeper holes testing sulfides	175	99,270
2007	Sulfide gold expansion in the Graben and Western Pediments	45	51,255
2010, Part 1	Oxide gold confirmation in four pits	21	5,585
2010, Part 2	Close spaced drilling on Leach Pad #1 to confirm resource	28	1,630
2011	Oxide gold confirmation/expansion at Borealis and East Ridge/ Gold View pits	59	5,780
2012	Test existing Leach pad #3, Freedom Flats dump material, and ER dump	47	2,902

Source: SRK, 2023



Source: Borealis, 2023
Yellow=Gryphon Gold Drillholes
Red=Pre-Gryphon Gold Drillholes

Figure 10-1: Drill Plan Map

Various companies conducted drill programs between 1978 and 2003. These include Houston International Minerals, Tennaco, Echo Bay, Billiton Minerals, Santa Fe Pacific Mining and Cambior.

In 2004, Gryphon used a sonic drill rig to drill 32 holes totaling 2,478 ft in five Borealis heaps and parts of the Freedom Flats and Borealis Mine dumps to confirm the amount and grade of gold-bearing rock that exists in heaps and dumps. The drilling provided samples for metallurgical test work to define geotechnical conditions and to demonstrate the geotechnical characteristics for design purposes in the waste characterization database. A separate drilling program was undertaken to install baseline groundwater monitoring systems.

Dump holes were drilled deep enough to penetrate the soil horizon below the dump, while holes on the heaps were drilled to an estimated 10 to 15 ft above the heap's liner. Several holes were drilled on each heap and dump to obtain an initial and representative view of grade distribution. Heap drilling in 1996 by Welsh totaled 11 auger holes for 760 ft into Heap 1 to determine the gold content remaining in that heap. Gryphon's drilling generally confirmed the gold grade and distribution in that heap.

The extensive oxide expansion drilling (mainly RC) program was started in 2005 and completed in 2006. The main targets focused by this program were Northeast Ridge, Middle Ridge, East Ridge, Deep Ore Flats, Crocodile Ridge, Borealis Extension, and Freedom Flats. Also, as part of this drilling program, some isolated sulfide targets in Graben, North Graben, Leach Pad area, and Western Pediment were tested. Because of favorable results in these sulfide targets, a program that focusing on sulfide gold was recommended for 2007.

In 2007, RC drilling was entirely focused on expanding the gold resources of the Graben and testing several geophysical targets in the Western and Central Pediments. This drilling was highly successful in Graben, as this gold deposit remains open on several sides. The results from the pediment targets were positive, but no strong gold mineralization was found. Additional drilling in Graben is recommended along with some focused drilling in the pediment targets.

The 2010 drilling effort consisted of two different programs, each with its own objectives. The first consisted of 21 RC drillholes that focused on the Freedom Flats, East Ridge, Borealis Extension, and Middle Ridge areas with the objective of converting Inferred gold ounces to Indicated and general confirmation or delineation of the gold resource. Two condemnation holes were also drilled into the planned leach pad site.

The second program carried out in 2010 consisted of 28 RC holes that better defined the distribution of the gold mineralization in Leach Pad #1. This old heap consisted of the Re-Leach portion on the west and the Freedom Flats portion on the east. The Freedom Flats portion was drilled on 100 ft centers. This work confirmed the past results from the Welsh auger drilling and the Gryphon sonic drilling along while filling in areas that did not have any drillholes. The Re-Leach portion of the pad was tested with five holes, and these confirmed the results of previous drillholes.

The 2011 program consisted primarily of close-spaced RC drillholes to define oxide resource in the historic Borealis and East Ridge/Gold View pit areas, along with a couple of deep exploratory holes checking for a Borealis northeastern extension and three shallow holes testing the East Ridge pit waste dump.

In 2012, in an effort to find more near-term, easily accessible ounces, 45 sonic drillholes were driven in Leach Pad #3 and the Freedom Flats waste dump to the southeast of the Borealis pit. Two additional sonic holes were sunk in the East Ridge pit waste dump.

10.2 Procedures

10.2.1 Historical Drilling

The historic holes were drilled by several different operators on the property. Drillhole types include diamond core holes, RC holes, and rotary holes. Borealis has not yet been able to locate any documents describing the procedures related to historical drilling, surveying, logging or sampling.

The principal deposit discovered by Tenneco/Echo Bay was the Freedom Flats deposit. Infill drilling was conducted between fences on 50 to 70 ft centers, where thick, high-grade mineralization was intersected. Holes were drilled around the perimeter of the deposit on 100 ft centers to close off all mineralization. A total of 99 RC holes were drilled in the main deposit area, totaling 56,000 ft. All holes were drilled vertically.

10.2.2 Collar Surveys

SRK has not been provided with any documentation describing the procedures for collar surveying the historical drillholes. SRK recommends Borealis attempt to locate and survey historical collars to verify the locations.

10.2.3 Downhole Surveys

Only a few core holes have downhole survey information. Since most of the drilling is shallow, the absence of downhole survey information is not considered as material as changes in dip are assumed to be minimal. In the deeper Graben zone, however, unsurveyed drillholes may locally distort the shape of the grade zones and may result in lower confidence. The lack of downhole surveys may locally impact the classification of the Mineral Resources.

10.2.4 Logging

No description of the historical logging procedures has been located.

10.2.5 Sampling

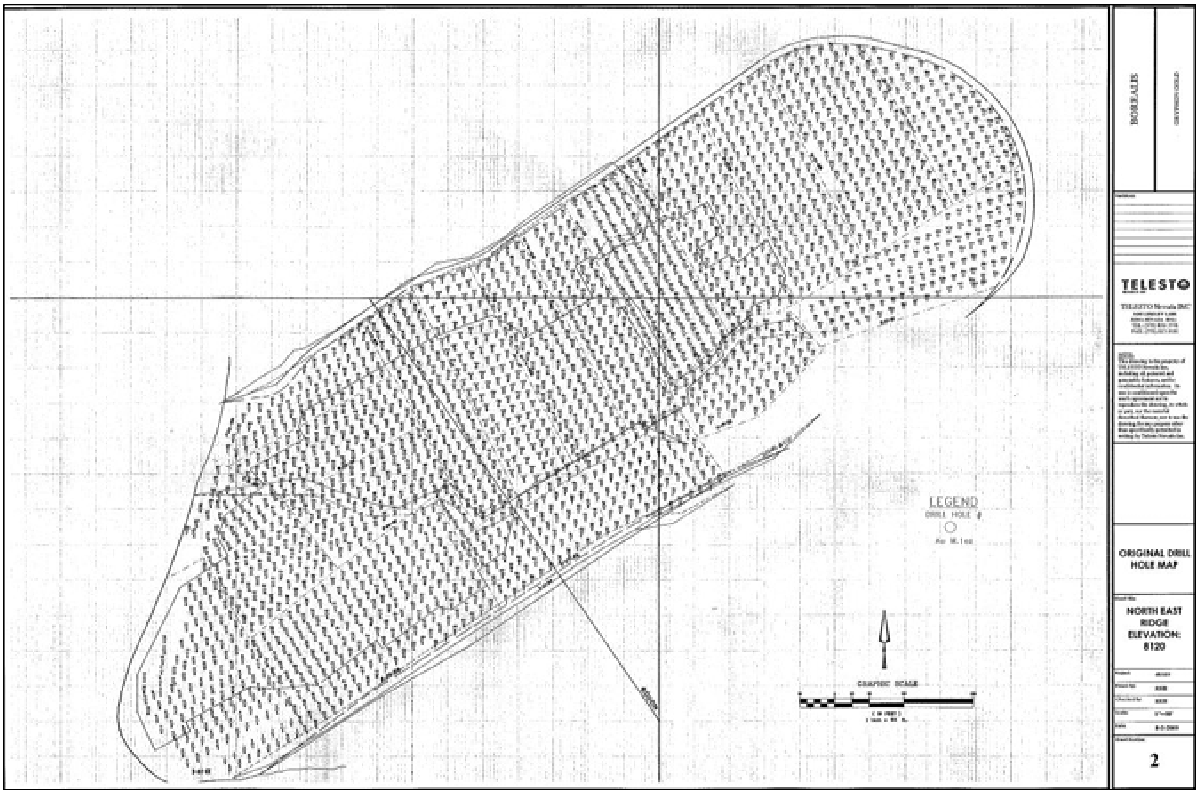
A historical report by John T. Boyd Co. (1981) noted that the “drilling, sampling and analytical procedures as well as assay checks were reviewed by Dames and Moore and reported as acceptable by industry standards.”

SRK recommends a review of RC holes located in areas of interest for downhole contamination.

10.3 Historical Blasthole Database

Borealis Mining’s records for Borealis include blasthole maps for many of the pits that were mined by Echo Bay from the period of 1980 to 1991. These maps show the mine survey grid, useful for horizontal location, the mine level, or elevation, and list the assay value for gold.

Blastholes were horizontally drilled on 15 to 18 ft centers and were usually 20 ft deep. The hole diameter was 5 to 6 inches, and a single sample of the cuttings produced was collected by a splitter on the blasthole drill. These cuttings were assayed in the mine laboratory, and the resulting gold value was recorded on the blasthole map (Figure 10-2). The mine engineer used this map to generate dig plans for the production crews and to also produce a record of actual tonnage and grade produced from that level. These data were then used to compare the expected tons and grade based on exploration drill data and modeling to what was actually produced when the deposit was mined. Due to the uncertainty associated with these data (internal mine laboratory, lack of QA/QC results) there is no certainty that these data will be used to support updated MREs.



Source: Borealis, 2023

Figure 10-2: Representative Historical Mylar Map of Blasthole Data

10.4 Gryphon Gold Drilling

10.4.1 Collar Surveys

SRK has not been provided any documentation discussing collar survey procedures followed by Gryphon Gold.

10.4.2 Downhole Surveys

SRK has not been provided any documentation discussing downhole survey procedures followed by Gryphon Gold. Based on some certificates it appears International Directional Services (IDS) was used to downhole survey some holes. Based on a review of the database, a limited number of inclined drillholes have been surveyed down the hole. The holes with downhole survey data have been surveyed at 50 foot intervals. There are several deep holes without downhole survey data.

SRK expects that areas in the MRE which are supported by deeper unsurveyed data will need to be downgraded in classification. Additional drilling in these areas is recommended to minimize the downgrade in classification.

10.4.3 Logging

SRK has not been provided documentation discussing logging procedures followed by Gryphon Gold.

10.4.4 Sampling

Auger drilling in the heaps (2004) were originally designed to be every 10 ft but were contingent upon drilling conditions. Actual drill sample interval lengths were subject to the position of the sample tube where this was extracted from the drillhole. Individual runs varied from 1 to 3 ft, which were then combined to produce a sample with an interval length as close to 10 ft as practicable (the combination was completed at AAL). Combined sample intervals routinely varied from 9 to 11 ft, except at the bottom of a hole where the final sample intervals were typically shorter (Steininger, 2007).

When the sample tube was extracted from the drillhole, the sample was immediately slid into a plastic sleeve that was sealed and marked with the drillhole number and footage interval. These plastic sample sleeves were not reopened until they reached the analytical laboratory. All of the drill procedures and handover to the analytical laboratory were monitored by a contract geologist. The contract field geologist also maintained lithologic logs for each drillhole. A non-blind standard was added as the last sample interval of each drillhole. The standard was obvious to the laboratory because the standard was contained in a pulp envelope, although the laboratory did not know the gold value of the standard.

In 2005, RC sampling procedures at the drill sites and monitoring of assays were standardized. Initially, the program consisted of a limited number of standards and duplicates submitted with each drillhole. In May 2006, Gryphon instituted more-rigorous quality control procedures.

Drift Exploration Drilling was contracted in the spring of 2010 to drill with a RC drill rig. A Telesto geologist was on-site for drill supervision for 14 of the 21 total RC holes drilled during the 2010 program. A Gryphon geologist was on-site for drill supervision for the remaining seven holes of the program. The same sampling procedures as used during the 2005 through 2007 drilling program were utilized.

Samples were collected at 5 ft intervals from each hole, starting at the surface and continuing through the end of the hole. Material from each 5 ft interval was split to about one-quarter to one-half of the original volume at the drill site and was then bagged and sealed by the drilling contractor. At the completion of each drillhole, samples were put into a sample bin and moved to a secure site on the property where they were held until picked up by AAL of Sparks, Nevada.

It must be noted that some of the samples from a drillhole in the Middle Ridge area were contaminated by diesel fuel during transport to the sample bin. Because of this, the labels for 60 ft of drill samples were rendered unreadable. These samples were not assayed.

The same sampling procedures as used during the 2005 through 2007 drilling program were utilized. Samples were collected at 5 ft intervals from each hole, starting at the surface and continuing through the end of the hole. Material from each 5 ft interval was split to about one-quarter to one-half of the original volume at the drill site, then bagged and sealed by the drilling contractor. At the completion of each drillhole, samples were put into a sample bin and moved to a secure site on the property where they were held until picked up by American Assay Labs (AAL) of Sparks, Nevada.

10.5 Summary of Drill Intercepts

RC and core drilling are reasonable methods for this deposit and these techniques have been applied by all operators since early exploration and mining. Drilling has been completed from surface with drillholes designed to provide reasonable intersections to the interpreted dip and strike of the mineralization.

All intercepts reported were drilled by previous operators. There has been no exploration or infill drilling on the property since 2011. Heaps were drilled in 2012, but these intercepts are not included in the tables below.

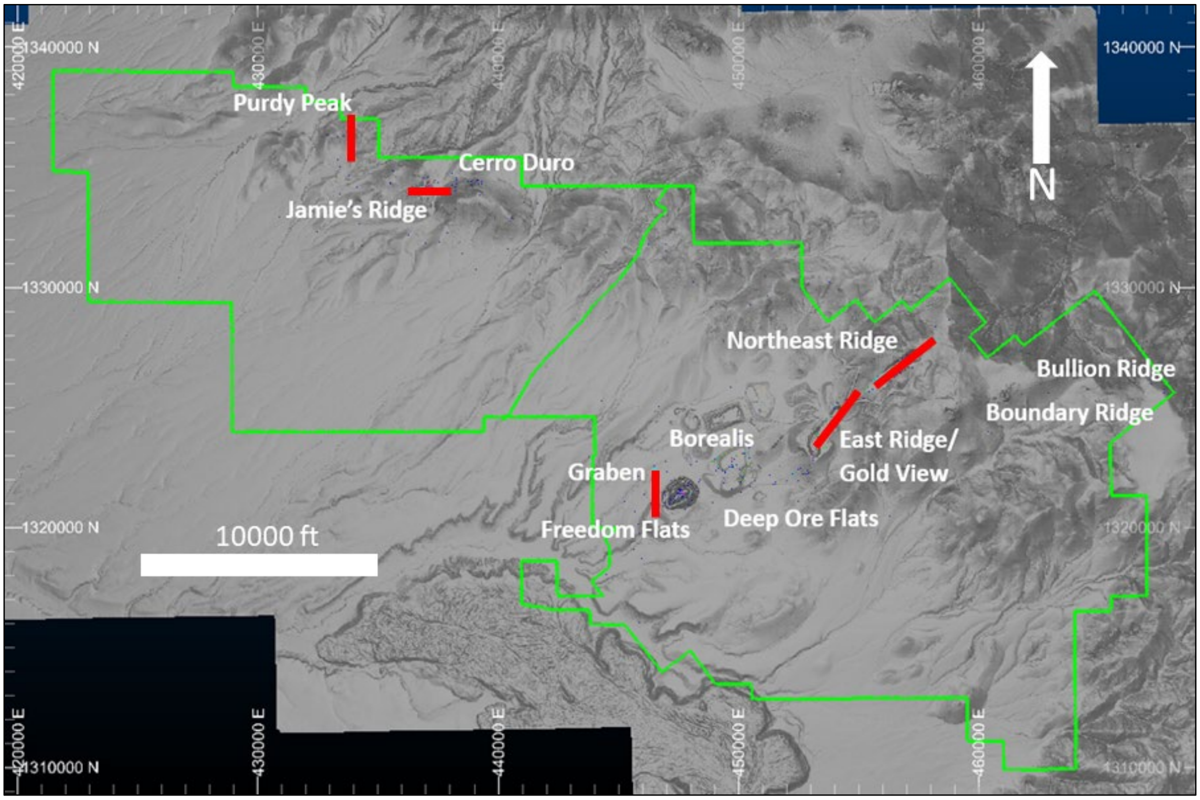
Table 10-2 summarizes significant mineralization intercepts.

Table 10-2: Summary Table of Significant Intercepts

Hole-ID	Deposit	From (ft)	To (ft)	Length (ft)	Weathering	Au (oz/ton)	Au (g/t)	Comment
DFF229	Graben	620	720	100	Sulfide	0.844	28.94	
CBO002	Graben	722	761.5	39.5	Sulfide	0.554	19.00	
CBO023	Graben	602.6	662.6	60	Sulfide	0.257	8.81	
GGCG-55	Graben	770	840	70	Sulfide	0.225	7.72	
CBO028	Graben	687	721.3	34.3	Sulfide	0.815	27.95	
DFF173	Graben	680	730	50	Sulfide	0.546	18.72	
DJR071	Jamie's Ridge	35	150	115	Oxide	0.298	10.22	Below historic pit
DBX009	Borealis	100	160	60	Oxide	0.0931	3.19	Below historic pit
DLB058A	Borealis	105	170	65	Oxide	0.174	5.97	Below historic pit
DRR022	Borealis	85	120	35	Oxide	0.11	3.77	Below historic pit
DFF050	Freedom Flats	550	710	160	Sulfide	0.16	5.49	Below historic pit
DFF032	Freedom Flats	360	495	135	Oxide/ Sulfide	0.322	11.04	Below historic pit
DFF254	Freedom Flats	115	135	20	Oxide	1.24	42.52	Below historic pit
DFF252	Freedom Flats	115	252	137	Oxide/ Sulfide	0.305	10.46	Below historic pit
DFF032	Freedom Flats	365	415	50	Oxide/ Sulfide	0.337	11.56	Below historic pit. Contains 50' of oxide grading 0.28oz/t (9.6g/t)

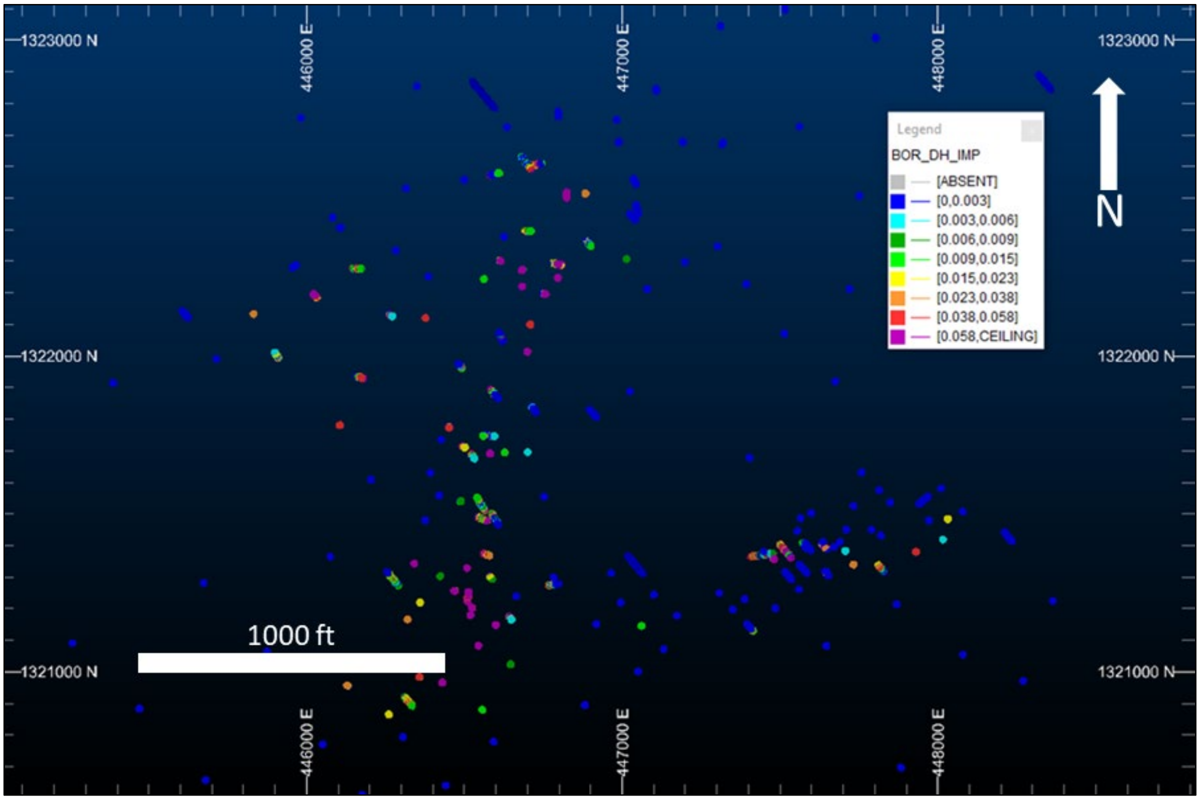
Source: Borealis, 2023

Figure 10-3 through Figure 10-13 show representative sections through the various deposits within the Borealis project. Figure 10-3 shows section locations.



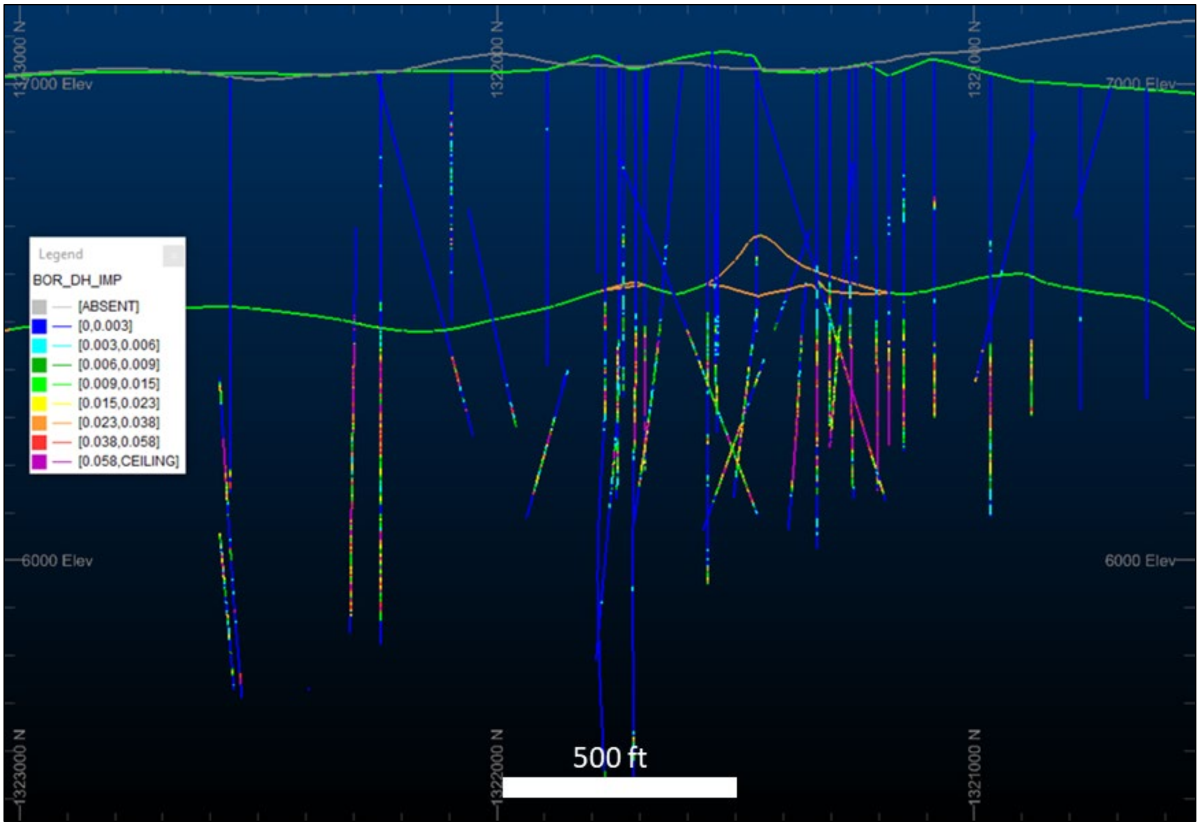
Source: Borealis, 2023

Figure 10-3: Section Locations with Deposit Names and Claim Boundary



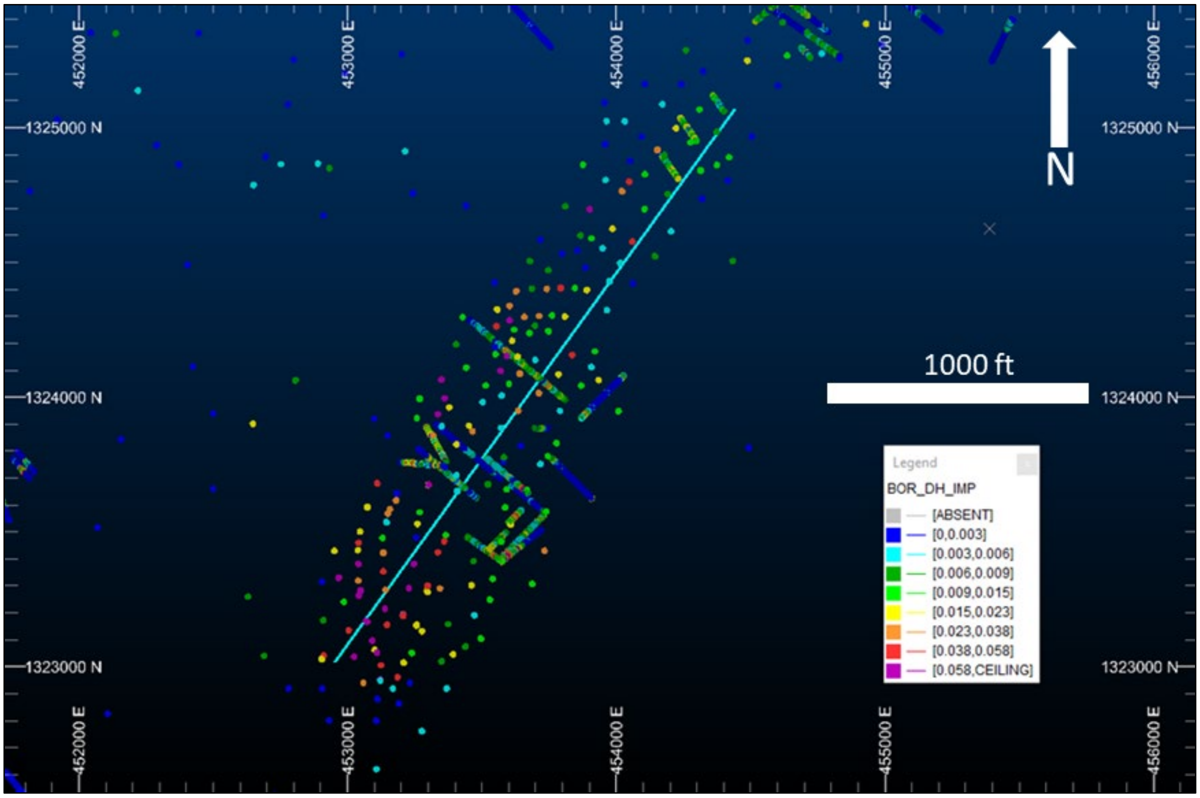
Source: Borealis, 2023

Figure 10-4: Graben Plan View 6300RL (±50 Feet)



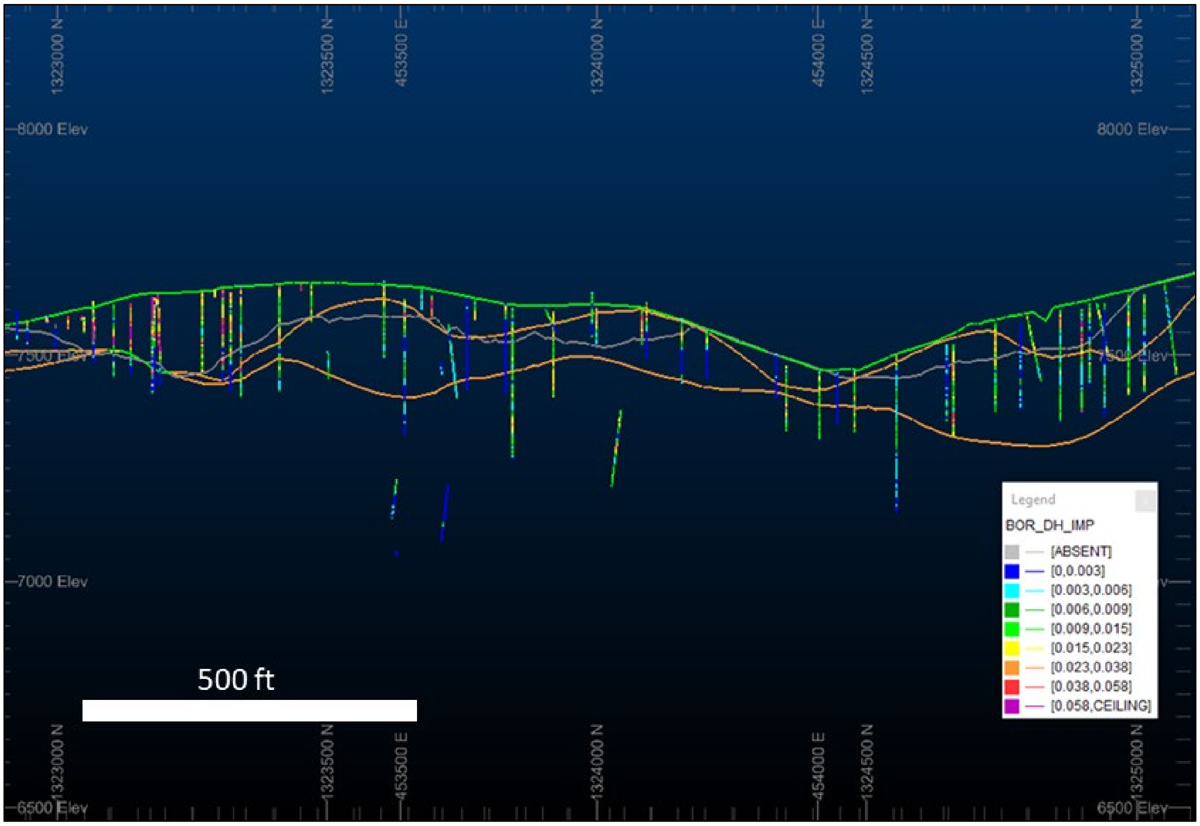
Source: Borealis, 2023
Notes: Green – Oxide Mineralization, Orange – Transition Zone, Yellow – Sulfide Mineralization

Figure 10-5: Graben North-South Section of Graben at 446520N (±200 Feet)



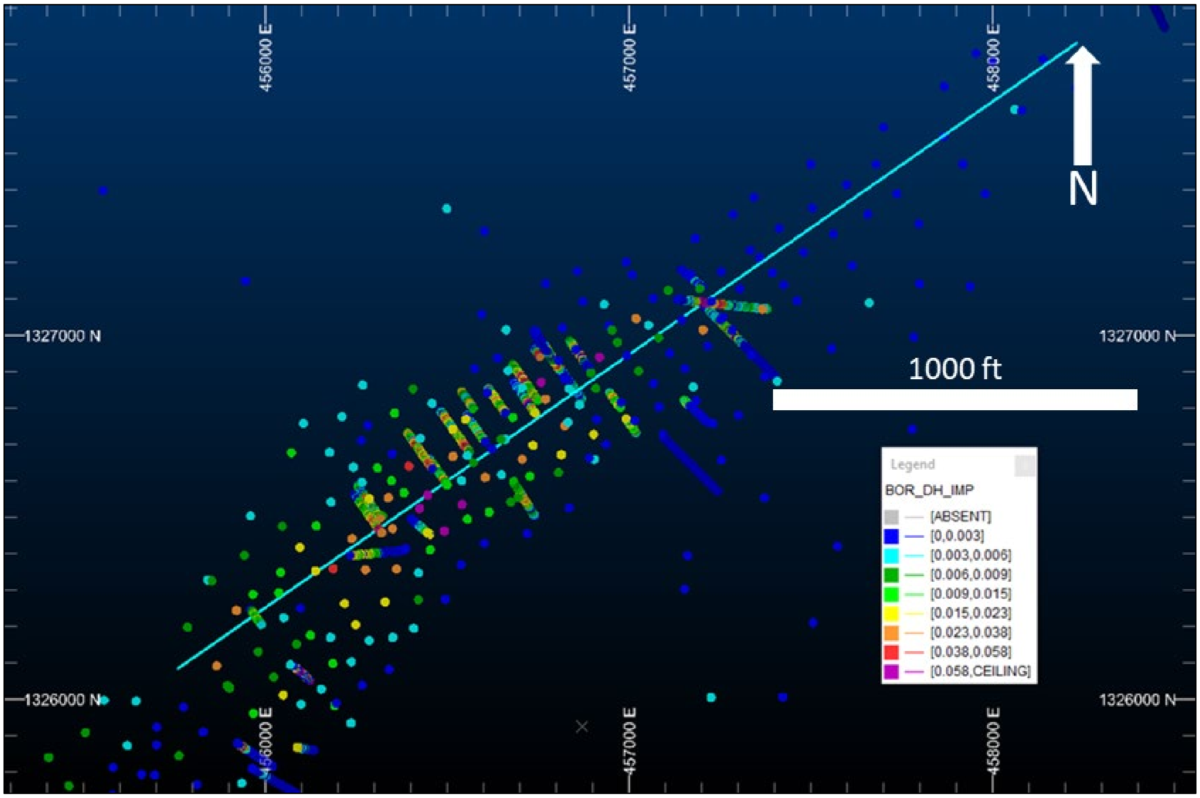
Source: Borealis, 2023
Note: Blue line depicts location of section.

Figure 10-6: East Ridge and Gold View Plan View, No Clipping Applied



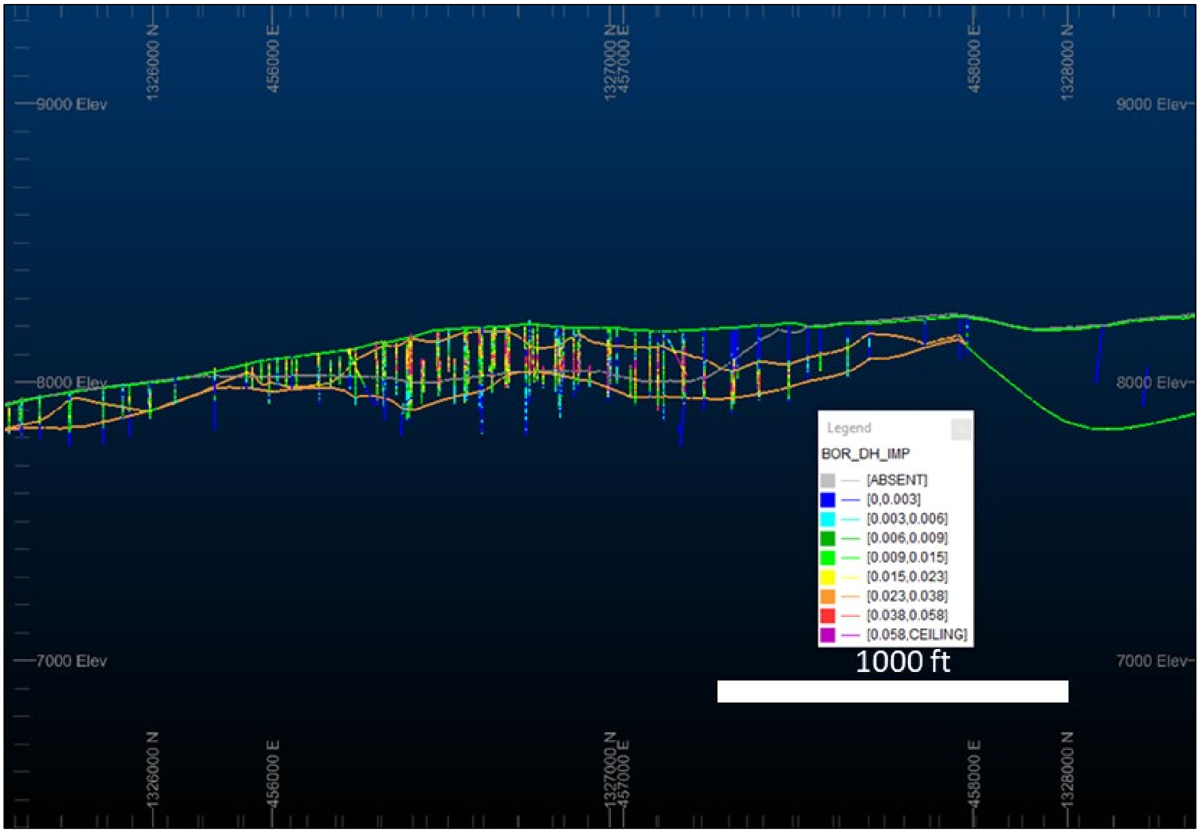
Source: Borealis, 2023
Green – Oxide Mineralization
Orange – Transition Zone
Yellow – Sulfide Mineralization

Figure 10-7: East Ridge and Gold View Oblique Section Looking Northwest (±200 Feet)



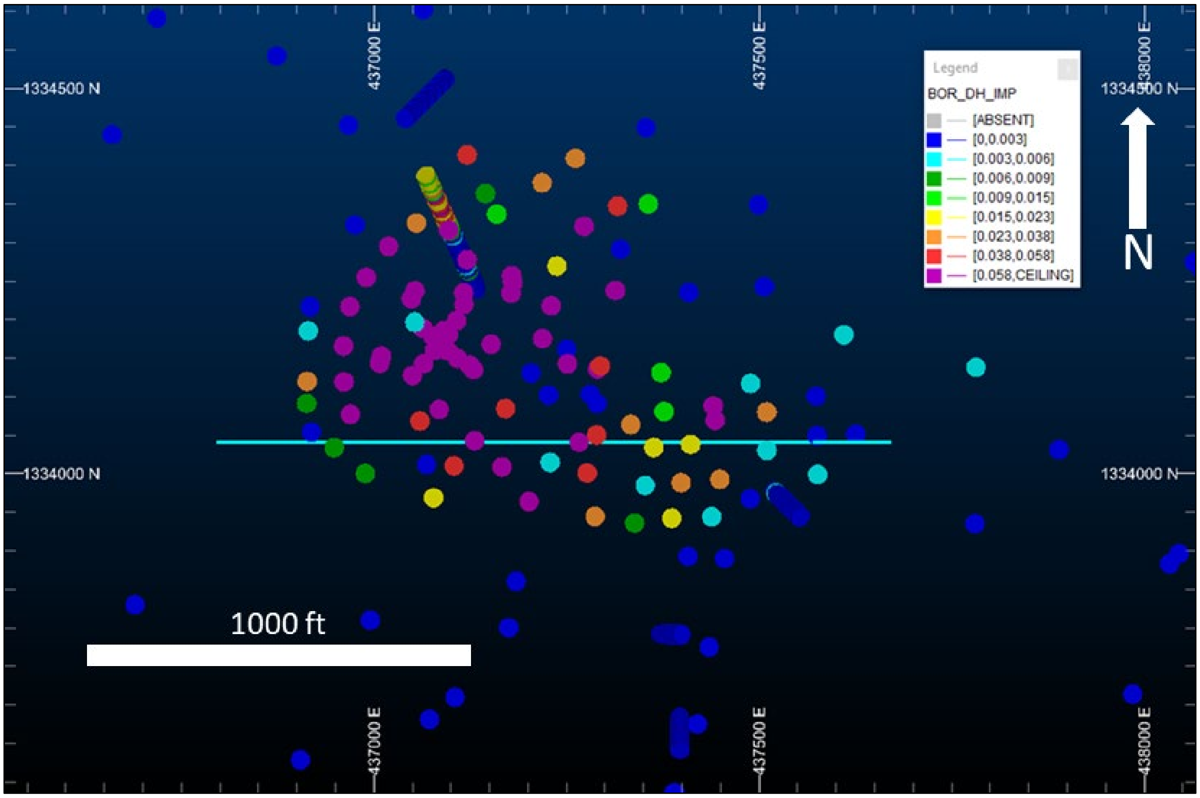
Source: Borealis, 2023
Note: Blue line depicts location of section.

Figure 10-8: Northeast Ridge Plan View, No Clipping Applied



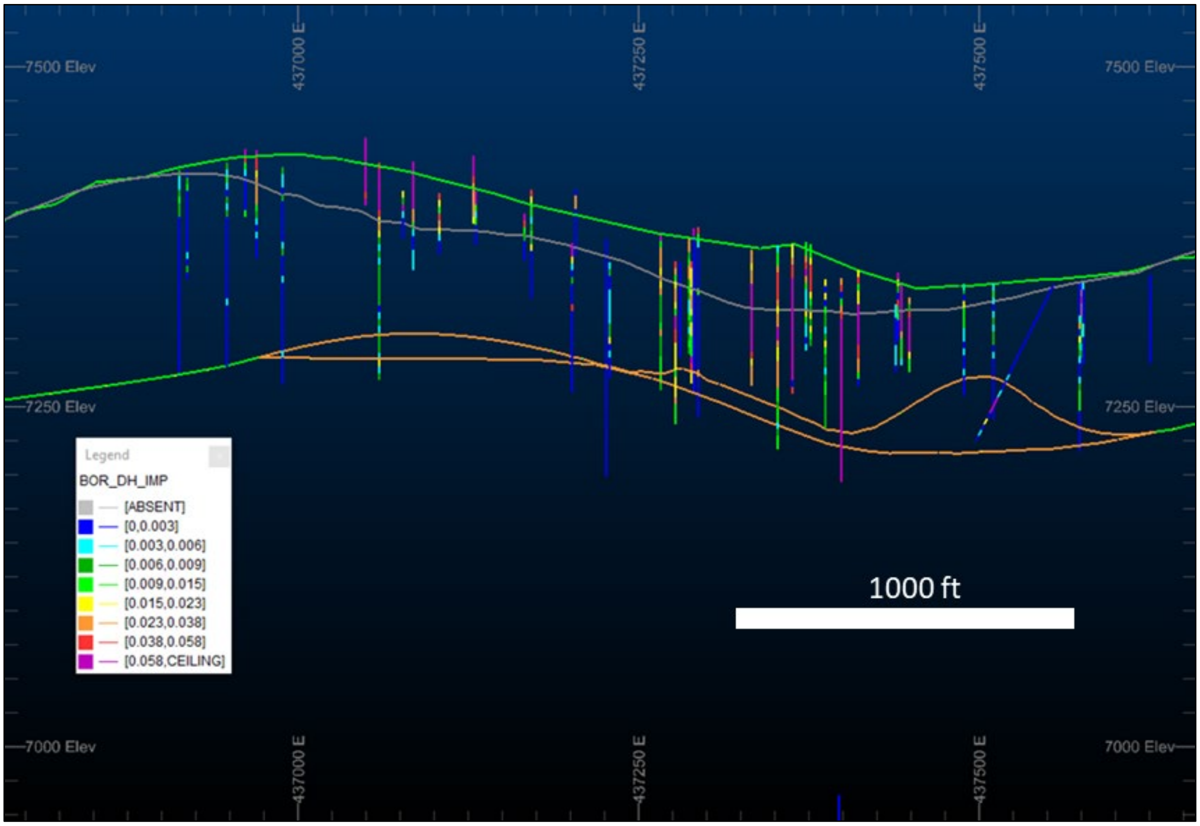
Source: Borealis, 2023
Green – Oxide Mineralization
Orange – Transition Zone
Yellow – Sulfide Mineralization

Figure 10-9: Northeast Ridge - Oblique Section Looking Northwest (±200 Feet)



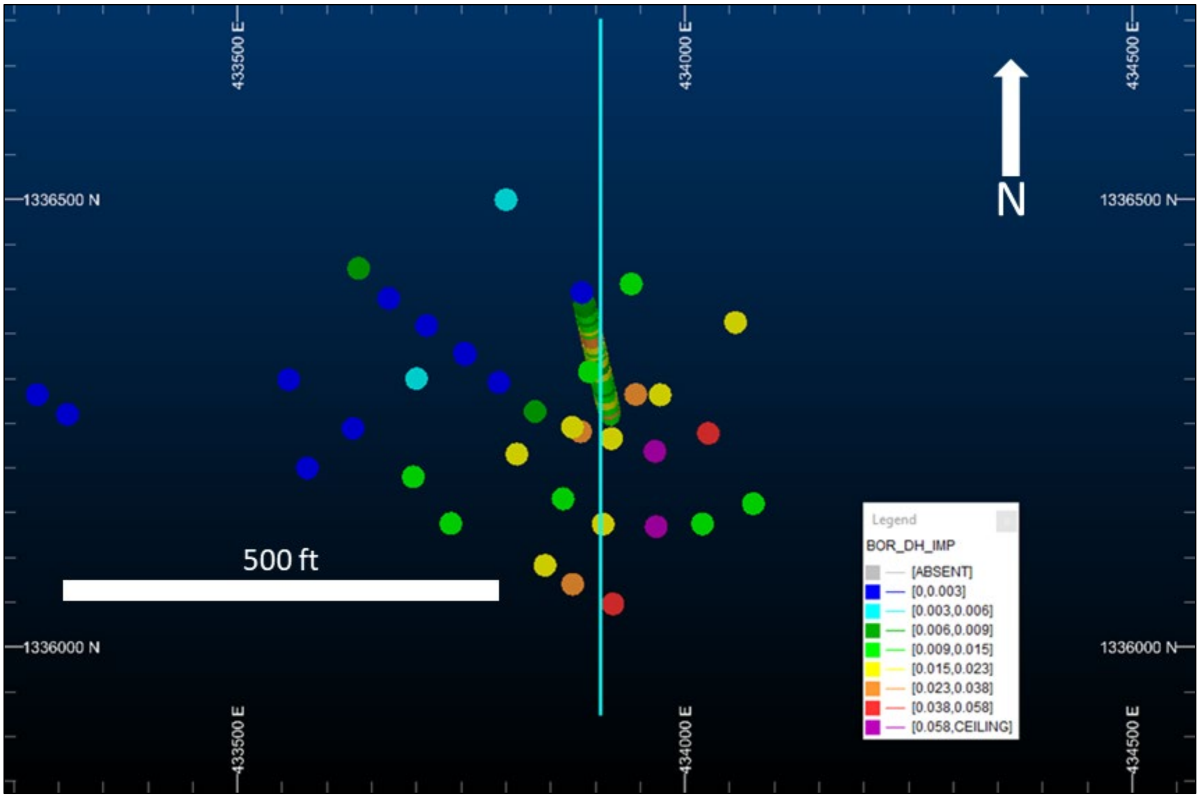
Source: Borealis, 2023
Note: Blue line depicts location of section.

Figure 10-10: Jamie's Ridge Plan View, No Clipping Applied



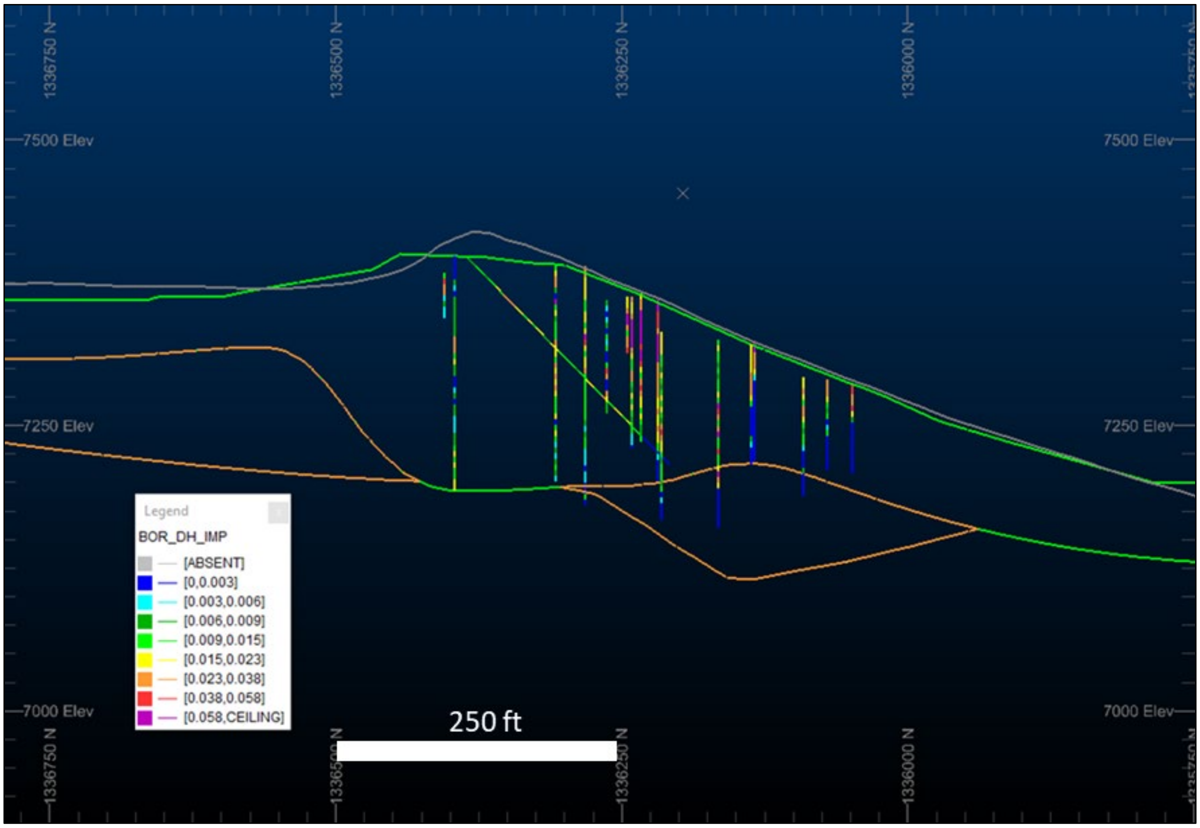
Source: Borealis, 2023
Green – Oxide Mineralization
Orange – Transition Zone
Yellow – Sulfide Mineralization

Figure 10-11: Jamie's Ridge Section 1334040N Looking North (±100 Feet)



Source: Borealis, 2023
Note: Blue line depicts location of section.

Figure 10-12: Purdy's Peak Plan, No Clipping Applied



Note: Green – Oxide Mineralization, Orange – Transition Zone, Yellow – Sulfide Mineralization
Source: Borealis, 2023

Figure 10-13: Purdy's Peak - Section 433910E Looking East (±100 Feet)

11 Sample Preparation, Analysis, and Security

11.1 Sample Preparation, Analysis, and Security

11.1.1 Historical Drilling

Little documentation has been discovered discussing historic sample preparation, analysis, and security. SRK recommends Borealis search for documentation, but it may not exist.

Most of the assaying was carried out by major laboratories that were in existence at the time of the drilling programs. Various laboratories, including Monitor Geochemical, Union Assaying, Barringer, Chemex, Bondar-Clegg, Metallurgical Laboratories, Cone Geochemical, the Borealis Mine laboratory, and others, were involved in the assaying at different phases of the exploration and mining activity.

Drillhole sampling lengths were generally 5 ft for the RC holes but vary for the core holes based on geological intervals. Sampling length is up to 25 ft for some of the early rotary holes.

Due to the presence of abundant clay, most holes were drilled with water and foam injection; samples were collected using Jones splitters. In addition to rotary drilling, four HQ core holes totaling 2,687 ft were drilled primarily to obtain material for column leach metallurgical testing. Although continuous assays were not available for most of the core holes due to metallurgical sampling, the results of limited assaying suggested that the RC rotary holes underestimated the gold grades. The most likely cause for this discrepancy was the loss of fines during wet drilling. Later in Eng's report, he states that the discrepancy also may be due in part to the small size of many of the higher-grade (>0.5 opt Au) locally mineralized pods, which were not intersected in close-spaced (50 ft) drilling. Another possible explanation not mentioned by Echo Bay is the problem created where predominantly vertical drilling patterns are used to test steeply dipping to vertical mineralized zones. There is also a possibility that coarse gold particles exist and have not been adequately sampled or assayed.

QA/QC

Early work on the property appeared to rely on assay standards that were supplied by the laboratories doing the assaying, which is no longer considered best practice. However, Echo Bay (1986) reported using seven internal quality control standards for their Borealis mine site drillhole assaying program. The seven standards ranged in gold concentrations from 170 ppb to 0.37 opt. Assay laboratories involved in the round robin standards analyses were Cone Geochemical, Chemex, and the Borealis mine site laboratory.

During 1986, Echo Bay instructed Chemex (1986) to analyze duplicate samples for five selected drillholes. A comparison was made of:

- $^{1}/_{2}$ assay-ton fire assay with a gravimetric finish versus
- $^{1}/_{2}$ assay-ton fire assay with an atomic absorption finish versus
- Hot cyanide leach of a 10 g sample

The $^{1}/_{2}$ assay-ton fire assay with gravimetric finish and the $^{1}/_{2}$ assay-ton fire assay with AA finish gave essentially the same results. However, the hot cyanide leach gave results that were 5% to 11% higher in one comparison and significantly lower in another, prompting Chemex to conclude that cyanide leach assaying was not appropriate for Borealis samples. Most of the assays in the database are based on fire assays.

The early work describes between 7% and 9% of all samples being re- assayed, with higher-grade intervals re-assayed most frequently (with approximately 20% of these intervals assayed again) (Ivosevic, 1979). Also, there are many references to assay checks in the drillhole data, with comparisons of assays of the same pulps and also of assays of different splits from the same sample intervals. Results of these comparisons were generally reported to be reasonably close. High-grade intervals often showed more variability in their assays. Santa Fe Pacific (1994) performed check assays on their drilling and found 23% variability in the high-grade assays. Their geologist reported, "rather than reflecting relative differences in the labs, I believe the difference is due to the inherent variability in the core. Perhaps we would have been better served to take the entire remaining core [for the check assay material] instead of sawing it in half again (resulting in a $^1/_4$ split)."

Echo Bay performed quality checks on their drill cuttings sampling and assaying methods as part of their evaluation of the property prior to and following its purchase from Tenneco, which indicated that the original assays were reliable and representative. During their exploration and development programs, Echo Bay also drilled a number of core hole twins of conventional rotary drillholes to compare assay results in the same areas. Echo Bay concluded that the vast bulk of drilling, which was conventional rotary, probably undervalued the gold content, especially in higher-grade zones. Anecdotal information from former Echo Bay management indicates that the mine consistently gave better results in terms of higher grade and better recovery of gold than planned or expected.

SRK was not able to locate any QA/QC data related to the historical drilling.

11.1.2 Gryphon Gold Drilling

Sample Preparation

All samples were submitted to AAL of Sparks, Nevada. At the laboratory, each of the individual samples was combined into an analytical sample that approximated 10 ft intervals, as instructed by the geologist. Each analytical sample was split in a rotary splitter, with one-fifth of the sample removed for assay and the remaining four-fifths retained for metallurgical testing. Each analytical split was weighed, dried, and weighed again. Each dried sample was crushed to less than $^1/_4$ inch, and a 300 to 500 g sample was riffle split off for assay. Each sample was subsequently pulverized and then assayed for gold and silver by 1 assay ton fire assay. The coarse rejects were retained at the laboratory until assaying was completed.

Sample Analysis

Each assay sample was pulverized and assayed for gold and silver by 1 assay ton fire assay. A two-hour cyanide shake assay for dissolvable gold was conducted on a 200 gram split of selected samples.

Sample Security

Throughout the Borealis RC drilling program during 2005 to 2007, samples were routinely collected at 5 ft intervals from each hole, starting at the surface and continuing through the end of the hole. Material from each 5 ft interval was split to about one-quarter of the original volume at the drill site and then bagged and sealed by the drilling contractor. At the completion of each drillhole, samples were moved to a secure site on the property where they were held until picked up by assay laboratory personnel. Initially, this was AAL; starting in the spring of 2006, Inspectorate America Corp. (Inspectorate) of Sparks, Nevada, became the assay facility of choice. From the time that the pickup was made, the laboratory maintained control over the samples until coarse rejects and pulps were returned to the site.

QA/QC

As part of the 2004 quality control program, standards were submitted to AAL with each drillhole, several assayed pulps and two standards were submitted to ALS Chemex, and three of the duplicates and two standards were submitted to Actlabs-Skyline. All of the data show good precision and accuracy except for ALS Chemex's analyses of the standard. Based on this information, the analyses from AAL are considered reliable.

Until May 2006, a blind standard was included at the end of each drillhole, and with the initial group of holes, a duplicate sample was collected at the drill and included in the sample sequence as a blind sample. The new quality control program started in May 2006 required sufficient standards being inserted so that one standard would be included with each fire assay tray at the laboratory. Additionally, a blank sample was inserted as a blind sample within the drill sample sequence.

The quality control program consisted of standards included with each drillhole, duplicate samples collected at the drill, and duplicate assays as part of the laboratory's internal control. The assays and these controls were monitored continually by Dr. Roger Steininger. If questionable assays were received, a decision on re-assaying portions of or the entire hole was made at the time of receipt of the preliminary assay reports. In general, the quality control samples indicate that both laboratories produced high-quality assays. The close correlation between assays of the original sample and the duplicate sample indicates that sampling at the drill produced representative samples.

Analytical results of the standards submitted with the drill samples were within two standard deviations of the standard's gold content, which was deemed acceptable. Generally, duplicate assays performed by the laboratory corresponded well with the original assays.

During the early part of the drilling program, a duplicate sample was collected at the drill, initially to ensure that a representative sample was collected. Secondly, these samples were also a check on laboratory assay reproducibility. Except for three samples, there is an extremely close correlation between the duplicate samples from each hole. This indicates that representative samples were collected at the drill and that the laboratory was able to produce similar assays for the same drillhole interval. The three samples with wider variations are probably representative of the nature of a gold deposit with occasional coarse gold and wide variations in gold content over short distances.

As a further check on AAL, six holes, or portions of a hole, were submitted to Inspectorate for re-assay. Except for one hole, there was good correlation in the assays between respective drillhole intervals between the two laboratories. Overall, the assays from this one hole had a good correlation between laboratories with a few inconsistencies between the two laboratories. Some of AAL's assays were higher than Inspectorate's, and for other intervals, the reverse was the case.

It was decided to switch to Inspectorate for analytical work in the spring of 2006 after sample preparation irregularities were found to have generated erratic assays on at least one and possibly up to three holes. The samples were rerun. Coarse rejects from several holes were retrieved and submitted to Inspectorate for comparison. These assays agreed closely with the results from AAL, and Gryphon determined that there was no reason to consider previous assays from AAL unreliable. After the switch to Inspectorate's laboratories, the quality control program was not changed.

The source of the standard material is not noted in the technical disclosures reviewed to date, and it is considered these materials may have been internal and not certified, but further investigation is needed to confirm. The procedures for standards are described below.

Standard pulps were included with the drill samples in the sample bin before pickup so that one standard would be included with each fire assay tray at the laboratory. The standards were labeled with the drillhole identification number and intervals representing approximately every 70 ft of the drillhole. In addition, for nine of the total 21 RC holes, a blank standard was inserted as a blind sample within the drill sample sequence. This practice was eliminated because it was deemed unnecessary because AAL routinely inserted blanks and standards into the sample sequence to confirm analytical integrity.

The quality control program consisted of standards included with each drillhole and re-assays as part of the laboratory's internal control. The assays and these controls were continually monitored by Steven Craig, Vice President of Exploration for Gryphon. In general, the quality control samples indicate that the laboratory produced high-quality assays.

Analytical results of the standards submitted with the drill samples were within two standard deviations of the standard's gold content, which was deemed acceptable. Re-assays performed by the laboratory corresponded well with the original assays.

SRK has not reviewed or verified the historical QA/QC data. During the site visit, paper records of QA/QC results were located. SRK recommends Borealis compile the various QA/QC data, and these data be reviewed prior to the 2024 MRE.

12 Data Verification

12.1 Historical Exploration Drillhole Data

The following section includes information from research of historical records conducted by Gryphon and is included for general reference.

The exploration drillhole database was verified by Mr. Steven Craig, during an 8 month intensive effort by reviewing every one of the 2,417 drillholes and over 125,000 assays on original sheets, comparing them line-by-line with the database, and ensuring that only accurate information was in the database. Where several valid assays were found for a single interval, they were averaged to determine the grade used in the database. In SRK's opinion, this is not best practice, but there may be little that can be done to correct this issue. Drillhole collar location surveys from original survey documents were also compared to the database information and improved where necessary. Downhole survey information from original survey documents for the deeper holes were also reviewed and compared with the database to ensure its accuracy.

Blasthole data were digitized from the original mylar and paper level maps stored in Gryphon's Borealis Project files. The assay value is a handwritten notation of the gold at that location in ounces per ton.

Information presented above describes the limitations imposed by the lack of certain historical records on verification of the data. Based on operating results and historical descriptions, it appears that the sampling, sample preparation, assaying, and security of samples were conducted in an industry acceptable manner for the time period in which the samples were collected and processed.

12.2 Gryphon Gold Witness Sampling

As part of the evaluation of the Borealis Project, Gryphon Gold geologists collected several samples to confirm the presence of mineralization on the property. Samples included an 18 ft interval of core, one pit wall rock chip sample, and two spoil pile samples. Table 12-1 summarizes the gold assay results from this sampling effort. The core sample was taken from an original drill core from within a higher-grade zone of the Graben deposit. The sample was cut from the remaining sawed core half and was re-sawed to produce a quarter sample of the core. There is no way to verify if the entire original sawed half of the core remained in the core box when Gryphon obtained the newly sampled material. The pit sample was taken from the southeast margin of the East Ridge pit, on the pit floor over a 15 ft horizontal interval at coordinates 374,586 E. and 4,249,990 N., and 7,425 ft elevation. The material was oxidized and silicified andesite. Samples were also collected from the spoil pile from Holes BOR 11 and BOR 13 on Heap 1. All sample preparation and assays were performed by AAL.

Table 12-1: Results of Historical Selective Check Sampling at Borealis

Location	Original/Historical Au Assay Value (opt)	Recent Au Assay Value (opt)
CBO023 597-615'	0.201	0.162
East Ridge pit floor	Not available	0.018
BOR11 Heap 1	0.030	0.026
BOR 13 Heap 1	0.023	0.019

Source: Telesto, 2011

In Gryphon Gold's opinion the data was helpful in developing knowledge of the property, was generally reasonable and within the appropriate gold grade range and confirmed the presence of mineralization at pit margins and in historic heaps.

12.3 Gryphon Gold Database Verification

5% of the drillholes used in the resource model were checked by a Gryphon geologist. Within the four model areas, 89 drillholes were randomly chosen, and the following information was verified from data in the paper files: collar coordinates, hole depth, hole elevation, hole angle/dip, and assays. The error between the database and paper files was less than one-third of 1% overall for hole data and gold assay data. The error for silver assay data, which was not used in the resource model, was 6.1%.

12.4 QP Opinion

SRK has not completed sufficient work to consider the database as presented as verified and recommends that the data be verified once the database has been compiled with all available data. This verification should focus on priority areas and holes which have not already been mined.

13 Mineral Processing and Metallurgical Testing

A great deal of mineral processing and metallurgical test work was completed prior to the most recent period of mine operation by Gryphon/Waterton and is dealt with at length in the historic Telesto PFS. This work focused entirely on oxide and mixed or transitional material types, as previous mining operations were planned to be traditional cyanide leach. Section 6.7 provides a summary of that work. Further work has not been undertaken at this time and in the absence of a current Mineral Resource this section is not applicable to the current status of the Project.

14 Mineral Resource Estimate

This section is not applicable to the current status of the Project, and it is the QP’s opinion that further work is required to define a mineral resource. Reconciliation of historic grade control data and current pit surveys would be necessary to accurately estimate the present resource, and further drilling to confirm key intercepts and validate existing drill data would be required.

15 Mineral Reserve Estimate

This section is not applicable to the current status of the Project, and it is the QP's opinion that further work is required to define a mineral reserve. Reconciliation of historic grade control data and current pit surveys would be necessary to accurately estimate the present reserve, and further drilling to confirm key intercepts and validate existing drill data would be required.

16 Mining Methods

This section is not applicable to the current Project property, and further work is required to define a mining method.

17 Recovery Methods

This section is not applicable to the current exploration targets, and further work is required to detail the proposed recovery methods and requirements.

18 Project Infrastructure

Section 5.5 includes a summary of current infrastructure maintained on the Project site. This includes all improvements to the land that were made by Gryphon/Waterton, the most recent owners who were operating the mine. Further recommendations for infrastructure development are outside the scope of this report and are not applicable to the Project at the present time.

19 Market Studies and Contracts

Previous market studies and contracts are no longer current and are not covered within this report's scope of work. This section is not applicable to the current exploration targets, and no work has been completed regarding current market studies. No contracts relevant to Project development are in place.

20 Environmental Studies, Permitting, and Social or Community Impact

The principal operating permits required for exploration, construction, operation, and closure of a mine at the Borealis Project have been acquired from Nevada state and federal regulatory agencies responsible for issuing these approvals. Except for Crocodile Ridge, which was not part of the approved USFS EA and PoO, the permits received cover an approximately 10 Mt project within the 457 acre central operating area and include an exploration program within that operating area that recognizes the potential to expand the resource base with successful exploration results. Expansion of the approved Project plans will require modification of the approved USFS EA and PoO and state operating permits. At this time, Borealis Mining knows of no known issues that would preclude the approval of such modifications by the applicable regulatory agencies.

The operating permits in place cover only the central operating area and exclude some of the Middle Ridge area, Bullion Ridge, Boundary Ridge, and all of JRCD, which includes Jaime's Ridge and Cerro Duro. The deposits in Orion's Belt have been the subject of mining operations in the late 1980s and early 1990s and were successfully reclaimed. No fatal flaws or material concerns, which would preclude mining operations in these areas, have been identified, although the timing of such permitting process is uncertain. Part of the Bullion Ridge area is in a designated roadless area, but existing claims within the roadless areas may provide preferential rights to the development of the mineral resources present.

20.1 Required Permits and Status

The following is a summary and status of the permits required for the Borealis Project:

- An approved PoO from the USFS, Humboldt-Toiyabe National Forest has been received. The EA was approved for the PoO with a Finding of No Significant Impact (FONSI) on June 19, 2006. The Decision Notice was published on June 22 and 23, 2006, and is not appealable. Final revisions to the PoO were submitted to the USFS on June 23, 2006, and the USFS signed the plan on June 29, 2006. The current bond for project reclamation submitted to the Nevada Department of Environmental Protection (NDEP) is for the total amount of US$11 million.
- A Water Pollution Control Permit (WPCP) from the NDEP Bureau of Mining Regulation & Reclamation (BMRR) was approved and granted to BMC on January 28, 2006, and renewed most recently in 2021. The permit allows BMC to operate a 10 Mt-capacity HLP and processing plant as a zero-discharge facility. Monitoring wells have been installed, and quarterly sampling and reports are conducted to comply with permit conditions.
- A Reclamation Permit from the NDEP BMRR was granted on June 23, 2006 with subsequent modification in 2011, 2012 and 2014. This permit is the State of Nevada's approval of the Project and is effective with the posting of the reclamation bond with the USFS.
- A Tentative Permanent Closure Plan to be administered by the NDEP BMRR was submitted with the 2020 WPCP application and accepted by NDEP BMRR. A Final Permanent Closure Plan will not need to be developed until 2 years prior to Project closure.
- NDEP Bureau of Air Pollution Control (BAPC) issued the latest Class I Air Quality Operating Permit on May 17, 2023, for the Borealis processing facilities.

- NDEP Bureau of Air Pollution Control (BAPC) has issued a Class II Air Quality Operating Permit for the operation of crushing facilities at Borealis on August 03, 2022.
- NDEP Bureau of Air Pollution Control (BAPC) issued a Mercury Operating Permit to Construct for ADR facilities on July 19, 2011.
- The Storm Water Pollution Prevention Plan (SWPPP) is in place for the Borealis site.
- An Emergency Release, Response and Contingency Plan (ERRCP) was submitted with the PoO. The ERRCP provides methods for storing, using, and transporting process chemicals on-site as well as emergency response measures in the event of a release. Both the USFS and the NDEP BMRR require the ERRCP.
- Threatened and Endangered (T&E) Species Act: No known threatened or endangered species have been identified within or near the Project area. A Biological Assessment (BA) and Biological Evaluation (BE) and a Wildlife Specialist Report were approved by the USFS on June 6, 2006. These reports identified three USFS sensitive plants and two other plant species of concern within the Project area. Mitigation measures were developed for these plants and incorporated into the EA and PoO. The USFS concluded that the Project may impact individual plants and plant habitat but will not likely contribute to a trend towards listing or cause a loss of viability to the population or species.
- Historical Preservation Act (Section 107): Consultation with the USFS and the State Historical Preservation Officer (SHPO) has occurred in conjunction with the preparation of the EA. The “Heritage Research Final Report, Gryphon Gold, USA, Mining and Exploration Project, Borealis Mine Area” was submitted to the USFS in March 2006. The report identifies prehistoric cultural resources located within and near the Project area. This report was approved by the USFS and forwarded to SHPO for their review and comment on April 17, 2006. The SHPO approved the report in early May 2006. Mitigation measures consisting of avoidance and protection were incorporated into the EA and the PoO.
- Water rights have been granted by the Nevada Division of Water Resources (NDWR) for two production wells located approximately 3 miles south of the Project, in the same vicinity as the supply wells from the previous mining operation. Based on historic well productivity records, this water right and point of diversion has the capacity and productivity to meet Project needs.

20.2 Environmental Study Results

20.2.1 Approved PoO and Permits

The latest modification to the USFS PoO occurred in 2014 and will continue to occur from time to time as the Project develops and operational changes are required within the central operating area. These modifications most likely will involve boundary adjustments to accommodate any needed adjustment in operations once mining commences. These modifications to the PoO are often routine.

20.2.2 WPCP

The regulations branch of NDEP BMRR issues the WPCP to ensure that the waters of the state are not adversely impacted by mining and mineral processing activities. The permit stipulates monitoring measures for the heap leach facility and the waste rock facilities (WRF) on-site. The heap leach and processing plant are designed as zero discharge facilities.

This permit was successfully renewed in 2021, and compliance efforts, including scheduled sampling at approved and in-place monitoring wells, are up to date.

20.2.3 Closure Plans

A mining operation is required to submit a Tentative Permanent Closure Plan at the time of the application for the WPCP. A Final Permanent Closure Plan must be submitted 2 years prior to the anticipated closure of the mine. Both plans must provide closure goals and a detailed methodology of activities necessary to achieve a level of stabilization of all known and potential contaminants at the site.

20.2.4 Air Quality Permit

The Borealis mine currently holds Class I, Class II, and Mercury Operating Permit to Construct (MOPTC) permits.

The air permits respectively cover the following facilities:

- Class I Permit: ADR plant operation, carbon kiln, mercury retort, smelting furnace, electrowinning cells, pregnant tanks, and barren tanks
- Class II Permit: crushing and screening of gold-bearing material and operation of diesel generators
- MOPTC: deep bed carbon scrubber, carbon regeneration kiln, mercury retort furnace, smelting furnace, electrowinning circuit, pregnant tanks, and barren tanks

20.2.5 Storm Water Permit

The Federal Clean Water Act includes requirements for the control of storm water discharges. The State of Nevada has addressed these requirements by issuing a General Permit for Storm Water Discharges Associated with Industrial Activity from Metal Mining Activities. This plan must identify potential sources that would possibly affect water quality and describe the practices that will be used to reduce pollutants in storm water discharges from the facility. Borealis holds an approved Storm Water Permit for its operations.

20.2.6 Spill Prevention, Control and Countermeasure Plan

A mine on the Borealis property will be a facility that has a total aboveground oil storage capacity greater than 1,320 gallons. Therefore, the operation will be required to comply with the Environmental Protection Agency's (EPA) Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.

20.2.7 ERRCP

An ERRCP was included in the WPCP submitted in 2020. The ERRCP addresses the storage, use, and transport of process chemicals on-site including cyanide. The ERRCP provides measures for responding to unplanned spills and releases, spill prevention, spill containment, medical emergencies, emergency communications, and regulatory reporting.

20.2.8 T&E Species Act

The Endangered Species Act requires that federal agencies protect T&E species. Implementation of the law and regulations involves the preparation of a BA for the Project area. A draft of the BA, prepared by JBR, was submitted to the USFS in January 2006. This report was based on vegetation and wildlife surveys conducted by JBR in 2004 and 2005 that found no federally listed threatened, endangered, or candidate species in or near the Borealis Project site. A total of four USFS sensitive plant species and two plant species of concern were identified within or in close proximity to the Project area. Although these plants are not considered to be T&E species, they are relatively rare and could someday qualify for listing. Of the six plant species identified, four would be impacted by the Project to some extent. No sensitive wildlife or wildlife species of concern were identified on-site.

JBR reissued the Draft BA in early March 2006, with changes in formatting requested by the USFS and additional information on plant occurrence, the extent of projected impacts, and proposed mitigation measures. JBR and Knight Piésold and Co. personnel subsequently met with the USFS botanist and the Bridgeport District wildlife biologist on April 17, 2006, to discuss the occurrence of the plants, projected and cumulative impacts to the plants, and appropriate mitigation measures. The BA was subsequently revised to incorporate the USFS comments and was submitted as a final draft on April 21, 2006. The USFS edited this document internally and issued it as a final document on June 6, 2006. The plant mitigation measures included in the BA were subsequently incorporated in the EA and the PoO.

20.2.9 Historical Preservation Act

Preservation of cultural resources is required by the terms of the National Historic Preservation Act. The process to satisfy the requirements of the law is commonly referred to as 106 Consultation. The USFS and SHPO are charged with enacting the terms of the act for this Project. The law and regulations require the investigation of potential cultural resources and the evaluation of such resources if any are found. Also, there must be an assessment of the effects the Project may have on the identified cultural resources.

The Borealis Project area contains numerous prehistoric cultural resources, as the area was used by prehistoric Native Americans to quarry stone and make stone tools and hunting points. Extensive cultural resource surveys and treatment plans were implemented prior to and during the previous mine operations. Some historic mining artifacts were also identified during previous surveys, but they were not historically significant and are not an issue for this Project.

Desert Research Institute (DRI) conducted a cultural resource survey of the Project area in June and July 2005. The cultural resource survey identified seven prehistoric sites within or partially within the Borealis Project area that were recommended as being eligible for inclusion in the National Register of Historic Places (NRHP). Four of these sites were disturbed to a small degree (e.g., two-track roads) by previously approved mining activity. The PoO will limit the disturbance in these areas to the same areas previously disturbed (i.e., there would be no incremental impact on these sites). Two of the three remaining NRHP-eligible sites will not be impacted by proposed mining activity. BMC modified the location and design of one of its WRFs to avoid impacting the seventh and final NRHP-eligible site.

A draft of the cultural resources survey was submitted to the USFS in September 2005. Comments were received from the USFS in December 2005 and were incorporated into a final draft report that was submitted to the USFS on January 9, 2006. The projected impact and mitigation measures included in this report were also included in the draft EA that was submitted at about the same time. After USFS review, a final report was issued in March 2006. The USFS approved this report and forwarded it to SHPO for review and comment on April 17, 2006. The SHPO, which had been consulted during the Project, did not have any comments or changes.

Impacts to cultural resource sites are expected to be minimal with three small, non-NRHP-eligible lithic scatters being destroyed and three other similar sites potentially impacted to a small degree by nearby mining activities.

20.2.10 Water Rights

Water rights were granted to Borealis Mining by the NDWR for two production wells located approximately 3 miles south of the Project and in the same vicinity as the supply wells from the previous mining operation. The first well (PW-1) was drilled in 2008, and test pumping was successful. The second well (PW-2) was drilled and tested with excellent results in 2009. Based on the historical productivity records and current test pumping results, these two wells have the capacity and productivity to meet anticipated Project requirements.

20.3 Other Minor Permits and Authorizations

In addition to the permits listed above, there are a number of miscellaneous permits, licenses, authorizations, or plans that were required for the recent mining operations. These permits are necessary, but not considered cumbersome or time consuming to secure. Table 20-1 lists all known minor permits that may be required and the corresponding regulatory agency.

Table 20-1: Other Minor Permits and Authorizations

Permit/License/ Authorization/Plan	Agency	Comments
Hazardous Waste Generator Number (Registration)	EPA and NDEP	Completed as a conditionally exempt small generator
Drinking Water Supply (Approval of Plans)	NDEP Bureau of Safe Drinking Water (BSDW)	Currently exempt, will restore permit when in full mining operations
Radio Communications Permit	Federal Communications Commission (FCC)	Complete
Mine Safety and Health Administration (MSHA) Identification Number and MSHA Coordination	U.S. Department of Labor MSHA	Complete
Building Permit	Mineral County Fire Marshall	Complete
Special Use Permit	Mineral County Planning Commission	Complete
On-Site Sewage Disposal System (Small Capacity Commercial Wastewater Disposal System)	NDEP Bureau of Water Pollution Control	Complete
Industrial Artificial Pond Permit	Nevada Department of Wildlife	Complete
Fire Protection Certification	Nevada Department of Public Safety; Nevada State Fire Marshall	Complete
Right of Way for a Power Line (approximately 5,000 linear ft)	BLM USFS	Complete

Source: Borealis, 2023

20.4 Environmental Issues

Borealis maintains a weather station, environmental staff and active monitoring to ensure compliance with its operating permits.

Borealis is currently investigating groundwater conditions at Monitoring Well 5. Borealis is working with the BMRR and no mitigation measures are currently anticipated.

20.5 Operating and Post Closure Requirements and Plans

The operating requirements are detailed in 20.2 and 20.3. Detailed mine closure requirements are laid out in the Borealis PoO and Reclamation Cost Estimate (RCE) documents. These are described in further detail in sections 20.8 to 20.12 of this document.

20.6 Post-Performance or Reclamations Bonds

The reclamation branch of NDEP BMRR issues Reclamation Permits to ensure that the disturbance created by mining will be reclaimed to create a safe and stable condition to ensure a productive post-mining land use. In addition to obtaining a Reclamation Permit, an operator must file a surety with NDEP BMRR or the USFS to guarantee that reclamation will be completed.

The PoO and the Reclamation Permit Application were submitted to NDEP BMRR on August 5, 2004. The Reclamation Permit documents submitted to NDEP BMRR are identical to the PoO documents submitted to the USFS.

The latest Reclamation Cost Estimate (RCE) update was approved by the BMRR on August 18, 2023, and reflected updated costs of closure. At the time of writing, the RCE is under USFS review. The updated reclamation bond is US$11.0 million. The bond is reassessed on a 3 year basis per the frequency normally required by the NDEP BMRR.

20.7 Social and Community

The Project is located 12 miles southwest of the town of Hawthorne, Nevada. The majority of the current and planned workforce for the Project would be sourced from the nearby communities of Hawthorne, Yerington and Fallon and the Mineral County area. Mineral Country has several operating mines and exploration projects. Local communities are largely supportive of mining and exploration activities within the county.

20.8 Mine Closure

The Project will be closed and reclaimed in accordance with the procedures outlined in the PoO that have been approved by the State of Nevada and the USFS. The area that will be disturbed and reclaimed currently encompasses approximately 400 acres and may, with permit modifications, grow based on favorable exploration results.

20.9 Reclamation Measures During Operations and Project Closure

Reclamation and closure activities will be conducted concurrently, to the extent practical, to reduce the overall reclamation and closure costs, minimize environmental liabilities, and limit bond exposure. Land disturbances will be closed and reclaimed in a manner that is compatible with the local land uses. The post-mining land use will include domestic livestock grazing, wildlife habitat, and dispersed recreation with allowance for potential future mineral exploration and development.

Closure activities include recirculating heap drain down solution until the drain down rates reach a point where the solution ponds can be filled with coarse material and converted to evapotranspiration

(ET) basins. Reclamation includes building demolition, regrading the heap and WRFs to 3H/1V slopes or flatter, backfilling any pit lakes that may be present, placing salvaged growth media (topsoil and subsoils) over the disturbed areas, ripping and scarifying to relieve compaction, and seeding with the USFS-approved seed mix.

20.9.1 Surface Reclamation and Revegetation Plan

Soils and Soil Availability for Reclamation

Prior to land disturbing activities, topsoil and subsoils that provide suitable growth media will be salvaged from areas to be disturbed. The salvaged soils will be stockpiled for later use and seeded with a fast-growing seed mix approved by the USFS to control invasive weeds and erosion.

Surface Reclamation

Surface reclamation will include removal of all structures and foundations and regrading to achieve free draining surfaces. With the exception of the open pits, final grades will be at 3H/1V (18°) or less steep. The pits will not be reclaimed; although two pits may require partial backfilling if pit lakes are formed during mining. Compacted areas, such as roads and yards, will be ripped to relieve compaction. Growth media will then be placed at the desired thickness over the area to be reclaimed. The soil will be scarified and seeded.

Revegetation

A general reclamation seed mix, consisting of native species common to the area, was developed for the site by the USFS. The general seed mix will be used over 95% of the site, which originally was pinyon/juniper habitat. Vegetative cover in reclaimed areas is generally good; however, the species present are not native to the area, and the USFS would like to see the native species reestablished during Project reclamation.

Additional seed mixes will be developed for topsoil stockpiles and for areas of low sagebrush and big basin sagebrush habitat. The latter two seed mixes will include locally collected seed from sensitive plant species present within the site. The areas requiring use of the low sagebrush and big basin sagebrush seed mixes are limited to 7.1 and 1.6 acres, respectively. Mitigation measures for the sensitive plant species, consisting primarily of fencing (to restrict access) and plant monitoring, will also be implemented during mining operations.

Vegetation reference areas will be established for the pinyon/juniper, low sagebrush, and big basin sagebrush habitats in adjacent undisturbed areas. The revegetation goal will be to establish as high a percentage as possible for area cover with the PoO minimum of 75% as the lower requirement. Transects will also be conducted in the previously reclaimed area to document current ground cover prior to Project startup.

20.9.2 HLPs

Ore stacked on the new HLP will be actively leached until recovery of precious metals is no longer economical. It is estimated that residual leaching will occur over a 1 year period after cyanidation has been discontinued. During this time, the water balance will be carefully managed to start the drain down and dewatering process. The residual leach will be followed by approximately 3 years of active fluid management to promote drain down and remove excess water through enhanced evaporation on the leach pad. After 3 years, drain down rates are expected to decrease to a level where evaporation will remove the remaining water while the storage ponds maintain sufficient capacity to handle the design storm.

After the drain down has been completed, the HLP will be regraded to achieve slopes of 3H/1V (18°) or flatter. The regraded spent material will then be covered with approximately 3 ft of fine-grained soil and topsoil/growth media.

After placement of the final cover, the soil surface will be scarified (on contour) and seeded with the approved general seed mix. The soil and vegetative cover was designed to minimize surface erosion and water percolation into the processed material, thereby creating a long-term, stable configuration.

The Phase I and Phase II permanent drainage channels around the leach pad will be left in place to divert storm water into the existing drainages to the west. These rip rapped channels were designed for the 100 year/24 hour storm event and are not expected to require long-term maintenance. Ditches will be modified as necessary to meet 500 year event closure requirements.

20.9.3 Storage Ponds and ADR Plant

Once the drain down has been completed, the ponds will be converted into ET basins that will serve to capture and evaporate any residual drain down. The ET basins will be constructed by leaving the pond liners in place and filling the empty ponds with the following:

- A layer of non-acid-generating coarse rock
- A network of perforated polyvinyl chloride (PVC) pipe (to distribute the drain down)
- A geotextile layer
- A layer of crushed aggregate
- A topsoil cover

A 4 to 5 inch diameter, perforated piezometer (i.e., standpipe) will be installed in the ET basins to monitor water levels. The ADR plant and the adjacent laboratory, if constructed, will be removed once they are no longer needed to support residual leaching and drain down activities.

20.9.4 Open Pits

Reclamation of historic pits will include blocking access to the pits and fencing.

A small volume of meteoric water and groundwater currently collects in the bottom of the East Ridge pit. Groundwater could also be encountered in the Northeast Ridge pit when it is mined deeper.

BMC will partially backfill to a free draining profile any pits that develop pit ponds to 10 ft above the phreatic surface. For reclamation cost estimating purposes, backfilling of the East Ridge pit and the Northeast Ridge pit is assumed. All backfill material would consist of waste rock with low acid-generating potential.

20.9.5 WRFs

Although topsoil/growth media will be salvaged during construction of the new WRFs, there may be insufficient soil available to meet reclamation needs. Revegetation tests will be conducted to determine the suitability of the different types of waste rock for use as growth media. Waste rock that is found to be suitable as a growth media will be selectively placed or stockpiled so that it may be used for portions of the final soil cover. During the final stages of construction, waste rock will also be strategically placed on the top lifts of the WRFs to promote final drainage, make the WRFs more natural looking, and enhance revegetation of the facilities.

Reclamation of the WRFs will occur once the adjacent pits are mined out and they are no longer needed for waste rock disposal.

20.9.6 Roads and Drainages

All roads within the Project, including remnants of old access roads, will be reclaimed. Road reclamation in the flatter areas will include pushing the safety berms down and over the road, removal of any culverts, backfilling of drainage ditches, and minor grading to reestablish the natural drainage system. In steeper areas (such as the haul road to the Northeast Ridge pit), additional fill will be brought in or pushed from the surrounding areas to eliminate road cuts and steep embankments. Rolling dips will be constructed in those areas where the culverts are removed to maintain adequate drainage capacity through the reclaimed areas.

After grading is completed, the soil will be scarified and seeded with the approved seed mix. Periodic post-reclamation monitoring and maintenance will be necessary after completion of reclamation to ensure adequate drainage function and establishment of vegetative cover.

The existing fences and gates around the Project area will be left in place to discourage access by cattle, horses, and recreational vehicles that could damage vegetated areas and cause erosion in steeper areas. Additionally, large boulders will be placed in reclaimed roads to preclude vehicle access.

Two diversion channels constructed around WRFs (Northeast Ridge and Polaris WRF channels) will provide permanent drainage control in those areas where the existing drainage has been impacted by construction of WRFs. The channels were designed for the 100 year/24 hour storm event and will not require long-term maintenance.

20.9.7 Exploration Activities

Exploration drilling at the site is conducted under separately approved PoOs. Reclamation requirements for these activities are outlined in their respective PoOs and USFS decision memoranda. If exploration or monitoring drillholes and access fall within the footprint of previous disturbance, approval for drilling beyond previously submitted exploration plans can be given following inspection of proposed drillholes by USFS personnel, through a letter to file with district ranger concurrence, and subsequent notice to BMC. Exploration in undisturbed areas within the Project area boundary will require USFS clearances for sensitive plant species and cultural resources.

20.9.8 Buildings and Infrastructure

The Project includes ADR plant, laboratory, administrative, warehouse, and maintenance buildings. These buildings will consist of trailers and prefabricated buildings. These structures will be removed from the Project area when they are no longer needed to support mining and processing activities.

Aboveground fuel tanks will be removed from the site at the end of reclamation activities. The synthetic liner will be removed and disposed of in an approved off-site landfill. Any petroleum-contaminated materials encountered during reclamation will be selectively removed and hauled off-site for disposal.

Production water wells will be abandoned in accordance with state regulations or transferred to support an approved post-mining land use. Monitoring wells will be properly abandoned once the NDEP decides that they are no longer needed for long-term monitoring purposes. Aboveground waterlines will be removed or buried. Buried pipe will be capped and abandoned in place. Utility poles, power lines, propane tanks, and any generators or transformers will be removed from the site. Concrete pads will be broken up and buried in place or in the immediate vicinity. Perimeter fencing will be left in place.

20.10 Closure Monitoring

The revegetation release criteria for reclaimed areas are presented in the "Guidelines for Successful Revegetation for the NDEP, the Bureau of Land Management, and the U.S.D.A. Forest Service." This document is included as an attachment to the approved PoO. The revegetation goal is to achieve as close to 100% of the perennial plant cover of selected comparison areas as soon as possible.

Site-specific revegetation release criteria will be developed during the initial 18 months of operation, based upon mapped reference areas.

At the conclusion of reclamation activities, as-built diagrams of the reclaimed features will be prepared by BMC and submitted to the USFS for future reference purposes. Post-mining monitoring will include sampling and analysis of selected monitoring wells and residual drain down into the ET basins. Reclaimed areas will also be periodically monitored for erosion and to record vegetation success. Areas exhibiting erosion or poor vegetative cover will be repaired and reseeded as necessary. A reclaimed area will be eligible for release no sooner than the third growing season after earthwork and planting have been completed. Where it has been determined that revegetation success has not been met, BMC will meet with the USFS and the NDEP personnel to decide on the best course of action for meeting the reclamation goal.

20.11 Reclamation and Closure Cost Estimate

An update to the Reclamation Cost Estimate (RCE) was approved by the BMRR on August 18th, 2023. At the time of writing the RCE is under USFS review. The reclamation cost estimate was prepared for Reclamation Permit #0248 and Plan of Operations (PoO) #02-04-08. The reclamation costs have been calculated using the Standardized Reclamation Cost Estimator (SRCE), version 1.4.1; the Heap Leach Draindown Estimator (HLDE) version 1.2; and the Nevada Standardized Process Fluids Cost Estimator (PFCE) version 1.1. The SRCE uses the 2022 cost data file. The costs for fluid management (Interim Fluid Management and Process Fluid Stabilization) have been estimated using the NDEP guidance documents, Heap Leach Pad Process Fluid Stabilization (PFS) and Heap Leach Interim Fluid Management (IFM) all with 2022 costs.

The current reclamation bond is $11,049,965. The RCE is updated every three years, with the next RCE update due in 2026.

20.12 Reclamation and Closure Risk

The processing operation uses cyanide solutions to liberate metals, and there is always a risk that these solutions could be released to the environment and contaminate groundwater, resulting in the need to install and operate a remediation system. This risk is relatively low for this site because of the deep groundwater table. The pad, ponds, and ADR plant and facility have been designed and constructed as zero-discharge facilities and include liner(s) and leak detection systems that meet the

State of Nevada's regulatory design criteria contained in NAC 445A.There is ongoing monitoring on MW-5 which shows elevated nitrate values. There are no natural surface water bodies (i.e., creeks, rivers, or lakes) present at the site that could be impacted by operations.

Pit ponds or lakes with poor water quality could be created in the East Ridge and Northeast Ridge pits; however, the reclamation cost estimate conservatively assumes that partial backfilling of these two pits will be required. The volume of backfill for each pit was calculated to a level of 10 ft above the maximum projected water level in each pit plus additional fill volume to provide for adequate surface drainage runoff.

The site is located in a semiarid area where reestablishment of vegetation cover to meet agency standards will depend on receiving adequate precipitation. If a drought occurs, it may require more than 5 years to establish adequate vegetative cover. Reclamation repairs and reseeding of portions of the site may also be required if vegetative cover is poor and prone to erosion. The site was successfully reclaimed by the previous operator, and a full release was obtained for the vegetative cover that was established. BMC will document this level of cover so that baseline site conditions are established for both the surrounding undisturbed areas and the previously disturbed and reclaimed areas.

21 Capital and Operating Costs

This section is not applicable to the current Project property and exploration targets. Further work is required to calculate potential capital and operating costs.

22 Economic Analysis

There are no current MRE, thus no economic analyses have been conducted.

23 Adjacent Properties

The nearest mining property to the Borealis Project is the Aurora property (formerly the Aurora Mine) recently operated by Metallic Ventures (Figure 23-1) and now owned by Hecla Mining Company. This project includes the heart of the historic Aurora Mining District about 9 miles southwest of the Borealis property.

Source: Gryphon, 2005

Figure 23-1: Location of Borealis Property and Other Important Nearby Gold Mining Properties in the Walker Lane and Aurora-Borealis Cross Trend

The Aurora Mining District had historical production of approximately 1.9 Moz Au and more than 2.4 Moz Ag from as many as 30 veins (Vanderburg, 1937). Remaining mineral resources reported by Metallic Ventures in early 2003 were 1.3 Moz Au (Metallic Ventures Gold, Inc., 2004). The QP has been unable to verify the information and that the information is not necessarily indicative of the mineralization on the property that is the subject of this technical report. The mineralized system is a low-sulfidation type with gold and minor silver in banded quartz-adularia-sericite veins hosted by Tertiary volcanic rocks.

Other significant exploration projects in the Aurora Mining District include the Spring Peak and Lodestar projects owned by Headwater Gold Inc., which bracket Hecla Mining Company's Aurora property to the south and north, respectively. Headwater Gold Inc. is actively engaged in exploration and has recently announced significant drill assay returns of up to 15.9 ppm Au. All three of these projects are more-or-less directly on trend with the main Borealis Project area.

Also in the Aurora district, but 4.5 miles to the northwest, lies the Bald Peak project owned by Paramount Gold, where surface samples of silica sinter and banded vein have returned anomalous gold. The Bald Peak project is structurally on trend with the Jaime's Ridge and Cerro Duro prospects in the western part of the Borealis Project area.

The Bodie Mining District is further southwest (18 miles from the Borealis Mine site) along the same trend and has reported 1.5 Moz Au and nearly 7.3 Moz Ag production from a series of veins in Tertiary andesite host rocks (Silberman and Chesterman, 1991). The remaining mineral resources were reported at approximately 1.9 Moz Au in 1991 (Galactic Resources Ltd., 1991). The QP has been unable to verify the information and that the information is not necessarily indicative of the mineralization on the property that is the subject of this technical report.

The Bodie, Aurora, Borealis, and other minor districts are aligned along a northeast-to-southwest trend of mineralized districts commonly referred to as the Aurora-Borealis trend.

The information contained in this section of the report was publicly disclosed by the owner or operator of the adjacent property. The QP was unable to independently verify the information, and the information is not necessarily indicative of the mineralization on the property that is the subject of this report.

24 Other Relevant Data and Information

The QP authors of this report are not aware of any other relevant data and information for the current Technical Report on the resources of the Borealis Project that have not been discussed herein.

25 Interpretation and Conclusions

25.1 Property and Ownership

The Borealis property is comprised of 751 unpatented mining claims of approximately 20 acres each totaling about 15,020 acres and one unpatented mill site claim of about 5 acres. Of the 751 unpatented mining claims, 128 claims are owned by others but leased to BMC, and 623 of the claims were staked by Golden Phoenix Minerals, Inc. (Golden Phoenix) or Gryphon and transferred to BMC. All of the claims are shown on the US Bureau of Land Management (BLM) records as being in good standing. Claim fees for 2024 were paid to the BLM in August 2023.

Mineral rights, through BMC as the owner or lessee of the claims, allow BMC to explore, develop, and mine the Borealis property subject to the prior procurement of required operating permits and approvals, compliance with the terms and conditions of the mining lease, and compliance with applicable federal, state, and local laws, regulations, and ordinances.

The term of the mining lease may be continued indefinitely as long as any mining, development, or processing is being conducted on the leased property on a continuous basis.

25.2 Geology

The Borealis high-sulfidation system occurs at the eastern end of an approximately 40 kilometer (km)-long structural corridor that connects the Bodie, Aurora, and Borealis mining districts. The Borealis system is one of the largest areas of epithermal alteration and mineralization in the state of Nevada, estimated at more than 20 square miles. Gold deposits occur in hydrothermal breccias and replacements within thick sequences of Miocene pyroclastic rocks/tuffs, andesite flows, dacite flows, breccias, and lahars, which are constituents of the Western Andesite Complex. More than half of the district is covered by variable thickness of alluvial gravel in a pediment environment. At depth, gold is closely associated with pyrite and minor marcasite in hydrothermal breccias, but near-surface deposits are oxidized up to 500 ft deep. Mineralization is commonly characterized by sub-horizontal, low-grade gold aureoles within favorable volcanic units intersected by steeply dipping high-grade zones following feeder structures. These deposits occur primarily in northeast-trending zones of silicification in the mined portion of the district. Structures in the district are dominantly northeast-striking normal faults with locally steep dips, generally west-to-northwest-striking range-front faults with steep southerly dips, and north- to north-to-northeast-striking relay structures between northeast-trending faults, similar to the Graben trend. All three structural sets control gold mineralization in different parts of the district.

25.3 Geophysics

Projections of known alteration and mineralization beneath covered areas are complemented by geophysics to define and prioritize targets. Resistivity highs successfully track favorable trends of extensive silicification and will be used in the current program in searching for extensions of deposits along known trends. Geophysical data found to be most useful for defining pediment exploration targets are IP, aeromagnetics, and resistivity. In particular, aeromagnetic (lows) and IP-Res (chargeability and resistivity highs) data identify the most favorable covered targets and help site drillholes, especially where magnetics and IP show coincident anomalies.

25.4 Gold Deposits

Using the geologic model of flat-lying lower-grade surrounding steeply dipping higher-grade deposits, with variations to either end member, allows a flexible interpretation to be applied to any of the mineralized areas. Some flat-lying deposits may have several layers, such as the three separate stacked layers at different elevations clearly identified in the Borealis deposit. An example of a potential flat, low-grade zone surrounding a narrow steep high-grade zone is clearly shown in the Graben deposit. Current exploration has indicated, there is evidence in several deposits that more than one high-grade feeder structure may be present, which is common in this style of deposit in Nevada, but further drilling is required to delineate the extent and continuity of this zone The is no certainty that additional exploration will define Mineral Resources, but it is the QP's opinion that potential exists which warrants further work at the Project.

25.5 District Exploration

A wealth of exploration data exists in the files of the Borealis Project. All of this data has been digitized, and the 150,000 plus pages of data, which are largely exploration information, have been entered into a digital database, making it easily accessible. The district has been mapped geologically on several scales, and an excellent map exists at a scale of 1 inch = 1,000 ft. Many thousands of rock chip and soil samples have been taken of surface materials and analyzed for multiple trace elements, from which multiple geochemical anomalies have been developed and mapped. The district has been flown with a helicopter survey for magnetics, resistivity, and very low frequency (VLF), and many other local geophysical surveys have been conducted over selected portions of the property. All of these data are excellent in quality and provide adequate coverage of the district for geological, geochemical, and geophysical information. Using this cumulative data, over 2,600 drillholes have tested many of the anomalies; approximately 500 of these holes have been used for testing targets in the district outside of the central operating area. However, most of the 500 holes were concentrated in the delineation of the Cerro Duro, Jaime's Ridge, and Purdy Peak deposits. Some of the drillhole logs have been hastily prepared or logged by inexperienced geologists, so the logs sometimes have inadequate information. Where drill samples are available, re-logging is necessary. Most of the drillholes in the outlying areas are relatively shallow (<500 ft) and originally designed to explore for near-surface oxidized gold mineralization. As determined by recent Gryphon drilling, there is extensive untested potential in the district.

Discovery potential in the Borealis district includes oxidized gold mineralization adjacent to existing pits, new oxide gold deposits at shallow depth, gold associated with sulfide minerals below and adjacent to the existing pits, and deeper gold-bearing sulfide mineralization elsewhere on the property. Expansion of gold mineralization adjacent to existing pits provides the best potential for rapid development of additional mineral resources. Projection of known mineralized structures and trends into covered areas provides the best potential for discovery of new deposits, including both near-surface oxide and deeper sulfide systems.

Because more than half of the district is covered by alluvium and this pediment area has very few drillholes in it, geophysical techniques, along with projection of known mineralization, will be used to identify and locate specific drill targets. Most of the strongest aeromagnetic lows are coincident with IP highs, and this combination appears to identify several drill targets beneath the pediment. The Freedom Flats deposit is a past-producing example of one of these target areas. The aeromagnetic lows with IP highs along known mineral trends represent excellent exploration targets within a significant mineralized district. Resistivity, calculated from electrical or acoustic survey data, is also useful in further refining drill target selection along previously identified trends.

The hydrothermal systems that create epithermal gold-silver deposits alter the surrounding rocks in predictable ways. The fluids circulating along faults alter and replace many of the original minerals in the rock to silica and several different clay minerals. These alteration minerals commonly show a predictable zonation around the mineralized core of the system. Additionally, the process of alteration results in magnetite destruction and changes the electrical properties of the host rock in ways that are observable using geophysical methods.

There are many geophysical surveys covering different areas of the Borealis Project property. In-depth analysis of all of the areas, and an attempt to normalize the different data sets, is beyond the scope of this report. However, each method, particularly the more-recent electrical surveys and the older airborne magnetic and EM, provide valuable insight into potential for expansion of known targets and new blind discoveries.

The most recent CSAMT surveys that were conducted by Zonge are good quality and have been proven to accurately image resistive zones of silicification around gold-bearing zones. A layered approach to interpreting these geophysical data is recommended to generate quality drill targets. Areas showing high resistivity in CSAMT or IP-resistivity surveys, which are also either centered in or are along the margins of magnetic lows, should be high-priority exploration targets. The Graben zone, which has already been tested, is an example of one such target and is currently one of the most-compelling prospects for additional work. Overlaying these different surveys and applying the same logic to test the other known blind targets in the pediment is recommended.

Structure is critical to creation of epithermal deposits, so all efforts should be made to identify structures accurately, properly characterizing the faults orientation and timing (either pre- or post-mineral). There are three general fault trends at Borealis: a main northeast trend (which hosts most of the main cluster of deposits), north-trending relay structures between the main northeast-trending faults, and northwest-trending faults that parallel the Wassuk mountain range. All of these structural trends are locally mineralized in the Project area, but the most-important structures are the northeast and northern trends. Intersections between these two fault orientations are of particular interest, as they create more porosity in the host rock, and, where they coincide with resistivity highs in IP-resistivity and CSAMT surveys, they constitute the most favorable targets for exploration drilling. Further CSAMT surveys may be required to provide adequate coverage of interesting anomalies already identified in earlier surveys.

Geochemical zonation around high-sulfidation epithermal systems like Borealis is fairly broad and can be useful for vectoring in on the heart of the system. The broad pattern transitioning from propylitic alteration to argillization (dominated by montmorillonite at the outer margins and changing to kaolinite as the zone of silicification is approached) is a distinctive and systematic pattern that can be detected by logging drill chips and employing spectroscopic analyses. The silica-pyrite zones also contain some combination of dickite, diaspore, and/or alunite that can be used as an indication of potential gold mineralization before assays are received. Rock-forming elements also display a systematic decrease as higher temperature and pervasive hydrothermal alteration is approached. Several trace elements (including arsenic, iron, mercury, molybdenum, lead, sulfur, antimony, tin, tungsten, and zinc) are anomalous in a broader zone than, and directly related to, gold mineralization. These elements produce a target zone that extends beyond the gold deposit.

Modern hyperspectral techniques have become much easier and less time consuming to employ at the work site. Portable hyperspectral scanning equipment can work with either core or RC chips, although it generally works better on core samples. It is recommended that Borealis Mining uses a spectral analyzer, such as a Terraspec or geoLOGr device, to collect this data and record it in the drillhole database. The data can then be modeled in three dimensions to aid in drillhole planning.

25.6 QA/QC

QA/QC data are not currently incorporated in the digital drill database but does exist at the Project site in paper form. Additional digital data have also recently been received by the Borealis Mining Company, which includes QA/QC results. At the time of reporting SRK has not completed sufficient review to verify historical findings. SRK recommends these records be compiled, verified and incorporated into a master database. Once this is completed a review of the historical QA/QC data should be conducted.

25.7 QP's Opinion

In SRK's opinion, this project has been historically exploited but remains a property of interest. A large historical database exists which if validated could lead to further assessment of the potential of the project. It is the QP's view that the potential warrants the additional work required to validate the historic data. Additionally, there remains potential based on regional geology that warrants further exploration through geophysics and drilling to support to identify additional potential exploration targets. Once this work is completed SRK would recommend an updated MRE for the project.

26 Recommendations

SRK considers there to be two phases of work that need to be completed on the Project to advance to a Mineral Resource. These can be broken down into two key areas of focus:

- Data Validation and Organization of the historical datasets.
- Exploration, drilling and sampling of potential extensions to existing mineralization and the identification of new exploration targets (note, it is uncertain if exploration will result in the delineation of new Mineral Resources).

Assuming these two areas of focus SRK is recommending the following work programs.

26.1 Data Organization

Borealis Mining Company Limited has recently come into significant historical data related to the Project that are in varying states of organization. The existing Borealis database will require updating to reflect this additional information but that will also include focus on validation of the historical dataset, and all the associated QA/QC data.

To preserve data integrity, it is recommended that future core and chip logging be done directly into the database rather than on intermediary forms or in spreadsheets that are later compiled. Any historic data, such as blasthole data, multi-element geochemistry, or grade-control data, should also be imported into the database if it is located.

Once the database compilation is completed, it will need to be validated against the source documents, which may also include validation in the field of coordinates and interpretation from historical core. This verification should be completed prior to the next MRE and should be done under the guidance of the QP for the MRE.

26.2 Mineral Exploration

As previous authors have noted, SRK agrees that the greatest potential in the district lies beneath a large gravel-covered area at the mountain front with several potential blind deposits (with no surface expression). The Graben zone is an example of this type of deposit, and other high-potential targets include North Graben area, West Pediment (including Sunset Wash and Vuggy Hill), Central Pediment (Lucky Boy), and others yet to be named.

Future exploration work should begin with a recompilation of historic data, which have become somewhat jumbled as the property has changed hands over the years. Additional field geology to ground truth structures mapped from geophysical surveys should be completed where possible, in order to corroborate structural interpretation.

A multi-disciplinary geologic model of the district should be created. This model should include hydrogeologic, structural, geochemical, and metallurgical data and will support further advancement of the Project through engineering studies and ease permitting.

Current geologic models of some prospect areas may not be accurate, as the vast majority of drill data that they were based on came from RC chips rather than core. Of particular note, the current Graben model shows a very shallowly dipping fault forming the upper surface of the mineralized zone. However, normal faults are not known to form at such shallow angles, and it is likely that the near-horizontal mineralized zone is instead a replacement body along a favorable stratigraphic unit, such as a tuff layer. Permeable layers can be intensely altered to clays by the mineralizing fluids, and may appear as a fault to inexperienced loggers, particularly when looking at chips instead of coherent core. Properly identifying strata-bound versus fault-hosted mineralization will have a significant impact on exploration strategy. Relogging of chips from RC holes that penetrated the shallow Graben structure is recommended.

Most of the previous metallurgical studies were focused on oxide material. Early metallurgical analysis of sulfide material from Graben and other sulfide prospects is recommended to help prioritize drill dollars and allow Borealis Mining to make early go/no go decisions on different prospect areas depending on deleterious mineral contents, etc.

As with the proposed modeling, a multi-disciplinary approach is recommended for drilling. Drilling diamond core rather than RC allows for more-accurate structure identification and better spectral analysis and can also be used for metallurgical and geophysical test work.

Borealis Mining intends to drill 11,500 ft of core in the Graben zone to expand the resource and upgrade resource categorization. Other high-priority prospect areas may also receive drilling, depending on considerations such as drill scheduling and weather, etc. A modern airborne magnetic survey that will cover the entire property is also planned. Additional drilling is planned to follow up on favorable drilling results, depending on the success of the initial drill program. The total anticipated expenditure for this first phase of work is approximately US$2.25 million.

Table 26-1: Proposed Exploration Budget

Activity	Cost (US$)
Drilling	$1,600,000
Geophysics	$300,000
Data Compilation/Verification	$50,000
Geological Modeling	$50,000
MRE and TR	$150,000
Metallurgy	$90,000
Subtotal	**$2,240,000**

Source: SRK, 2023

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A partial list of references in support of this report are as follows:

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Appendix A: Certificates of Qualified Persons

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CERTIFICATE OF QUALIFIED PERSON

I, Douglas Reid, P. Eng., do hereby certify that:

1. I am a Principal Consultant of SRK Consulting (U.S.), Inc., 999 Seventeenth Street, Suite 400, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Project Status Report, Borealis Mine, Nevada, U.S.A.," with an Effective Date of October 10, 2023 (the "Technical Report").
3. I graduated with a degree in a Bachelor of Science in Geological (Geophysics) Engineering from the University of Saskatchewan in 1986. I am a P. Eng. (123571) of the Engineers and Geoscientists British Columbia. I have worked as a Geological Engineer for a total of 35 years since my graduation from university. My relevant experience includes developing and reviewing resource models and mineral resource estimation for mineral projects in North and South America and Africa since 1994.
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 Borealis property on June 21, 2023, for 1 day.
6. I am responsible for all sections of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 16th Day of February, 2024.

Signed ________________________ ***Stamped***

Douglas Reid, P. Eng.

Principal Consultant (Resource Geology)