Project Darwin

Inyo County, California

2024 Report

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-report date-
April 12, 2024
-effective date
April 1, 2024

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SUMMARY

Ethos Geological ("Ethos") was commissioned by Project Darwin, LLC (the "Company") to prepare a technical report for the Darwin Project located in Inyo County, California. The report aims to deliver a technical analysis and an evaluation of the current mineral resource. The methodology and analytical rigor align with industry standards.

Project Darwin is the issuer of this report, which presents the results of an assessment that includes an evaluation of geological settings, validation of historical exploration data, and review of mineral resource estimations. This comprehensive analysis and interpretation of available data aims to provide a detailed understanding of the status and potential of the mineral resource at the Darwin Project site.

PROPERTY DESCRIPTION AND OWNERSHIP

Project Darwin, located in the Darwin Mining District, Inyo County, California, encompasses 1,050 acres of patented mining claims including a specific patented mill site claim. Situated 36 miles southeast of Lone Pine near the town of Darwin, the property is positioned between Sequoia National Park and Death Valley National Park, near the Nevada border. The mining claims are spread across townships within the Mount Diablo Meridian, with essential infrastructure for water and power facilitated through leases from the California State Lands Commission and the Bureau of Land Management.

The project is under a 5% Net Smelter Return (NSR) royalty to Franco Nevada Corporation, with ongoing negotiations to potentially reduce and partially purchase this royalty. The operational framework for Project Darwin includes a comprehensive suite of permits and licenses addressing land use, water rights, environmental, operational, and safety requirements. These include essential water and powerline right-of-way leases, Water Right Permits for water diversion, and a suite of environmental compliance permits from regional and state authorities.

Environmental management at the site is regulated through a Draft Negative Declaration of Environmental Impact and a Conditional Use Permit that imposes specific operational conditions. The project is also subject to regulatory oversight from various environmental and safety agencies, ensuring compliance with federal and state mining safety standards. The operation's exemption from the California Surface Mining and Reclamation Act of 1975 (SMARA) is due to the project not anticipating new areas of disturbance exceeding one acre nor the removal of more than 1,000 cubic yards of material, with all waste rock and process tailings planned to be backfilled underground.

There are no known environmental liabilities attributable to Project Darwin, LLC. Potential liabilities associated with the reclaimed heap leach pad and tailings pond are assumed to reside with Arco Petroleum, successor to Anaconda and now part of British Petroleum.

GEOLOGY AND MINERALIZATION

The Darwin area's geological history extends from the Upper Paleozoic to the Cenozoic era, characterized by sedimentary deposition, structural deformation, plutonic intrusions, and metamorphic transformations. Specifically, Upper Paleozoic carbonate turbidites were subject to extensive folding due to the Late Triassic thrust faulting.

In the mid-Jurassic period, the intrusion of the Darwin stock resulted in a large areole of contact metamorphism in surrounding carbonate rocks, resulting in the formation of idocrase-wollastonite calc-silicate hornfels, garnet-rich skarnoid, and bleached marble, alongside tungsten-bearing skarns at contact zones with the Darwin stock.

Subsequent thrust faulting included the displacement of the upper plate by 1-3 km eastward by the Davis fault system, which telescoped the Coso batholith and associated Cu-skarns with the Darwin stock and associated W-skarns. Later, granite porphyry dikes and breccia pipes intruded along the northwest margin of the Darwin stock, coinciding with the formation of Pb-Zn-Ag skarns and veins, mainly on the west side of the stock, influenced by steeply dipping faults adjacent to breccia bodies. The Cenozoic reactivation of the Davis thrust, related to basin and range uplift, slightly deformed the nearby ore bodies.

Research findings suggest that tungsten (W), copper (Cu), and lead-zinc (Pb-Zn) skarn deposits in the Darwin area have distinct origins, indicating separate formation processes. This includes the rare occurrence of Pb-Zn-W skarns, likely formed through tungsten remobilization. The presence of three different igneous systems and diverse calc-silicate/ore assemblages supports this model, confirming multiple independent plutonic-hydrothermal events rather than strata bound contributions.

Typically associated with granite, scheelite skarns require extensive fractional crystallization in moderately deep settings, a condition observed in the Darwin stock. Small copper skarns tend to form near barren granitic stocks in deeper settings, consistent with patterns seen across the western U.S., including eastern California. Pb-Zn skarns in Darwin are found along faults and dikes, unrelated to the larger Darwin stock, possibly associated with unexposed granitic entities indicated by geophysical anomalies. This diversity underscores the presence of multiple, independent skarn-forming hydrothermal systems.

Vein ores may be related to skarn-forming episodes, particularly associated with shallow granite porphyries. Initial ore-forming fluids were likely magmatic, transitioning to mixed origins in later stages influenced by meteoric water cycling. The rare co-occurrence of Pb-Zn and W skarns reflects unique geological conditions and plutonic events, consistent with areas exhibiting contrasting multiphasic plutonic activities.

Status of Exploration

Project Darwin's efforts on the project have focused on organizing and understanding the historical data. Samples from the underground workings have been collected periodically to confirm zones of mineralization or in areas with potential for further development. The Company is in the process of digitizing all the historical maps and drill logs to incorporate them into a 3-dimensional model to facilitate exploration planning in areas showing promise. They have completed a detailed photogrammetric survey of the project area, began surveying accessible areas of the mine, and are in the process of drilling at least diamond drill hole targeting the Essex breccia pipe.

Mineral Resource Estimate

Mineral resources at the Darwin Project have been estimated by Project Darwin using a sectional method. This approach leverages all available historical data, including drill results, underground channel sampling, and historical production reports.

The mineral resource estimate is based on all data obtained as of April 1, 2024. Mineral resources are not mineral reserves and do not have demonstrated economic viability such as diluting materials and allowances for losses that may occur when material is mined or extracted; or modifying factors including but not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors. Ethos knows of no existing environmental, permitting, legal, title, taxation, socio-economic, or other relevant factors that might materially affect the mineral resource estimate. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

TABLE 1 DARWIN PROJECT MINERAL RESOURCE STATEMENT

Block	OX State	Tons	Ag		Pb		Zn		W		Cu	
		(x1000)	opt	oz (x1000)	%	lb (x1000)	%	lb (x1000)	%	lb (x1000)	%	lb (x1000)
Indicated Resource Blocks												
A433/435	Oxide	180.0	8.5	1,531.8	0.8	2,952.0	6.4	23,076.0	0.6	2,052.0	-	-
B-458 Fissure	Mixed	66.5	9.3	618.5	0.9	1,197.0	8.2	10,906.0	-	-	-	-
418D Oxide	Oxide	30.0	10.6	319.1	-	-	8.0	4,807.5	-	-	-	-
A-439 Stope	Oxide	30.0	11.2	337.0	3.4	2,066.4	2.6	1,538.4	-	-	-	-
Inferred Resource Blocks												
B-458 Fissure	Mixed	33.25	8.5	283.0	0.8	545.3	6.4	4,262.7	-	-	-	-
418D Oxide	Oxide	490.8	10.6	5,220.9	-	-	8.0	78,650.7	-	-	-	-
833/712 Zone	Mixed	30.0	2.6	76.6	7.4	4,428.0	7.7	4,615.2	-	-	-	-
1302 Drift	Mixed	33.75	4.2	140.7	2.6	1,771.2	7.6	5,148.8	-	-	-	-
Remnant Blocks	Mixed	114.85	6.5	746.5	7.8	17,916.6	7.1	16,308.7	-	-	-	-
B-458 Fissure Cu	Mixed	175.0	41.0	7,175.0	4.0	14,000.0	14.0	49,000.0	0.9	3,150.0	6.0	21,000.0

Notes: * "Reasonable prospects for economic extraction" are based on an 8 opt Ag equivalent cut-off grade. The estimation method restricts extrapolation to known mineralized areas within historical mine workings. Ag equivalent is calculated using $25/oz for silver, $0.9/lb for lead, $1.1/lb for zinc, and a 94% metallurgical recovery rate. Total costs, including mining, processing, G&A, and shipping and smelter fees, are estimated at $189.50 per ton of ore. Calculations assume use of underground longhole stoping and processing into a flotation concentrate.

CONCLUSIONS

The geology of the Darwin Project is well understood, and the appropriate deposit model is being applied for exploration. The conceptual geologic model is sound, aligns with historical drilling results, and indicates that mineralization is essentially open in all directions, suggesting significant potential to expand on the known mineralization. Significant potential exists to increase the known mineral resource with additional drilling, as well as to upgrade existing mineral resource classifications with infill drilling or systematic underground channel sampling. There is also considerable potential to encounter massive skarn and porphyry mineralization within the district. The current mineral resource at the Darwin Project is more than sufficient to warrant continued evaluation of the Project.

RECOMMENDATIONS

In the context of mineral exploration, understanding the potential of a property requires integrating multiple types of geoscience data. This integration involves aligning information from various surveys and sources to form a coherent picture. Each data layer, whether it's from magnetic surveys, gravity surveys, geochemical sampling, or detailed geological mapping, adds depth to the analysis, helping to identify and prioritize exploration targets. This layered approach is essential because it provides multiple perspectives on the potential geological formations and mineral deposits, enhancing the likelihood of a successful exploration effort.

To optimize exploration and decision-making processes, it is recommended that Project Darwin undertake the digitization of its extensive archive of historical documents related to the Anaconda mining operation and subsequent stakeholders. The archival materials, which include geologic maps, drillhole data, underground samples, production records, and surface exploration results, should be converted into a standardized digital format. This conversion should utilize reliable digital storage mediums such as databases or cloud storage solutions to ensure quick access, facilitate complex analyses, and support the seamless integration of diverse geological, geophysical, and geochemical data sets.

The digitization of these historical documents is crucial for constructing an accurate and comprehensive geological model. This model will serve as a foundational tool in supporting subsequent phases of mineral estimation and strategic exploration efforts. By implementing this recommendation, Project Darwin will enhance its ability to leverage historical data effectively, thereby improving the accuracy and efficiency of its resource management and exploration activities.

To bring the historical data inline with the current industry standards it requires further validation which may include, to the extent possible, re-locating the historical data in the field, and resampling and re-assaying of historical drill core or drilling samples and submission to a laboratory with certified reference materials. Historical drill hole data should be supported with newly completed drill holes and sampling.

The validation of the historical data should be done in conjunction with exploration targeting the areas outlined in the mineral resource estimates. Analysis of the data using a methodology appropriate for the base metals, tungsten, and the REEs associated with deposit.

After each phase of validation and exploration the models need to be updated with the new data and adjusted to guide the next phase.

INTRODUCTION

Ethos Geological ("Ethos") was commissioned by Project Darwin, LLC (the "Company") to prepare a technical report for the Darwin Project located in Inyo County, California. The report aims to deliver a technical analysis and an evaluation of the current mineral resource. The methodology and analytical rigor align with industry standards. Project Darwin is the issuer of this report, which presents the results of an assessment that includes an evaluation of geological settings, validation of historical exploration data, and review of mineral resource estimations. This comprehensive analysis and interpretation of available data aims to provide a detailed understanding of the current status and potential of the mineral resource at the Darwin Project site.

Zachary J. Black, SME-RM, undertook a site inspection from December 11-13, 2023, focusing on specific geological formations and areas of interest, such as the Mickey Summers Fissure and the Defiance Shaft area. This visit facilitated a direct assessment of the geological features, contributing to a robust analysis of the site's mineralization processes and geological structures. Observations made during the visit support the development theories of skarn and breccia bodies, corroborated by historical documentation from Anaconda.

The integration of site visit findings with a thorough examination of historical and recent data underpins the geological analysis presented in this report. This approach ensures a detailed and factual representation of the project's geological framework, enhancing the reliability of mineral resource estimates and providing a solid foundation for future exploration and development recommendations.

Reliance on Other Experts

Except for the author's firsthand observations on the surface and underground, all information presented herein is derived from a meticulous examination of published and unpublished sources, and a thorough review and projection from historical data.

The author asserts that these sources have provided information in a factual, truthful, and unbiased manner, without any reason to doubt the reliability of the information, ideas, and recommendations presented. Notably, the Anaconda Copper Mining Company, operator of the mine during its peak production period from 1945 to 1957, is renowned in the industry for its meticulous geologic mapping and analysis standards. The report places significant reliance on the comprehensive surface and underground maps, drill logs, assays, and other data meticulously maintained by Anaconda, which remained at the Darwin mine office until 1985.

Additionally, two anonymous reports retrieved from the Darwin mine office have been referenced, dating back to January 1990 and July 23, 2002. These reports, likely prepared by Blue Range Mining Co. and H. G. Brown, consultant to Project Darwin respectively, were found to align with and supplement information from other sources, further enriching the analysis.

Project Description and Location

Project Darwin is situated in the Darwin Mining District, Inyo County, California, positioned 36 miles southeast of Lone Pine near the unincorporated town of Darwin. Its precise location is at latitude 36.295074 N and longitude -117.596495 W, nestled between Sequoia National Park to the west and Death Valley National Park to the east, with the Nevada border approximately 80 miles to the east (FIGURE 1).

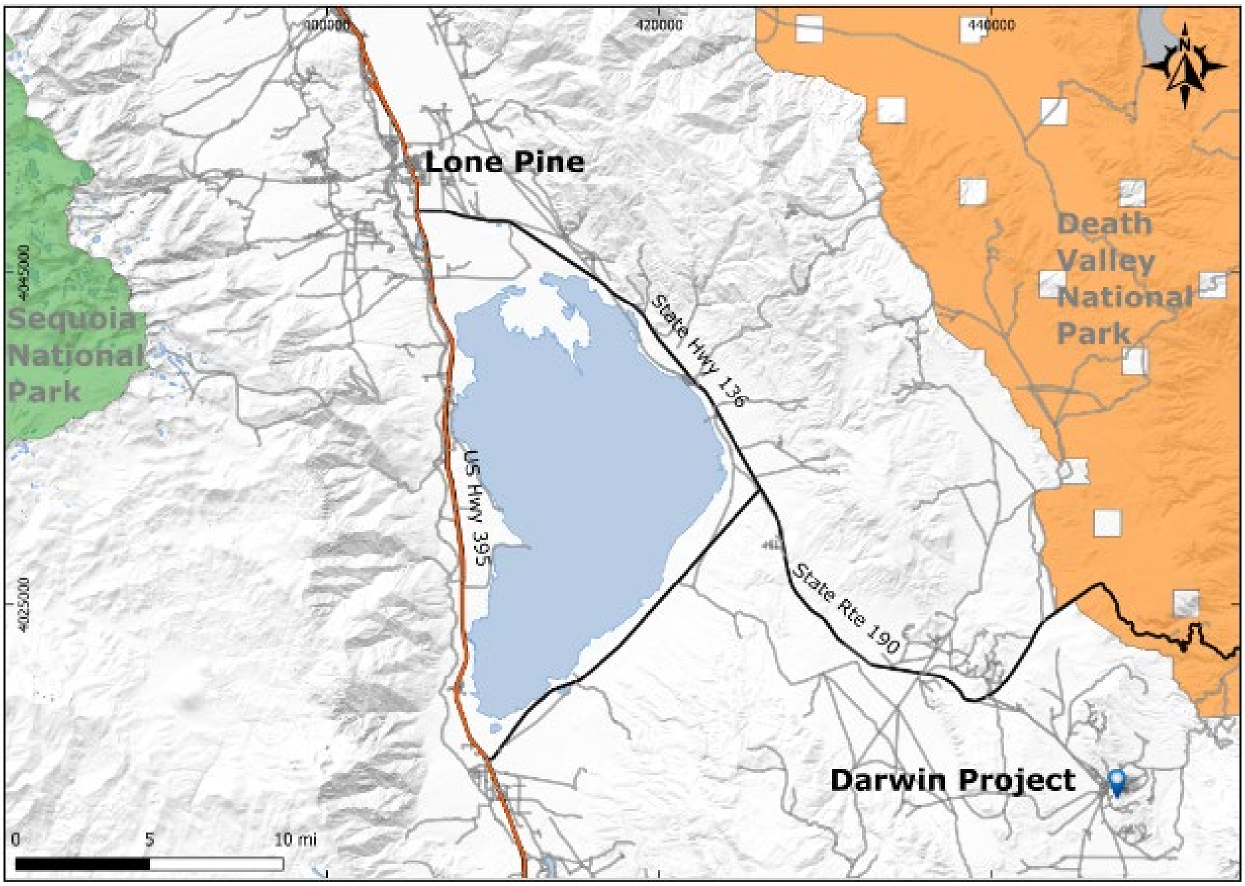

FIGURE 1 DARWIN REGIONAL LOCATION

Property Ownership, Mineral Tenure, Agreements and Encumbrances

The Property consists of 58 patented mining claims over 1,050 acres, including a specific patented mill site claim of 5.2 acres (Figure 2). Additionally, it holds a lease from the California State Lands Commission (PRC 4627.2) for water and powerline right-of-way across 12.97 acres, coupled with a Right-of-Way lease (CA-8872) from the Bureau of Land Management for similar purposes over approximately 13,200 feet of BLM land. These patented claims are strategically situated in various sections across townships T. 19 S., R. 40 E., and T. 19 S., R. 41 E., with the water well centrally located in Section 16, T. 19 S., R. 41 E., all within the Mount Diablo Meridian.

The property is subject to a 5% Net Smelter Return (NSR) royalty on newly mined ore, currently owned by Franco Nevada Corporation. Project Darwin LLC is in negotiations with Franco Nevada to reduce this royalty and potentially purchase a part of the royalty interest. Furthermore, Project Darwin LLC pays annual property taxes to Inyo County.

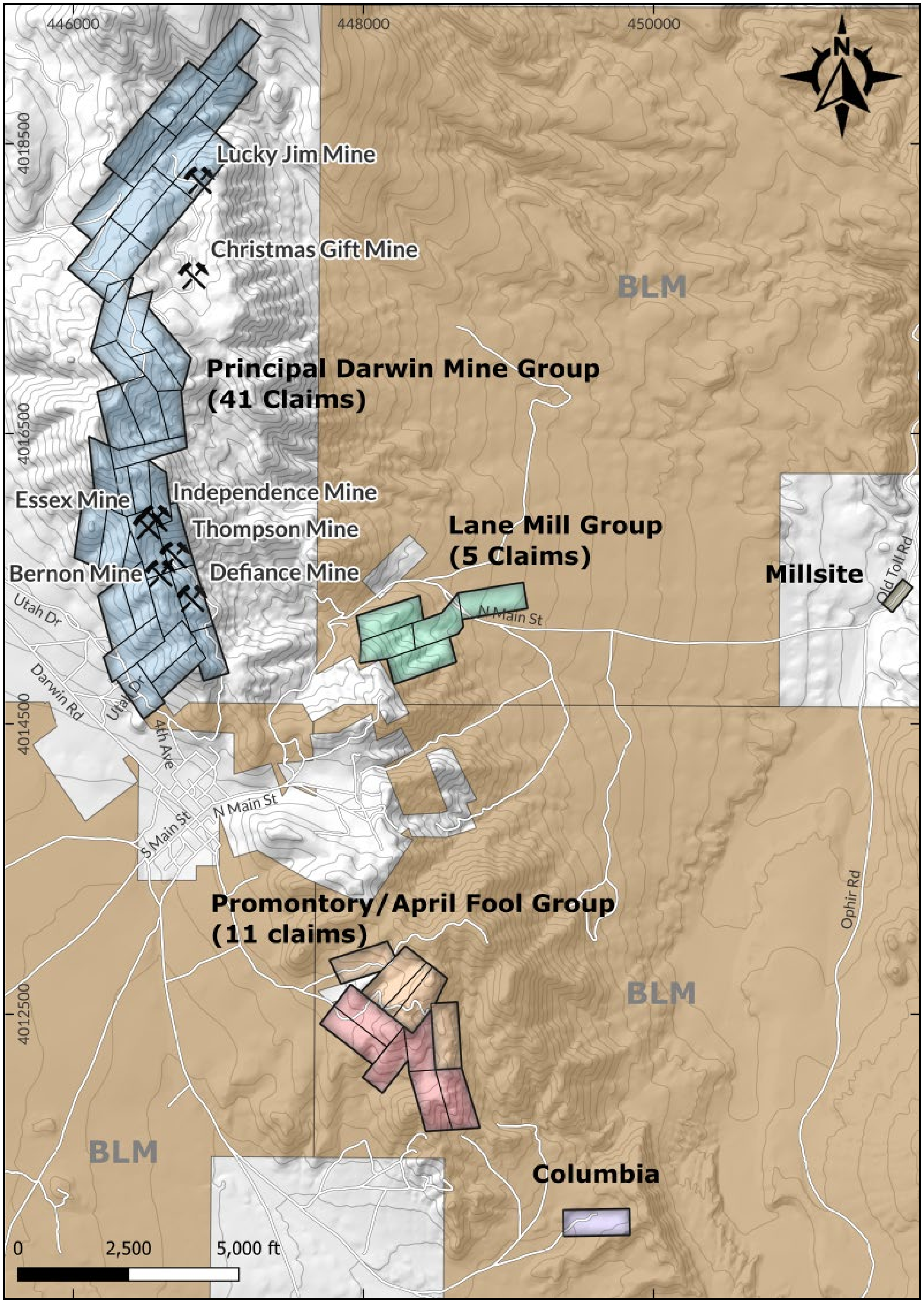

FIGURE 2 PATENTED LODE CLAIMS (SCALE 1:30,000)

PERMITTING

Operating a mine on patented claims in Inyo County, California, necessitates a suite of permits and licenses that address land use, water rights, environmental, operational, and safety requirements. Essential permissions include a water and powerline right-of-way lease from the California State Lands Commission (PRC 4627.2) and the Bureau of Land Management (CA-8872), along with Water Right Permits 1086 and 19497 for water diversion from Darwin Wash.

Environmental compliance is managed through a Draft Negative Declaration of Environmental Impact and a Conditional Use Permit (CUP #2007-04) from the Inyo County Planning Department, which imposes conditions on operations, including daylight work hours, weekday ore haulage, and a 500-ton daily production limit. Additionally, a General Stormwater Permit from the Lahontan Region California Regional Water Quality Control Board and an "Authority to Construct" from the Great Basin Unified Air Pollution Control District are essential for environmental protection.

Operational licensing includes permits from the Inyo County Health Department for water storage and septic systems, and an explosives license (9-NV-023-33-2M-00264) from the U.S. Bureau of Alcohol, Tobacco, Firearms, and Explosives. Compliance with the Federal Mine Safety and Health Administration (MSHA) covers all mining activities for safety. The operation's exemption from the California Surface Mining and Reclamation Act of 1975 (SMARA) is due to the project not anticipating new areas of disturbance exceeding one acre nor the removal of more than 1,000 cubic yards of material, with all waste rock and process tailings planned to be backfilled underground.

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ACCESSIBILITY, CLIMATE, LOCAL RESOURCES & PHYSIOGRAPHY

ACCESSIBILITY

The Darwin Project is easily accessed year-round via the California State Highway 136/190 (the Death Valley Highway), which joins US 395 a mile south of Lone Pine. The paved Darwin Road turns south from 190 about 32 miles from the Highway 395 junction, and runs south 5.6 miles to the mine site. The last half mile to the mine facilities is graded. Both Bakersfield and Independence have airports, with larger airports located in Las Vegas and Los Angeles.

CLIMATE AND PHYSIOGRAPHY

Climate is typical of the high desert of southeastern California; The average temperature variation ranges from 25 deg. F in the winter to 90 deg. F in the summer. Annual precipitation averages 18 inches.

Vegetation in the area is representative of the high desert ecosystem, with lodgepole and Jeffrey pine trees, sagebrush, and manzanita. Aspen trees are found near springs or areas with available water. Wildlife includes deer, turkey, mountain lion, squirrel, and many species of birds.

The Property elevation ranges from 3,600 feet at the well site in Darwin Wash to 6,000 feet at Ophir Mountain, a peak on the ridge in which the Darwin deposits are located.

LOCAL RESOURCES

Darwin, California, an unincorporated mining community within Inyo County, hosts a population of 74 according to the 2021 census, with no provided community services. The nearest population center is Lone Pine, California. Electrical power to the mine site is delivered via a 3-phase line from Olancha, supplied by the Los Angeles Department of Water and Power, at a voltage of 12,500 volts and a capacity of 2,500 kW. Although transformers for 3-phase power are present on-site, they have not been connected. The industrial power rate stands at 6.5 cents per kWh. The existing pipeline and power line infrastructure connecting the mine site to the well are in a state of disrepair, necessitating upgrades. The site is equipped with the necessary materials to refurbish the power line infrastructure. Water extraction from the well requires overcoming a vertical distance of approximately 1,800 feet (equivalent to around 780 psi static head) to traverse Darwin Ridge and reach the storage tanks. Two operational tanks situated above the mine office have a combined storage capacity of 38,000 gallons, facilitating gravity-fed water distribution to the plant area. Additional on-site water storage includes various tanks and a swimming pool, totaling 195,000 gallons.

The operational infrastructure encompasses a sizable residence, a mine office equipped with three fire-resistant walk-in vaults, storage warehouses, a shop building housing machinery and three large IR Imperial air compressors (lacking motors), and facilities at the 400 Level portal. The mine office also houses an extensive archive of engineering, geological, and production documents and maps accumulated by Anaconda and later operators. The Darwin Project possesses adequate surface rights for a small-scale underground mining and processing operation.

While a local workforce is accessible, there is a notable deficiency in personnel with mining and processing expertise. Recruiting a substantial workforce externally could significantly influence the demographic composition of Darwin, escalating the demand for critical services and infrastructure, including educational facilities, utilities, and water supply, to accommodate this growth.

FIGURE 3 PHYSIOGRAPHY OF PROJECT DARWIN, FROM THE DARWIN PROJECT AREA NORTHEAST OF RADIORE TUNNEL ENTRANCE, VIEWING NORTH-NORTHEAST.

HISTORY

Mining activities in the Darwin area, also known as the New Coso Mining District, trace back to the pre-1870s era, initiated by Mexican miners who commenced high-grade silver ore extraction. By 1870, the production landscape shifted with the displacement of Mexican miners and the onset of lead-silver ore extraction from mines such as Lucky Jim, Promontory, Columbia, Lane, Defiance, Thompson, and Essex. These mines, which constitute the patented claims of Project Darwin LLC, remained active until 1893, alongside the operation of several small smelters.

Following a period of dormancy, the Darwin Development Company embarked on property consolidation efforts in 1916, amidst a landscape marked by operational challenges including poor management, legal disputes, and financial instability. The subsequent formation of the Darwin Silver Company and later the Darwin Lead Company sought to address these issues.

Anaconda's involvement in 1939 entailed an evaluation of the Darwin Lead Company's operations, revealing significant lead-silver ore production, though profitability waned due to reliance on lower-grade ores and inefficient recovery processes. Despite attempts to enhance recovery rates, sustained profitability remained elusive. Further assessment in 1942-44 led to intermittent production until 1944, when operations achieved a notable milestone with continuous milling and ore shipments to a smelting plant in Midvale, Utah.

Anaconda's acquisition of the Darwin mine in 1945 marked a pivotal moment, with subsequent efforts focused on infrastructure enhancement, including the completion of the Radiore Tunnel to facilitate ore transportation and processing. Despite sustained operations until 1957, declining lead and zinc prices prompted the mine's closure.

The exploration and understanding of the Darwin district's geology took a significant leap forward in 1980 with the collaborative work of R.J. Newberry from Stanford University and Anaconda geologists. Their efforts, particularly summarized in G.E. Wilson's 1981 report, unveiled a new structural model for the district, highlighting skarn bodies, breccia pipes, and the true nature of Paleozoic rocks. This period marked a shift towards a more systematic exploration approach, employing underground geochemistry and mapping to identify key mineralization trends and structural features, such as northwest-trending anticlines and synclines that contradicted previous theories of an overturned syncline. The discovery of skarn and breccia pipes enriched with minerals provided new targets for exploration, particularly for tungsten, which was identified as a future commodity of interest despite its exploration challenges.

In the early 1980s, deep core drilling efforts further informed the geological understanding of the district, with two +2000' holes drilled to test the porphyry-skarn potential and the depth extension of known mineralization zones. These efforts revealed complex zonation patterns and suggested the presence of significant, yet challenging, mineral deposits. Despite these insights, the variable mineralization with depth and the economic feasibility of mining these deeper resources remained a concern.

The Quintana period (1984-1989) followed the sale of the property by Anaconda's parent company, marking a shift towards potential heap leach operations to recover silver and gold, alongside a reevaluation of the mine's hard capital value and the potential for rediscovering bulk mineable ore bodies. Despite plans for near-surface drilling and exploration, the focus on silver prices and the eventual sale of the property to Blue Range Mining Co. underscored the fluctuating interests and strategies in the mine's development.

Blue Range's tenure (1989-1994?) brought updates in mine mapping, infrastructure, and preliminary mill work, alongside an estimation of reserves and potential ore. Despite limited exploration outside the immediate underground workings, the identification of breccia pipes and favorable geological structures hinted at unexplored potential within the district. However, the challenging economics of deep exploration and the focus on high-grade polymetallic deposits indicated a cautious approach to future mining endeavors.

The brief Cyprus Minerals period in the early 1990s, marked by an aborted joint venture and exploration initiative due to funding and market challenges, highlights the ongoing complexities of mining economics and the importance of strategic partnerships in advancing exploration and mining operations. This period of exploration, spanning over a decade, illustrates the evolving understanding of the district's geology and the continuous quest to balance mineral potential against economic viability. Project Darwin, Inc.'s acquisition in 1995 marked a new chapter, characterized by ongoing refurbishments, equipment acquisitions, and permit updates.

Historical Exploration

A comprehensive examination of numerous reports archived in the Darwin mine office reveals that Anaconda's underground drilling activities, integral to its mine production endeavors, were executed with a specific focus on developing reserves. However, the precise details regarding the type and extent of drilling procedures followed are not thoroughly documented. Anaconda's projections of reserves typically extended up to a year, drawing upon past experiences within the mining system and a fundamental understanding of the geological features, often based on one or two drill intercepts.

Blue Range and Quintara completed small drilling campaigns largely to confirm or outline known areas of mineralization. Like Anaconda, the precise details regarding the type and extent of drilling procedures followed are not thoroughly documented. However, assay certificates and weekly drilling reports are available for the Blue Range underground drilling project.

Anaconda and Blue Range drilled at least 1,700 underground holes, accumulating nearly 160,000 feet of AX and EX core alongside long hole sludge samples. Additionally, Quintana drilled eight shallow percussion holes near the Essex shaft to evaluate near surface silver mineralization. The azimuth, dip, and depth of the drill holes were adapted to the mine's varied geological conditions. Notably, many drill holes were oriented to intersect the Darwin Stock, as it was thought to exert significant control over mineralization at the time. In the deeper sections of the mine, drilling efforts were primarily concentrated on developing known ore zones between different levels associated with the Defiance and Essex breccia pipes.

Anaconda conducted two deep diamond core holes in 1982, with logging and assaying completed in the first quarter of 1983. Hole DA-1, drilled at a -77° angle with a total depth (TD) of 2,201 feet, showing increasing skarn development with depth and expected zonation from upper sulfide replacements to low-sulfide skarn near the Defiance pipe. There was no evidence of additional sulfide-rich mineralization or retrograde alteration. Hole DA-2, drilled at a -73° angle with a TD of 2,302 feet, intersected the Essex pipe skarn breccia approximately 400 feet beneath the deepest underground workings. It revealed largely pyritic replacements at depth, with intervals of significant silver grades and locally present tungsten. The reversal of normal zonation suggests a later volatile-rich mineralizing pulse, possibly related to fault contact with the Darwin stock. Mineralization and alteration between DA-1 and DA-2 varied significantly, indicating lateral zonation with DA-2 showing over twice the metal content compared to DA-1. The unexplored area adjacent to DA-2 shows promise for silver and/or tungsten mineralization.

Historical Production

The Darwin mine includes the workings owned by The Anaconda Company which are developed by the 6,300-foot Radiore adit on the 400-foot level. They are Bernon, Defiance, Essex, Independence, Rip van Winkle and Thompson workings and the Driver prospect, the most important of which are the Defiance, Thompson, Essex, and Independence. The last three are now grouped as the Thompson mine.

Anaconda's total production, comprising both oxide and sulfide ore, is estimated at approximately 962,000 tons. The sulfide ore extracted since 1942 had an average composition of 6% lead, 6% zinc, and 6 ounces per ton of silver, according to Hall & Mackevett (1962). After being idle until 1967, the mine saw activity when West Hills Exploration Co. leased it, extracting approximately 271,000 tons of ore from deeper levels before terminating the lease in 1970 due to unsatisfactory results. Subsequently, Mexicanus Colorado, Inc. leased the mine in April 1971, investing in enhancements but operated for less than a year, producing about 74,000 tons of lead, silver, and tungsten ore. Montecito Mining Company subleased portions, extracting tungsten ore from the 433-435 stope and lead-silver ore from the deeper Thompson workings. In 1972, Secundo Guasti leased tungsten extraction unsuccessfully, and other lessees, including Pacific Tungsten, West End Consolidated, and Brownstone Mining Company, primarily mined tungsten ore from the 433-435 stope. However, all leases were terminated in 1976.

Cumulatively, historic ore production spanning over a century from 1875 to 1976 yielded substantial quantities of silver, lead, zinc, copper, and gold, with an estimated total production of approximately 1.5 million tons of ore. Metal production during this period included about 10,500,000 ounces of silver, 840,300 tons of lead, 57,900 tons of zinc, 745 tons of copper, and 5,900 ounces of gold.

GEOLOGY

REGIONAL GEOLOGY

The Darwin Project is situated within the Basin and Range metallogenic province and is largely composed of Paleozoic sedimentary rocks and carbonates, overlain by Mesozoic volcanic rocks and intruded by Mesozoic granodiorites. The intrusion of numerous igneous bodies throughout the region occurred as components of the Sierra Nevada batholith, associated with a major tectonic transition from a quiet passive continental margin during the Paleozoic era (from 545 to 242 Ma) to a convergent continental margin in the Mesozoic era (241 to 66 Ma). Intermittent periods of magmatic activity extended throughout the Cenozoic era (65 Ma to recent).

During the Mesezoic era, volcanic activity increased at surface, driven by interactions with the subducting Farallon oceanic plate. Continued subduction facilitated the ascent of intrusions into the upper crust, closely associated with the majority of vein-hosted gold deposits throughout California (Close, 2015).

In the Cenozoic era, the subsidence of convergent subduction gave rise to back-arc extension and crustal relaxation, propagating from eastern California through Nevada to Arizona, Utah, and Idaho. This extensional regime created the 'Great Basin and Range' of the United States. Early Cenezoic mineralization within this region predominantly ensued along transverse and extension-related fault systems, alongside the emplacement of intrusions and volcanic rocks (Fiero, 1986).

From 45 Ma to 30 Ma, an Eocene-aged pulse of magmatism throughout the entire western Cordillera brought a resurgence of fluid migration and gold mineralization. This epoch is characterized by many of the 'Carlin-style' gold deposits in Nevada and other intrusion-related porphyry and vein deposits throughout western North America (Fiero, 1986).

During the Miocene, (from 24-4 Ma), several volcanic fields and intrusions also occurred along the California-Nevada border. Volcanic rocks of this age and their associated intrusions occur throughout northern Mono County.

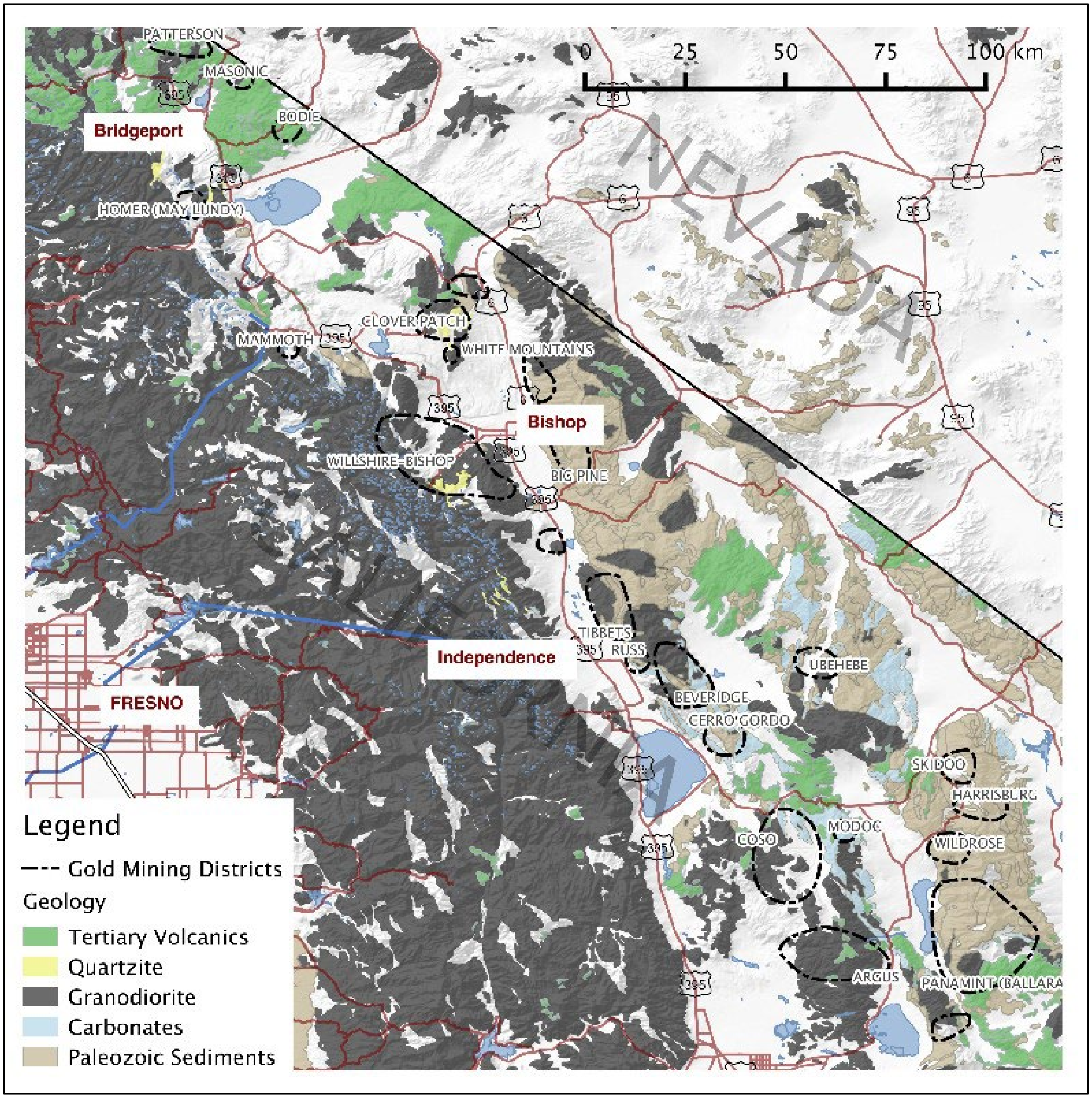

FIGURE 4 REGIONAL GEOLOGY SHOWING GENERALIZED LITHOLOGY, REGIONAL TRENDS, AND MINING DISTRICTS.

Regional Mineralization

Mineralization within Mono and Inyo counties is broadly categorized into four distinct geological domains based on their host environments and metal assemblages. These domains include volcanic-hosted Au-Ag, metamorphic Au-Ag-W-Lead, carbonate base metal-Au, and sediment-hosted Au-Ag domains, each presenting unique mineralization styles (Close, 2015).

The Darwin district (interchangeably referred to as the Coso Mining District), in SE California (Figure X) contains Pb-Zn-Ag as well as Cu-and W-rich veins and skarns (Hall and MacKevett, 1962; Newberry, 1987).

ETHOS GEOLOGICAL

The volcanic-hosted domain is characterized by sulfide lodes and breccias within volcanic rocks, with mineralization predominantly occurring in highly silicified ore shoots and breccias (Close, 2015). Notable within this domain are the Bodie, Masonic, and Patterson districts, where gold and silver are found in association with granodiorite intrusions and volcanic host rocks.

The metamorphic domain hosts mineralization along metamorphic fabrics within quartzites, marbles, and metamorphosed intrusive rocks. Characterized by higher metamorphic grades and the presence of tungsten, alongside gold and silver, this domain spans several districts, including the Homer/May Lundy and Clover Patch. Mineralization is characterized by silicified structures, quartz veins, and breccias (Close, 2015). The districts in this domain are the Homer/May Lundy, Blind Springs, Clover Patch, Casa Diablo, Willshire-Bishop (tungsten district), and Fish Springs-Tinemaha. The most prominent mines in this Domain are the Homer/May Lundy, New Era Mine (Fish Springs) and the Bishop Creek/Cardinal Mine and the Pine Creek Tungsten mines of the Willshire-Bishop District.

The carbonate base metal-Au domain, spanning approximately 125 kilometers from north-central Inyo County to the southeast, extends through a carbonate and granodiorite sequence, with prominent mines in the Cerro Gordo, Coso (Darwin), and Argus districts. This domain is known for its high-grade assemblage of silver, lead, gold, zinc, and copper mineralization, characterized by skarn-type assemblages proximal to the intrusive-carbonate contacts (Close, 2015).

Lastly, the sediment-hosted domain encompasses gold mineralization primarily within Mesozoic-aged granodiorites and adjacent Paleozoic sediments. Gold is often associated with sulfides in thin veins and structurally related features across several districts, including the White Mountains and Big Pine (Close, 2015). Notably, this domain has historically yielded a significant amount of gold production, with continued exploration activity to the present day.

REGIONAL STRUCTURE

The geological framework in California reflects a complex history of structural deformation. Many of these structures are attributed to the eastward subduction of the Farallon plate and subsequent transverse dextral (right-lateral) compression of the continental margin to the north- northeast (Close, 2015).

Major structures and folds strike north-northwest, and subsequent veins and secondary faults strike north-northeast and exhibit dextral motion. This structural framework is ubiquitous across the majority of the gold veins and lode deposits in Mono and Inyo counties. However, it is imperative to acknowledge that localized stress refraction, stratigraphic variation, and other geological variables may produce deviations in structural attitudes from the overall trend (Close, 2015).

PROPERTY GEOLOGY

The Darwin area's geological history, as documented by sources including Dunne et al. (1978), Stone et al. (1989), and Newberry (1991), encapsulates a sequence of significant geological events from the Upper Paleozoic through the Cenozoic era, characterized by sedimentary deposition, structural deformation, plutonic intrusions, and metamorphic transformations. The Darwin area's geology, outlined in studies by Dunne et al. (1978) and Stone et al. (1989), encompasses a series of geological events from the Upper Paleozoic to the Cenozoic era, characterized by sedimentary deposition, deformation, plutonic intrusions, and mineralization. Upper Paleozoic carbonate turbidites, as described by Stevens (1986) and Stone (1984), were subject to broad folding attributed to the Late Triassic Last Chance thrust fault system, resulting in stratigraphic overthickening due to the substantial thickness of the fault's upper plate, now eroded.

Subsequent geological activity includes the intrusion of mid-Jurassic alkaline and calc-alkaline plutons—specifically, the 175 Ma Darwin stock and the 156 Ma Coso batholith (Chen, 1977)—located west of the alkaline plutons. These plutons, suggested by Sylvester et al. (1978) to be emplaced at depths of 4-6 km, initiated contact metamorphism in adjacent carbonate rocks, producing idocrase-wollastonite calc-silicate hornfels, garnet-rich skarnoid, and bleached marble around the Darwin stock. This metamorphic zone hosts tungsten-bearing skarns formed at contacts with the Darwin stock (Newberry, 1987).

The Davis fault system's activity around 154-148 Ma (Dunne et al., 1978) displaced the upper plate eastward by 1-3 km, juxtaposing the Coso batholith and its Cu-skarns with the Darwin stock and its W-skarns, and compacting the metamorphic assemblages—a process described as telescoping.

Following this phase, granite porphyry dikes and breccia pipes intruded the region along the northwest margin of the Darwin stock. This intrusion phase coincided with the formation of Pb-Zn-Ag skarns and veins, primarily on the west side of the Darwin stock, associated with steeply dipping faults adjacent to breccia bodies, less commonly along granite porphyry dike contacts, and along the Davis thrust. Cenozoic reactivation of the Davis thrust, in the context of basin and range uplift, slightly deformed nearby ore bodies.

Carbonate Stratigraphy

Within the project area, the stratigraphic framework is defined by a succession of carbonate units from the Upper Paleozoic to the Cenozoic, structured as follows:

Lee Flat Limestone

Originating in the late Mississippian to Early Pennsylvanian, the Lee Flat Limestone is exposed in the property's northwestern sector, directly underlying the Keeler Canyon Formation. Characterized by its dark gray, thinly bedded limestone with interspersed, sandy, iron-stained partings, this unit forms the base of the local stratigraphic sequence. Despite its geological significance, the Lee Flat Limestone is not directly associated with the area's mineralization events.

Keeler Canyon Formation

The Keeler Canyon Formation, conformably overlying the Lee Flat Limestone, is the dominant carbonate stratigraphic unit within the project, and serves as a receptive host for mineralization under the prevailing structural and metasomatic conditions present at Darwin. This formation encompasses a diverse lithology, including middle Paleozoic shelf carbonates and upper Paleozoic deep-water carbonates, alongside siliciclastic units, and discrete, lenticular carbonate bodies, which can extend up to 300 feet in strike length. Encapsulated frequently within sequences of carbonate turbidites and calc-pelites, these lenticular bodies denote a depositional environment extending from intertidal/supratidal zones, evidenced by a rich benthic fauna, to slope and basin environments, characterized by planktic fossils and sediment gravity flow deposits. Stratigraphically, the Keeler Canyon Formation is divided into upper and lower members, with the former comprising interbedded calcarenite, calcilutite, pink fissile shale, siltstone, and limestone pebble conglomerate. The lower member is distinguished by its calcarenite layers that include limestone pebble conglomerate beds, fusulinids, and spheroidal chert nodules of ½ to 1½ inches in diameter.

Owens Valley Formation

This unit, conformably situated above the Keeler Canyon Formation with limited exposure in the property's northeast. The Owens Valley Formation is comprised of two members: the Upper Member, constituted of limestone conglomerate, siltstone, and sandstone, and the Lower Member, typified by brick-red and yellow-brown shale, siltstone, and blue-gray limestone.

This stratigraphic framework, from the Lee Flat Limestone through the Keeler Canyon Formation to the Owens Valley Formation, delineates the progression of carbonate sedimentary environments within the project area, each contributing distinct lithological and sedimentological characteristics to the region's geologic history and its potential for mineralization.

Intrusive Sequence

The intrusive sequence in the Darwin area is subdivided into the Darwin Stock, Coso Batholith, and Quartz Porphyry Suite, each associated with distinct metasomatic processes.

Darwin Stock

Dated at 174 million years (Chen, 1977), this stock spans approximately 1 square mile and displays quartz-poor, medium to coarse-grained textures, with a composition ranging from diorite to alkali-feldspar quartz syenite. Central zoning features felsic compositions. The stock includes diverse intrusive bodies such as coarse-grained dioritic to monzo-diorite, hornblende-biotite granodiorite, and a variable, fine-grained porphyritic unit. Despite initial assumptions, Newberry (1980) determined that the Darwin Stock does not serve as the primary source of mineralization, instead leading to the formation of non-mineralized contact metamorphic rocks and skarns.

Coso Batholith

At 156 million years old (Chen, 1977), the Coso Batholith's calc-alkaline composition is primarily granitic to granodioritic. Exposed on the Davis Thrust's upper plate, it features quartz, feldspar, hornblende, and biotite, with accessory minerals like sphene, apatite, and magnetite. Characterized by a coarse-grained, light-colored, often sheared, and chloritized texture, the batholith is linked to the formation of Cu-bearing skarns.

Quartz Porphyry Suite

This suite, distinct for its fluorine-rich and alkali-feldspar quartz-rich granite composition, contrasts with the Darwin Stock by lacking quartz-phenocrysts. It contains biotite, sphene, apatite, and occasionally interstitial minerals like fluorite and epidote. Exhibiting textural diversity including porphyry, aplitic, pegmatitic, and granophyric textures, the suite undergoes alterations to sericite-pyrite or calcite-chlorite-epidote. Positioned within and beyond the Darwin Stock, it forms the matrix in igneous breccias with scheelite-bearing skarn clasts, particularly in the district's west-central area (Newberry, 1987).

Contact Metamorphic Rocks

In the Darwin district, the metamorphic landscape is characterized by the presence of skarnoids, an intermediate between metamorphic and metasomatic rock classification of metamorphic rocks defined by their distinct mineralogy, primarily consisting of grossular, diopside, and idiocrase. These rocks, initially identified by Zharikov in 1970, emerge from a geological backdrop where the original sedimentary layers, composed of a mixture of carbonate and pelite (calc-turbidites), have been subjected to metamorphism. The transformation of these protoliths is driven by the thermal and to a lesser extent chemical influence of igneous activities in the region, leading to the extensive distribution of skarnoids across extensive strike lengths. These formations are noted for their layered to massive textures, the dominance of pale-colored, low-iron minerals, and the preservation of original sedimentary structures through pseudomorphism. Additionally, the skarnoids display a compact morphology without the presence of ore minerals. Any veins within these rocks contain minerals with compositions that mirror those of the surrounding host rocks, indicating a localized derivation of materials. These units exhibit isotropic textures, with anhedral, poikilitic crystals of garnet and idocrase that include inclusions of fine-grained pyroxene, wollastonite, calcite, and quartz.

The intrusion of the Darwin Stock is recognized as a significant factor in the development of a contact metamorphism zone within the calcareous-turbidite formations. However, the influence of subsequent intrusions on the metamorphic and metasomatic landscape of the area also warrants consideration. This zone of contact metamorphism, spanning approximately half a mile in width, demonstrates a diversity of metamorphic rock types, reflecting not only the thermal effects of the Darwin Stock but also the possible contributions of later magmatic phases.

Structure

The Darwin mineralization is situated within structurally controlled zones of crosscutting and bedded skarn, localized within Paleozoic turbidite carbonate and siliceous clastic units that have metamorphosed into marble or calc-silicate hornfels, notably near the west contact of the Darwin stock. These structural features significantly influence the localization and form of mineral deposits.

The upper Paleozoic carbonate rocks underwent deformation into broad folds, likely due to tectonic activity from the late Triassic Last Chance fault system, which was located above these formations and has since been eroded away. This deformation led to a pronounced increase in the thickness of the carbonate stratigraphy and resulted in the creation of the Darwin Anticline, which exhibits a trend of approximately 340°. The orientation of the Darwin Anticline's axis not only aligns with regional folding patterns but also runs parallel to the west contact of the Darwin Stock. The intrusion of the Darwin Stock has notably truncated the anticline's eastern limb. Additionally, several sill-like extensions from the Darwin Stock penetrate the sedimentary layers, conforming to the bedding planes as they extend into the anticline's western limb.

Two predominant structural orientations are observed: east-west (E-W) trending high-angle, left-lateral faults, and north-south (N-S) trending moderate-angle thrust faults. The thrust faults identified within the project area are recognized as part of the Davis thrust fault system. This system is a subset of the larger Swansea-Coso thrust system.

The thrust fault system consists of several west-dipping low-angle faults near the anticline's crest, disrupting the Paleozoic section and partially obscures the intrusive contact. This thrusting, which occurred around 20 million years after the emplacement of the Darwin stock, predates mineralization. These thrust faults are characterized by northeast (NE) transport directions with estimated aggregate displacements ranging from ½ to 2 miles.

The high angle fault system is divided into two groups based on their directional trends: a west-northwest (WNW) trending group, which is associated with displacements up to 950 feet and intersects the thrust faults, and an east-northeast (ENE) trending group, characterized by minor displacements and typically terminating at thrust faults. The structural interactions suggest that the main phase of movement along the high-angle faults, encompassing both the WNW and ENE trends, occurred prior to the development of thrust faulting. Subsequent minor structural movements on the WNW-trending (primary) faults likely happened in conjunction with or after the thrust faulting events.

The high angle faults are commonly associated with mineralization in the underground workings. The intersections of high-angle mineralizing structures with the hinge zone of the Darwin Anticline and secondary, doubly plunging north-trending folds along its flanks create zones conducive to significant bedded mineralization and serve as conduits for hydrothermal fluids. This interaction led to the development of reaction skarns (carbonate replacement), massive skarns, and quartz-carbonate-sulfide fissure/veins, with some containing scheelite.

Notable Pb-Ag-Zn mineralization is located along the Defiance and Essex fissures, characterized by steeply west-plunging skarn breccia pipes that surround Quartz Porphyry pipes intruded at the intersection of the high angle faults and the anticline's hinge zone. The Defiance area extends to the 1,300 Level (approximately 1,500 feet below the surface), and the Essex area to the 900 Level (about 1,100 feet below the surface). Other important high angle fissures that impact mineralization include the Mickey Thompson, Water Tank, 434, Bernon, Copper, and A472 fissures.

Mineralization and Alteration

The Project area's mineralization is the result of at least three distinct mineralizing events, each associated with separate intrusions. These events have led to a complex overlay of metasomatic processes, culminating in the formation of mineralized zones rich in varying combinations of Cu, Ag, W, Pb, Zn, and Ag.

Proximal to the Darwin stock particularly evident on along eastern contact, skarn formations are delineated by their constrained dimensions and spatial distribution, with a notable association to W-anomalous, tourmaline-bearing quartz syenite phases within the stock. These formations are characterized by the presence of scheelite mineralization. The skarns identified exhibit widths ranging from 1 to 3 meters and are composed of medium-grained aggregates of brown, euhedral garnets with patchy anisotropic textures, in addition to green pyroxene. The aggregates include voids filled with quartz, calcite, and K-feldspar. Accessory minerals such as pyrite, amphibole, calcite, quartz, and sporadically, chalcopyrite are observed within later-stage alteration veins and disseminated formations. Tungsten concentrations within these skarns typically range between 0.1% and 0.5% WO_3.

Adjacent to the Davis thrust and proximal to Coso-type granitic intrusions, certain skarn formations demonstrate robust and compact structures with thicknesses up to 65 feet. These skarns predominantly consist of dark, isotropic garnet and a secondary presence of pale pyroxene, including sulfides where pyrite predominates over chalcopyrite, with occurrences of specular hematite. The mineral suite within these skarns encompasses epidote, actinolite, calcite, quartz, and sulfides, highlighting their exploration potential for copper.

Exo- and endoskarn-matrix breccias identified within the area feature pipe-shaped structures intersecting metamorphic strata and the Darwin stock, incorporating fragments of various rock types embedded within a matrix of fine-grained, pale grey-green garnet, idocrase, aluminous pyroxene, and calcite. These formations undergo extensive retrograde alteration defined by secondary mineral replacement, including calcite, quartz, epidote, white mica, actinolite, and pyrite. Tungsten concentrations of 0.1% WO_3 have been noted in areas covering approximately 2,400 square yards. These breccias also feature pyrite and occasional galena and sphalerite, with significant base metal concentrations associated with intersecting veins.

Pb-Zn-Ag skarn formations within the Darwin district are closely associated with east-west trending faults and faulted intrusive contacts, often proximal to granite porphyry-breccia dikes and pipes. These zones vary in mineral composition with depth, transitioning from pyroxene dominance to garnet predominance near the surface. Microscopic examinations reveal the detailed structure of garnets and the presence of disseminated galena, sphalerite, pyrite, chalcopyrite, and fluorite. The mineralization within the Darwin stock is characterized by vuggy textures with garnet-epidote-pyroxene mineralization that is limited to faulted and fractured zones, indicating the metasomatic process was driven by fluids derived elsewhere.

Vertical pipes intersecting the Pb-Zn-Ag skarn formations contain quartz, calcite, hematite, sulfides, fluorite, diopside, idocrase, bustamite, and fine-grained yellow garnet. Quartz-calcite-fluorite-barite-sulfide veins, rich in Ag-Pb-Bi-As, cut skarns, skarn pipes, and both igneous and metamorphic rocks.

In the underground workings of the Defiance and Essex areas, a vertical progression is observed from deep sulfide-bearing skarns, through sulfide-bearing breccia pipes, to sulfide-bearing veins (Newberry, 1987). The continuity among sulfide-bearing skarns, breccia pipes, and veins suggests a shared genesis across different types of Pb-Zn-Ag mineralization, indicating a spatially extensive hydrothermal system.

Pb-Zn vein and replacement bed mineralization, occurring both above and below the Davis thrust without intersecting it, are associated with both Cu Skarns and Pb-Zn-Ag skarns, suggesting a distal relationship to these skarns rather than a single hydrothermal source. Near Scheelite skarns, the mineralized veins or beds integrate tungsten into the Pb-Zn composition. This tungsten enrichment stems from the remobilization of scheelite within retrograde altered skarns.

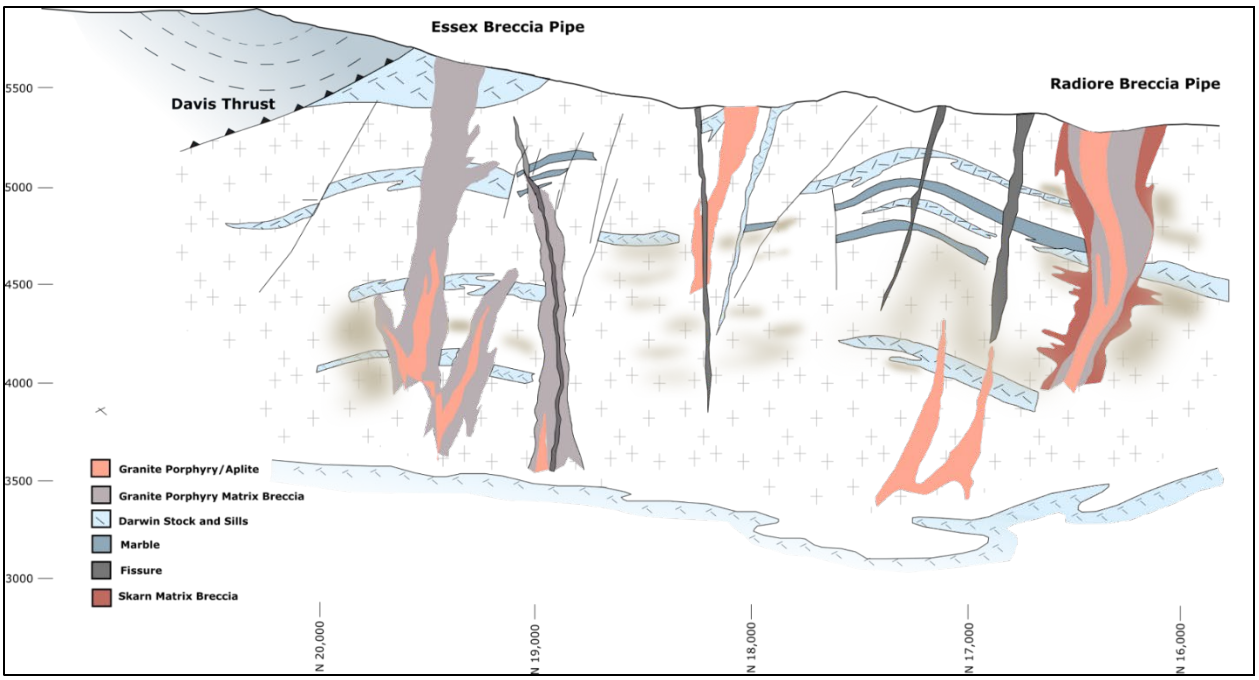

FIGURE 5 CONCEPTUAL LONG SECTION OF THE DARWIN MINERALIZATION

Mineral Zonation

The mineralogical and textural distribution within the Essex pipe delineates a clear zoning pattern, comprising both a systematic arrangement around a core zone and a broad vertical zoning, corroborated by geological mapping. These patterns in mineral paragenesis and zoning indicate the occurrence of multiple mineralization events throughout the formation of the skarn. Apart from the distribution of pyrrhotite—which might represent an early stage of marble bleaching associated with fluids related to the Darwin stock, prior to Pb-Zn skarn formation—there's no evidence to suggest that the skarns and skarn-related ores exhibit zoning directly influenced by the Darwin stock.

The breccia pipes, exemplified by the Essex and Defiance sites, display compositional zonation characterized by distinct gradients in mineral compositions, indicative of the controlling hydrothermal processes. Pyroxene minerals within these structures show an increase in iron (Fe) and manganese (Mn) contents from the core to the periphery, reflecting a thermal and chemical evolution of the system influenced by the hydrothermal fluid dynamics. Similarly, galena exhibits a zonal distribution with increasing bismuth (Bi) and antimony (Sb) away from the core, suggesting a process of selective deposition and fractionation over time.

In contrast, sphalerite maintains a consistent composition across the pipes, implying a stable sulfur fugacity environment during its formation despite the variability observed in other minerals. This uniformity suggests that the conditions affecting sphalerite crystallization were less influenced by the geochemical gradients impacting pyroxene and galena deposition.

Moreover, the symmetrical distribution of pyroxene compositional isopleths, aligning with the pipe outline and the underlying granite porphyry plugs, underscores the significance of the thermal and chemical contributions of these intrusions to the mineral zonation observed.

Deposit Types

The conceptual exploration model employed by Project Darwin targets a complex array of mineral deposit types, including lead-silver-zinc-bearing fissure veins, bedding replacement deposits, massive skarn, and breccia pipes characterized by a skarn matrix with garnet and pyroxene, sometimes centered by quartz porphyry bodies. A notable feature within these deposits is the presence of tungsten, specifically scheelite, which is found in veins and skarns along the contact with the Darwin stock and within certain bedded replacement ores.

Figure 6 illustrates a typical environment in which polymetallic skarns form. When a granite or porphyry stockwork intrudes into a carbonate sedimentary sequence, the fluids associated with the intrusion pass through the contact sediments. This creates prograde hydrothermal alteration of varying intensities as a function of the host sediment composition and reactivity of this with the fluids. Zonation is often characteristically evident in both the alteration suite and tenor of mineralization, both increasing toward the center of the intrusive stockwork.

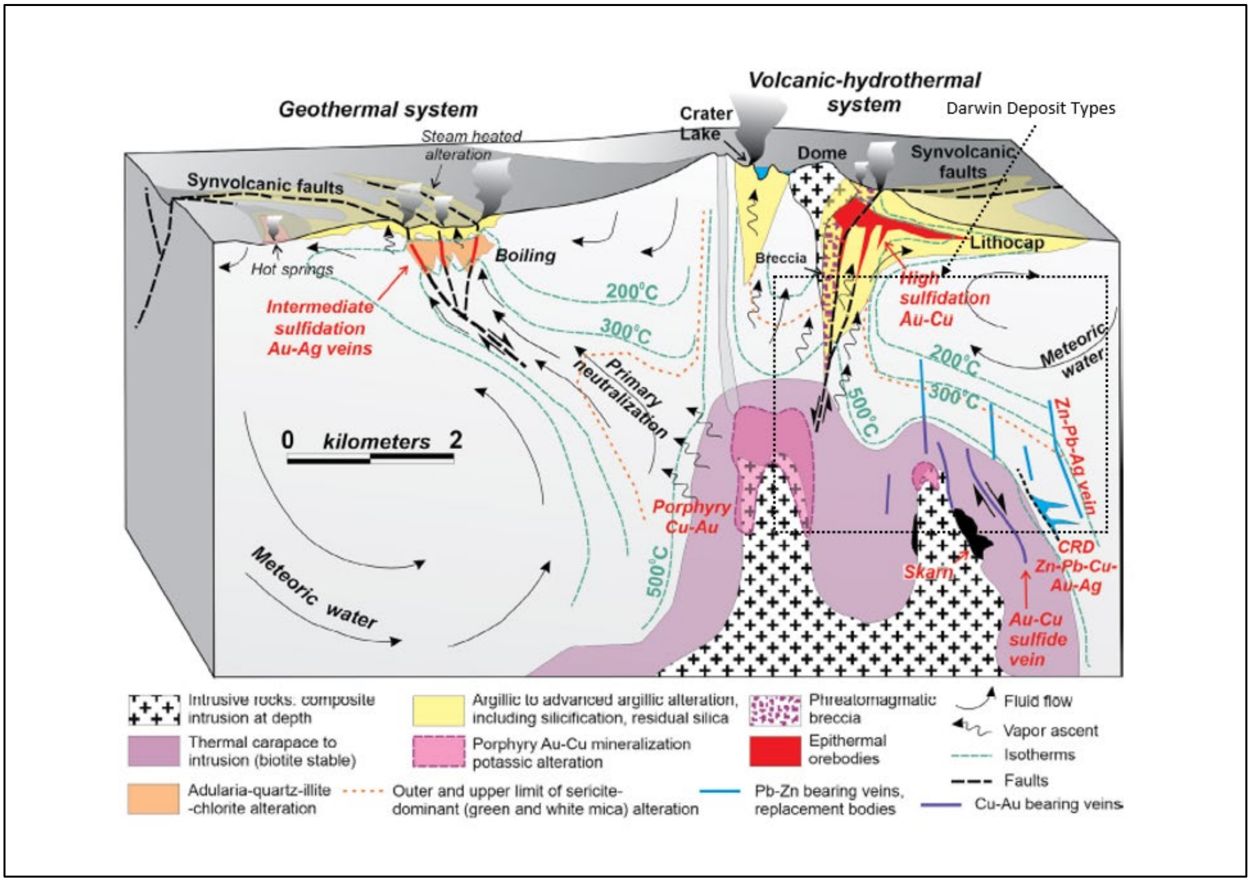

FIGURE 6 SCHEMATIC ILLUSTRATION OF THE GEOLOGICAL SETTING AND CHARACTERISTICS OF LOW- AND HIGH-SULFIDATION EPITHERMAL AU-CU DEPOSITS AND SUB-VOLCANIC PORPHYRY-TYPE CU-AU DEPOSITS (RHYS ET AL., 2020).

The geological model guiding exploration in the Darwin mine integrates several key concepts:

Intrusive-Related Mineralization: The model posits that the mineralization events, particularly for lead, silver, and zinc, are associated with late-stage felsic intrusive activities postdating the emplacement of the Darwin stock. This is supported by the spatial association of mineralized zones with quartz porphyry bodies and the alignment of mineral and metal zoning around these intrusives.

Structural Controls on Ore Localization: Exploration efforts have focused on understanding the structural complexities within the deposit, including the role of first- and second-order folds and crosscutting fault systems as major controls on ore distribution. The presence of small but high-grade orebodies, often delineated by faults or lithological boundaries, underscores the importance of detailed structural mapping in targeting exploration.

Zonal Mineralization Patterns: The observed concentric and vertical zoning of minerals and metals around breccia pipes and within the broader deposit area indicates a systematic variation in the chemical conditions of mineralization. These patterns, highlighting progressive changes in elements like zinc, lead, copper, and tungsten with depth and proximity to intrusive sources, are central to the exploration model.

Geochemical Gradients and Fluid Dynamics: The exploration model incorporates the concept of geochemical gradients, as evidenced by variations in the compositions of minerals like pyroxene, galena, and sphalerite. These gradients reflect changes in the temperature, pressure, and composition of the hydrothermal fluids responsible for mineralization, guiding drilling strategies to target zones of predicted mineral enrichment.

Empirical Exploration Approach: Historical exploration strategies, while informed by geological insights and drilling data, have been largely empirical, focusing on short-term reserve projections. Subsequent efforts aim to refine this approach by integrating advanced geological modeling and geochemical analysis to better predict orebody locations and qualities.

The exploration program at the Darwin mine is thus planned around these geological models and concepts, employing a range of techniques from geological mapping and geochemical sampling to geophysical surveys and targeted drilling. This comprehensive approach aims to delineate the extent of mineralization, understand the complex geologic setting of the deposits, and optimize the discovery and development of ore bodies within this multifaceted mineral deposit environment.

EXPLORATION

In the most recent exploration efforts conducted between 2009 and 2010, underground sampling was undertaken on the 400 Level within the Defiance Pipe, along with an adjacent zinc oxide stope. Donald Strachan, acting as a consultant for World Industrial Minerals Inc., spearheaded these sampling activities. The findings from this endeavor have unveiled promising indications of the presence of tellurium as a potential byproduct in zinc production.

DRILLING

No drilling has been completed by the current operator.

SAMPLE PREPARATION, ANALYSES, AND SECURITY

Samples collected from the 400 level by Project Darwin were analyzed using a multi-element ICP analyses performed by Inspectorate America Corp. and Florin Analytical Services in Reno, Nevada. Both laboratories are believed to follow standard QA-QC practice using blanks and certified standards, but there is no mention of QA/QC procedures followed by the Company.

DATA VERIFICATION

A focused site visit to the project site and field office was conducted on December 11-13, 2024, by Zachary J. Black, SME-RM (qualified person - QP). Discussions were held with Darwin personnel to gain a thorough understanding of the project, available data, and the exploration and production history. This visit included:

- General Geologic Reconnaissance: Inspection of facilities, outcrops, and accessible underground mine locations to verify consistency with reported data and assess geologic continuity.
- Core Review: Examination of available core intervals across various lithologies and grade ranges. This confirmed alignment between observed lithologies and logged information for most samples.
- Field Observations: Field observations generally confirmed previous reports on project geology. Bedrock lithologies, alteration, and structures aligned with existing descriptions. No significant discrepancies were identified that could contradict the current geological interpretation.

REVIEW OF HISTORICAL DATA AND INTERNAL REPORTS

The project's archival data, which was solely available in hard copy format within the Company's office, was reviewed in detail. The historical reports and internal company documents relevant to the project are well organized in filing cabinets. The archive includes detailed records on mine production, underground drilling, geologic mapping, historical survey, and an extensive library on the progression of the geologic understanding of the project. The more recent reports that included summaries of previous work were scanned and saved in digital format for review along with any sections, level plans, and surface geologic maps.

HISTORICAL DATA

Historical drilling data from various programs conducted both during Anaconda’s operation of the mine and post mining was validated to support its inclusion in the historical resource estimate and interpretations of potential mineralization zones. Here's a summary of the validation process:

Data from the historical programs were considered adequate for inclusion in this report, despite some limitations:

- Limited Collar Verification: While direct verification of drill hole collars through physical inspection was not possible due to mining activity, a two-pronged approach was employed for indirect verification:
- Historical Data Comparison: Collar coordinates recorded in survey and drill hole logs were compared against historical company maps to assess their internal consistency.
- Field Evidence Assessment: Despite the removal of much field evidence during mining, efforts were made to visit the collar locations and search for remnants of drilling activity, such as casing fragments in the ribs or floor. The presence of such remnants provided some confidence in the accuracy of the collar coordinates.

Consistency with supporting data: The available data (assay certificates and drill logs) provided sufficient details regarding drill orientation and sample types. Additionally, the assay results from these programs generally agreed with the overall grades reported during production.

MINERAL RESOURCE ESTIMATES

Ethos has conducted a thorough review of all available data supporting the historical resource estimates and considers these estimates to be reasonable given the information at hand. However, it's important to acknowledge that there are inherent limitations associated with the validation of historical data focused on the immediate delineation of ore for production. The available data primarily originates from within the underground mine, which limits the development of a comprehensive geological model and the delineation mineralization boundaries. Examination of historic stope maps reveals that past mining activities are consistent with current conceptual geological models and interpretations. However, changes in economic conditions and metallurgical recoveries have a substantial impact on cut-off grades. Such limitations introduce a degree of ambiguity that can't be validated. Users of this information should exercise caution and not place undue reliance on these historical resource estimates without recognizing these uncertainties.

ESTIMATION METHODOLOGY

Estimating the resources of the Darwin Project presents significant challenges due to the ore bodies' irregularities and the extensive areas of mineralized ground that have not been systematically sampled. The known historical resources are limited, largely because minimal development work has been conducted ahead of mining operations. The current estimate provided by the Company is organized into 8 resource blocks.

The historical mineral resource for the project initially consisted of 150 individual blocks, documented by Anaconda, Blue Range Mining, Western Industrial Minerals, and Montecito Minerals. The historical data for these blocks were systematically cataloged. Each resource block was then outlined and verified using available maps and data from mineralized drill intercepts (Figure . In areas that were accessible, sampling was conducted to verify the consistency of mineralization across different mine exposures and levels. Additionally, resource blocks previously outlined and mined by past operators were confirmed by visual inspection and subsequently excluded from the current estimate. This process resulted in a refined count of 52 individual resource blocks, each delineated based on historical production data.

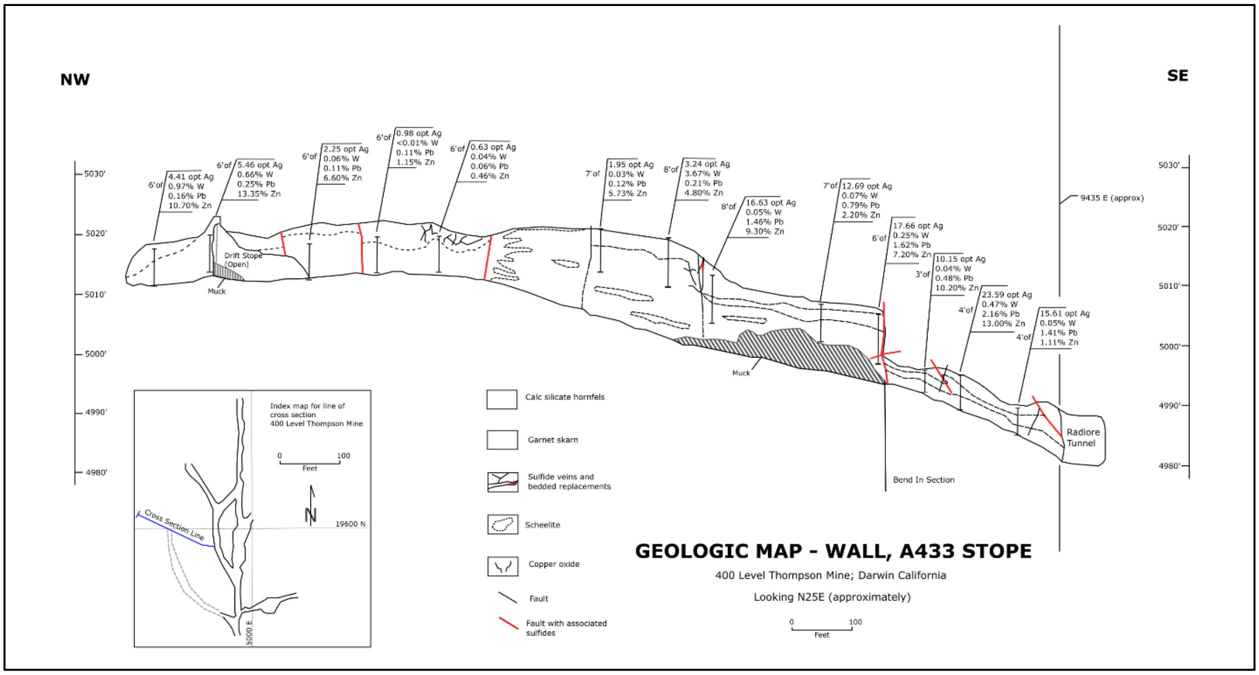

FIGURE 7 SECTIONAL INTERPRETATION OF THE A433/435 STOPE

The data related to the remaining 52 resource blocks facilitated the creation of hand-drawn maps and cross-sectional diagrams, outlining the blocks in accordance with mining assumptions. The areas of sectional mineralization were tabulated using AutoCAD. Dimensions for height and length of the mineralized zones were estimated from the maps, drillhole intercepts or directly from measured exposures. Tonnage estimations for these blocks were calculated by multiplying the derived volume by the ore's specific tonnage factors, which are 9.6 cubic feet per ton for oxide, 9.0 cu ft per ton for mixed, and 8.4 cubic feet per ton for sulfide ores.

Grades for silver, lead, zinc, and occasionally tungsten and copper across these blocks were assigned the average of drill intercepts, with channel sample data from development phases integrated where feasible. The historical resources are categorized into two groups probable and possible. Probable resources are those with nearby development, while possible resources are the areas deeper in the mine along the Defiance and Essex breccia pipes. Their continuation at the lowest levels of the respective mine areas remains uncertain, although inspection of the historical stopes from levels above the area indicate a consistent and through going zone of mineralization. The current estimate provided by the Company is organized into 8 groups of resource blocks, following established estimation methods and assumptions regarding the mineralized zones. These blocks are summarized below:

- A433/435 Stope (Oxide)
  - Location: On the east limb of an anticline, connected to the 400L main tunnel.
  - Mineralization: Predominantly oxidized silver and zinc with locally significant scheelite.
  - Documentation: Sampled in detail by Anaconda, confirmed by Blue Range.
  - Volume: Estimated at 1,728,000 cu ft
  - Average sample grades of 8.5 opt Ag, 0.8% Pb, 6.4% Zn, and 0.6% WO_3.
  - This stope has been a major source of tungsten, with mineralization observed to extend northwest to the 458 fissure.

- B-458 Fissure (Mixed)
  - Location: Downdip extension along the B-458 fissure on the 400L, showing continuous mineralization with the A433/435 stope but under stronger structural control.
  - Characteristics: Partially oxidized zone, with drilling indicating an average of 9.3 opt Ag, 0.9% Pb, and 8.2% Zn.
  - Volume: Estimated at 1,197,000 cu ft based on extensive drilling and historical production data.
- 418D Oxide Shoot
  - Location: Exposed on the 400L within the Defiance mine, between the 418 and 450D crosscuts, and identifiable down to the 1000L.
  - Volume: Estimated at 4,999,689 cu ft.
  - Average sample grades of 10.6 opt Ag and 8.0% Zn,
- A-439 Stope
  - Location: Approximately 350 feet south of the A433/435 stope on the 400L, near the main Radiore tunnel.
  - Documentation: Characterized by 45 drill holes, spanning multiple levels.
  - Volume: Estimated at 252,000 cu ft.
  - Average sample grades of 11.2 opt Ag, 3.4% Pb, and 2.6% Zn.
- 833/712 Zone
  - Location: Suggested unmined body deeper in the Independence/Essex area, identified by drilling on the 800L and 700L.
  - Mineralization: Notable for a thick mineralized zone encountered by Anaconda's core hole DA-2.
  - Volume: Estimated at 270,000 cu ft.
  - Average sample grades 2.6 opt Ag, 7.4% Pb, and 7.7% Zn.
- 1302 Drift
  - Location: Within the mineralized margin of the Defiance breccia pipe, explored at the 1200 and 1300 levels.
  - Characteristics: High zinc ore body, supported by 25 drill holes showing an increase in Zn:Pb ratio with depth.
  - Volume: Estimated at 303,750.
  - Average sample grades of 4.2 opt Ag, 2.6% Pb, and 7.6% Zn.
- Stope Remnant Blocks
  - General: Smaller blocks ranging in size and located across various levels.
  - Volume: Estimated at 1,033,650 cu ft.
  - Average realized grade from production 6.5 opt Ag, 7.8% Pb, and 7.1% Zn.
- B-458 Fissure (Copper)
  - Location: North of the B-458 (Mixed) block
  - Volume: Estimated at 1,575,000 cu ft.
  - Average sample grades 41.0 opt Ag, 4% Pb, 14% Zn, 6% Cu, and 0.9% W

Mineral Resource Classification

Mineral resources are classified as either indicated or inferred. Resources classified as indicated are areas that had considerable analytical data to support the average grades applied to the block, where in areas accessible for visible inspection, and had detailed geologic and mine maps to support the sectional outline. The inferred blocks represent areas where their continuation at the lower levels of the respective mine areas remains uncertain, although inspection of the historical stopes from levels above the area indicate a consistent and through going zone of mineralization.

Mineral Resource Statement

The mineral resource estimate is based on all data obtained as of April 1, 2024. Mineral resources are not mineral reserves and do not have demonstrated economic viability such as diluting materials and allowances for losses that may occur when material is mined or extracted; or modifying factors including but not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors. Ethos knows of no existing environmental, permitting, legal, title, taxation, socio-economic, or other relevant factors that might materially affect the mineral resource estimate. Inferred mineral resources are that part of the mineral resource for which quantity and grade or quality are estimated on the basis of limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred mineral resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

TABLE 2 DARWIN PROJECT MINERAL RESOURCE STATEMENT

Block	OX State	Tons	Ag		Pb		Zn		W		Cu	
		(x1000)	opt	oz (x1000)	%	lb (x1000)	%	lb (x1000)	%	lb (x1000)	%	lb (x1000)
Indicated Resource Blocks												
A433/435	Oxide	180.0	8.5	1,531.8	0.8	2,952.0	6.4	23,076.0	0.6	2,052.0	-	-
B-458 Fissure	Mixed	66.5	9.3	618.5	0.9	1,197.0	8.2	10,906.0	-	-	-	-
418D Oxide	Oxide	30.0	10.6	319.1	-	-	8.0	4,807.5	-	-	-	-
A-439 Stope	Oxide	30.0	11.2	337.0	3.4	2,066.4	2.6	1,538.4	-	-	-	-
Inferred Resource Blocks												
B-458 Fissure	Mixed	33.25	8.5	283.0	0.8	545.3	6.4	4,262.7	-	-	-	-
418D Oxide	Oxide	490.8	10.6	5,220.9	-	-	8.0	78,650.7	-	-	-	-
833/712 Zone	Mixed	30.0	2.6	76.6	7.4	4,428.0	7.7	4,615.2	-	-	-	-
1302 Drift	Mixed	33.75	4.2	140.7	2.6	1,771.2	7.6	5,148.8	-	-	-	-
Remnant Blocks	Mixed	114.85	6.5	746.5	7.8	17,916.6	7.1	16,308.7	-	-	-	-
B-458 Fissure Cu	Mixed	175.0	41.0	7,175.0	4.0	14,000.0	14.0	49,000.0	0.9	3,150.0	6.0	21,000.0

Notes: * "Reasonable prospects for economic extraction" are based on an 8 opt Ag equivalent cut-off grade. The estimation method restricts extrapolation to known mineralized areas within historical mine workings. Ag equivalent is calculated using $25/oz for silver, $0.9/lb for lead, $1.1/lb for zinc, and a 94% metallurgical recovery rate. Total costs, including mining, processing, G&A, and shipping and smelter fees, are estimated at $189.50 per ton of ore. Calculations assume use of underground longhole stoping and processing into a flotation concentrate.

ADJACENT PROPERTIES

The Darwin mine encompasses several historical operations, with the Lucky Jim, Promontory, and Lane mines noted as the other significant producers within the patented claims (Mackevett et al, 1958).

The Lucky Jim mine, positioned in Section 1, Township 19 South, Range 40 East, is approximately 2.25 miles directly north of the Darwin mine camp. This mine produced silver-lead-zinc ore within the northeast-trending Lucky Jim fault zone and additional minor veins, intersecting granitic rocks and calc-hornfels. The orebody is accessed via a 320-foot shaft and internal winzes extending to a depth of 820 feet. Historical production records from 1915 to 1925 indicate extraction of over 40,000 tons of predominantly oxidized ore, resulting in approximately 10.2 million pounds of lead, 744,000 ounces of silver, and 457 ounces of gold. The Anaconda company assessed and refurbished the mine in 1948 without resuming production, and Quintana conducted further evaluations in 1987 (DeRuyter, 1987).

Located in Section 30, Township 19 South, Range 41 East, about 1.75 miles southeast of the mine camp, the Promontory mine produced oxidized lead-silver ore from bedding replacement mineralization in limestone. The mine infrastructure includes an incline shaft reaching a vertical depth of 283 feet. Production figures for this site are not specified individually as they were often aggregated with those of the Darwin Silver Co.

The Lane mine, situated in Section 18, Township 19 South, Range 41 East, approximately 1.25 miles east of the mine camp, originated around 1890. The site targeted predominantly oxidized lead-silver-copper minerals located within fissure veins in limestone and calc-silicate hornfels, reaching a depth of 800 feet. Historical operations ceased in 1948 after producing approximately 12,000 tons of ore, which yielded about 1.8 million pounds of lead, 76,000 ounces of silver, 39,000 pounds of copper, and 1,547 ounces of gold. Currently, Project Darwin LLC has no active plans to develop these properties.

OTHER RELEVANT DATA AND INFORMATION

This report summarizes all data and information material to the Darwin Project as of April 1, 2024. Ethos knows of no other relevant technical or other data or information that might materially impact the interpretations and conclusions presented herein, nor of any additional information necessary to make the report more understandable or not misleading.

INTERPRETATION AND CONCLUSIONS

The Darwin Project's exploration activities have been focused on organizing and understanding historical data, including the collection of samples from underground workings to confirm zones of mineralization and identify areas with potential for further development. The project has initiated the digitization of all historical maps and drill logs to integrate them into a 3-dimensional model to enhance exploration planning. A detailed photogrammetric survey of the project area has been completed, and surveys of accessible mine areas are underway, with plans for drilling at least one diamond drill hole targeting the Essex breccia pipe.

The geology of the Darwin Project is well understood, and the appropriate deposit model is being applied for exploration. The conceptual geologic model is sound, aligns with historical drilling results, and indicates that mineralization is essentially open in all directions, suggesting significant potential to expand on the known mineralization. Significant potential exists to increase the known mineral resource with additional drilling, as well as to upgrade existing mineral resource classifications with infill drilling or systematic underground channel sampling. There is also considerable potential to encounter massive skarn and porphyry mineralization within the district. The current mineral resource at the Darwin Project is more than sufficient to warrant continued evaluation of the Project.

The most significant geologic findings suggest that tungsten (W), copper (Cu), and lead-zinc (Pb-Zn) skarn deposits in the Darwin area have distinct origins, indicating separate formation processes. This includes the rare occurrence of Pb-Zn-W skarns, likely formed through tungsten remobilization. The presence of three different igneous systems and diverse calc-silicate/ore assemblages supports this model, confirming multiple independent plutonic-hydrothermal events rather than strata bound contributions.

Typically associated with granite, scheelite skarns require extensive fractional crystallization in moderately deep settings, a condition observed in the Darwin stock. Small copper skarns tend to form near barren granitic stocks in deeper settings, consistent with patterns seen across the western U.S., including eastern California. Pb-Zn skarns in Darwin are found along faults and dikes, unrelated to the larger Darwin stock, possibly associated with unexposed granitic entities indicated by geophysical anomalies. This diversity underscores the presence of multiple, independent skarn-forming hydrothermal systems.

Vein ores may be related to skarn-forming episodes, particularly associated with shallow granite porphyries. Initial ore-forming fluids were likely magmatic, transitioning to mixed origins in later stages influenced by meteoric water cycling. The rare co-occurrence of Pb-Zn and W skarns reflects unique geological conditions and plutonic events, consistent with areas exhibiting contrasting multiphasic plutonic activities.

In the context of mineral exploration, understanding the potential of a property requires the integration of multiple types of geoscience data, including magnetic surveys, gravity surveys, geochemical sampling, and detailed geological mapping. This integration helps form a coherent picture, adding depth to the analysis and assisting in the identification and prioritization of exploration targets. The project maintains an archive of historical documents related to the Anaconda mining operation and subsequent activities, which have contributed to a comprehensive understanding of geology and controls on mineralization.

These documents and data need conversion into a standard digital format on reliable mediums such as databases or cloud storage to allow for quick access, complex analyses, and easier integration of diverse data sets. Upon completion of an integrated data set and 3-dimensional models, the drill core stored underground should be inventoried and relogged. Samples should be analyzed by an independent certified laboratory using industry best practices, including a robust QA/QC program, with sample selection representative of the different ore types and mining zones within the project. The chosen analytical methods should be appropriate for the specific minerals of interest.

Mineral resources at the Darwin Project have been estimated by Project Darwin using a sectional method. This approach leverages all available historical data, including drill results, underground channel sampling, and historical production reports. The efficacy of this historically validated strategy underscores the inherent value of empirical data and operational insights in resource estimation. Despite its departure from modern estimation methods, the historical approach to mineralized block delineation and grade averaging, based on direct mining and exploration data, provides a credible and pragmatically grounded basis for the reliability of these estimates in understanding underground mine resources.

Risks and Uncertainties

In preparing this report, Ethos has undertaken extensive efforts to validate the historical data pertaining to the estimated mineral resources. This validation process was guided by rigorous methodologies and leveraged contemporary technologies and expert insights to ensure the highest possible accuracy and reliability of the historical data for analysis. Despite these thorough efforts, it is important to acknowledge that certain inherent risks and uncertainties remain when utilizing historical data for resource estimation. In general, the use of historical data needs consider the following risks and uncertainties:

- The nature of historical data—often collected with older methods, potentially under different regulatory standards, and stored in formats vulnerable to degradation—presents challenges that cannot always be fully mitigated. Although we have made significant adjustments and enhancements to this data, the potential for residual errors stemming from factors such as incomplete documentation, technological evolution, and methodological discrepancies between past and present practices cannot be entirely eliminated.
- Historical data collection and methods are not documented and may have been collected with methods that do not meet current industry standards. The accuracy, precision, and completeness of such data can be questionable, which can lead to errors in estimating the size, grade, and extent of a mineral deposit.
- The historical records do not include comprehensive documentation on how data was collected, processed, and interpreted. This lack of detailed records makes it difficult to assess the reliability of the data..
- Changes in technology and methodology over time mean that historical data might not be directly comparable with data collected using modern techniques. For instance, changes in drilling techniques, analytical methods (e.g., for assaying), and resource modeling methods can create discrepancies.
- Historical sampling might not have covered the deposit comprehensively or systematically, leading to potential bias in the results. Additionally, assay techniques from earlier periods might not have the same detection limits or accuracy as modern methods, affecting grade estimates.
- The standards for reporting mineral resources, such as those outlined by the JORC Code or NI 43-101, have evolved significantly. Historical data might not comply with these current standards, making it challenging to use this data in public reports without substantial re-evaluation.
- Physical degradation of historical records, whether paper-based or early digital formats, can lead to loss of data. Moreover, accessing data that is stored in obsolete digital formats or physical locations can be difficult and costly.

- Historical spatial data might be inaccurate or based on surveying methods that lack the precision of modern GPS and GIS technologies. This can lead to errors in locating drill holes, trenches, and other geological features on current maps.

Despite these challenges, it's crucial to note that the historical data supports a long-standing mining operation, and the reported results align with the historical production records. This consistency provides a measure of validation and reliability to the historical data, suggesting that while there are inherent risks in its use, these risks are mitigated by the practical outcomes observed over the years of operation.

Recommendations

As the most significant risk to the mineral resource estimation resides with the use of historical data with limited confirmation data collected by the current operator, the focus needs to involve a more robust validation of this data.

To optimize exploration and decision-making processes, it is recommended that Project Darwin undertake the digitization of its extensive archive of historical documents related to the Anaconda mining operation and subsequent stakeholders. The archival materials, which include geologic maps, drillhole data, underground samples, production records, and surface exploration results, should be converted into a standardized digital format. This conversion should utilize reliable digital storage mediums such as databases or cloud storage solutions to ensure quick access, facilitate complex analyses, and support the seamless integration of diverse geological, geophysical, and geochemical data sets.

The digitization of these historical documents is crucial for constructing an accurate and comprehensive geological model. This model will serve as a foundational tool in supporting subsequent phases of mineral estimation and strategic exploration efforts. By implementing this recommendation, Project Darwin will enhance its ability to leverage historical data effectively, thereby improving the accuracy and efficiency of its resource management and exploration activities.

- To align historical data with current industry standards, a meticulous validation process is necessary. This process may encompass several critical actions, depending on the availability and condition of the historical data. The steps involved typically include:
- Re-locating Historical Data in the Field: This involves confirming the locations and details of historical geological features, drill hole collars, and sampling sites using modern GPS and GIS technologies to ensure spatial accuracy.
- Resampling and Re-assaying Historical Drill Core or Drilling Samples: Extract new samples from stored drill cores or from the field where historical samples were initially taken. These samples should be analyzed using current analytical methods to verify or refine the historical data.
- Use of Certified Reference Materials in Laboratory Analysis: Submit samples to a laboratory that uses certified reference materials (CRMs) for quality control. This ensures that the assay results are reliable and meet current industry standards.
- Supporting Historical Drill Hole Data with New Drilling: Augment historical drill hole data with new drilling campaigns. New drill holes should be strategically located to confirm and expand upon the historical data, providing a contemporary perspective on the mineralization.

Definition of “Historical Data”: For the purposes of this validation, "historical" refers to data that was acquired by previous operators of the mineral property. This data may have been collected under different technological, methodological, and regulatory conditions than those currently in effect.

By following these steps, the historical data can be effectively integrated into current exploration and development plans, enhancing the accuracy of resource estimates, and ensuring compliance with modern technical and regulatory standards.

The validation of the historical data should be done in conjunction with exploration targeting the areas outlined in the mineral resource estimates. Analysis of the data using a methodology appropriate for the base metals, tungsten, and the REEs associated with deposit.

After each phase of validation and exploration the models need to be updated with the new data and adjusted to guide the next phase.

References

Brown H. G, 2002, Darwin Mine, Inyo County, California, 7/23/02 (probably prepared for Project Darwin Inc.)

Chen, J. H.–Y., 1977, Uranium-lead isotopic ages from the southern Sierra Nevada batholith, and adjacent areas, California: PhD thesis, Univ. Calif. Santa Barbara.

Dunne, G. C., Gulliver, R. M., and Sylvester, A. G., 1978, Mesozoic evolution of rocks of the White, Inyo and Slate Ranges, eastern California, in Howell, D. G. and McDougall, K. A., eds., Mesozoic paleogeography of the western United States: Soc. Econ. Paleontologists and Mineralogists.

Kelley, v.c., December 1937, Origin of the Darwin Silver-Lead Deposits. Economic Geology, v. 32, No.8, p. 987-1008.

Newberry, R, 1987, Use of intrusive and calc-silicate compositional data to distinguish contrasting skarn types in the Darwin polymetallic skarn district, California, USA: Mineralium Deposita, Springer-Verlag, vol. 2, p 207-215.

Newberry, RJ., June 10, 1980, Progress report, Darwin Project (unpublished), 8 p.

Newberry, R.J., July 1981, Progress report, Darwin District (unpublished), 8 p.

Newberry, R.J., January 1982, Progress report, Darwin District (unpublished), 16 p.

Newberry, R.J., Spring 1982, Progress report, Darwin Mines (unpublished), lOp.

Rhys, D. A., Lewis, P. D., & Rowland, J. V. (n.d.). Structural controls on ore localization in epithermal gold-silver deposits: A mineral systems approach. Panterra Geoservices Inc.; Eldorado Gold Corporation.

APPENDIX A: PATENTED LODE CLAIMS

Claim Name	Patent Number	Mineral Survey Number	Claimant
Grand View No. 2	4680210	6455	Darwin Project, LLC.
Grand View No. 1	4680210	6455	Darwin Project, LLC.
Grand View No. 3	4680210	6455	Darwin Project, LLC.
Ophir Hill	4680210	6455	Darwin Project, LLC.
Imperial Fraction No. 1	4680210	6455	Darwin Project, LLC.
Ophir Hill No. 4	4680210	6455	Darwin Project, LLC.
Ophir Hill No. 3	4680210	6455	Darwin Project, LLC.
Imperial Fraction No. 2	4680210	6455	Darwin Project, LLC.
Ophir Hill No. 2	4680210	6455	Darwin Project, LLC.
Reddy Millsite	1064099	6082	Darwin Project, LLC.
Last Chance	1055604	6051	Darwin Project, LLC.
Major Butt	1055605	6051	Darwin Project, LLC.
Rip Van Winkle No. 4	1055605	6050	Darwin Project, LLC.
Rip Van Winkle No. 3	1055605	6050	Darwin Project, LLC.
Rip Van Winkle No. 1	1055605	6050	Darwin Project, LLC.
Rip Van Winkle No. 2	1055605	6050	Darwin Project, LLC.
Vivian No. 1	1055605	6050	Darwin Project, LLC.
Big Ben	1055605	6050	Darwin Project, LLC.
Essex No. 1	1055605	6050	Darwin Project, LLC.
Essex No. 2	1055605	6050	Darwin Project, LLC.
Kerso	1055605	6050	Darwin Project, LLC.
April Fool No. 1	1055603	6047	Darwin Project, LLC.
April Fool	1055603	6047	Darwin Project, LLC.
April Fool No. 3	1055603	6047	Darwin Project, LLC.
Esperanza	1055603	6047	Darwin Project, LLC.
Esperanza No. 1	1055603	6047	Darwin Project, LLC.
June Bug	1055603	6047	Darwin Project, LLC.
Columbia	Not Available	6046	Darwin Project, LLC.
Carbonate	855888	5439	Darwin Project, LLC.
Lucky Bill	855888	5439	Darwin Project, LLC.
Wedge	855888	5439	Darwin Project, LLC.
Liberty	855888	5439	Darwin Project, LLC.
10	855888	5439	Darwin Project, LLC.
Last Chance No. 3	1055604	5439	Darwin Project, LLC.
New York	779068	5362	Darwin Project, LLC.
Michigan	779068	5362	Darwin Project, LLC.
Rayman	779068	5362	Darwin Project, LLC.
Virginia	779068	5362	Darwin Project, LLC.
Lone Star	779068	5362	Darwin Project, LLC.
Ohio	779068	5362	Darwin Project, LLC.
Lucky Jim	779068	5362	Darwin Project, LLC.
Vermont	779068	5362	Darwin Project, LLC.
Anthony	779068	5362	Darwin Project, LLC.
Lucky Jim Ext.	779068	5362	Darwin Project, LLC.
Defender	779068	5362	Darwin Project, LLC.
Thompson No. 2	779068	5362	Darwin Project, LLC.
Thompson No. 1	779068	5362	Darwin Project, LLC.
Thompson No. 4	779068	5362	Darwin Project, LLC.

Claim Name	Patent Number	Mineral Survey Number	Claimant
Thompson No. 3	779068	5362	Darwin Project, LLC.
Lead No. 1	779068	5362	Darwin Project, LLC.
Thompson No. 5	779068	5362	Darwin Project, LLC.
Lead No. 2	779068	5362	Darwin Project, LLC.
South West Mine	27816	3342	Darwin Project, LLC.
Last Chance No. 2	27815	3341	Darwin Project, LLC.
Driver	29613	44	Darwin Project, LLC.
Independence Ledge	30003	43	Darwin Project, LLC.
Bernon	20314	42	Darwin Project, LLC.
Buena Ventura & the Defiance	19500	38	Darwin Project, LLC.