#### UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

## **FORM 10-K**

#### (Mark One)

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED October 31, 2022

□ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD OF \_\_\_\_\_ TO \_\_\_\_\_.

Commission File Number: 001-33125

## **SILVER BULL RESOURCES, INC.**

(Exact name of registrant as specified in its charter)

Nevada State or other jurisdiction of incorporation or organization <u>91-1766677</u>

(I.R.S. Employer Identification No.)

777 Dunsmuir Street, Suite 1605

<u>Vancouver, B.C. V7Y 1G6</u> (Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (604) 687-5800

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Common Stock, \$0.01 Par Value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act Yes  $\Box$  No  $\boxtimes$ 

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes  $\Box$  No  $\boxtimes$ 

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  $\boxtimes$  No  $\square$ 

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  $\boxtimes$  No  $\square$ 

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  $\Box$ Non-accelerated filer  $\boxtimes$   $\begin{array}{c} \text{Accelerated filer} \square\\ \text{Smaller reporting company} \boxtimes\\ \text{Emerging growth company} \square \end{array}$ 

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.  $\Box$ 

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  $\Box$  No  $\boxtimes$ 

As of January 26, 2023, there were 35,055,652 shares outstanding of the registrant's \$0.01 par value common stock, the registrant's only outstanding class of voting securities. As of April 30, 2022, the aggregate market value of the registrant's voting common stock held by non-affiliates of the registrant was approximately \$6.7 million based upon the closing sale price of the common stock as reported by the OTCQB. For the purpose of this calculation, the registrant has assumed that its affiliates as of April 30, 2022 included all directors and officers.

#### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A in connection with the 2022 annual meeting of shareholders are incorporated by reference in Part III of this Annual Report on Form 10-K.

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The terms "Silver Bull," "Company," "we," "us," and "our" are used to refer to Silver Bull Resources, Inc. and its subsidiaries, unless the context otherwise requires. Technical terms have been included that are important to an understanding of the business under "Glossary of Common Terms" at the end of this section. Throughout this document statements are made that are classified as "forward-looking." Please refer to the "Cautionary Statement Regarding Forward-Looking Statements" section of this document for an explanation of these types of assertions.

#### Cautionary Statement Regarding Forward-Looking Statements

This Annual Report on Form 10-K includes certain statements that may be deemed to be "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the United States Private Securities Litigation Reform Act of 1995, and "forward-looking information" within the meaning of applicable Canadian securities legislation. Words used such as "anticipate," "continue," "likely," "estimate," "expect," "may," "will," "projection," "should," "believe," "potential," "could," or similar words suggesting future outcomes (including negative and grammatical variations) to identify forward-looking statements. These statements include statements regarding the following, among other things:

- The sufficiency of existing cash resources to enable the Company to continue operations for the next 12 months as a going concern;
- Prospects of entering the development or production stage with respect to any of the Company's projects;
- The planned activities at the Sierra Mojada Project in 2023 and beyond;
- Whether any part of the Sierra Mojada Project will ever be confirmed or converted into SEC S-K 1300-compliant mineral reserves;
- The requirement of additional power supplies for the Sierra Mojada Project if a mining operation is determined to be feasible;
- The ability to obtain and hold additional concessions in the Sierra Mojada Project area;
- The timing, duration and overall impact of the COVID-19 pandemic on the Company's business;
- Whether the Company will be required to obtain additional surface rights if a mining operation is determined to be feasible;
- The possible impact on the Company's operations of the blockade by a cooperative of miners on the Sierra Mojada property;
- · The potential acquisition of additional mineral properties or property concessions;
- Testing of the impact of the fine bubble flotation test work on the recovery of minerals and initial rough concentrate grade;
- The impact of recent accounting pronouncements on the Company's financial position, results of operations or cash flows and disclosures;
- The impact of changes to current state or federal laws and regulations on estimated capital expenditures, the economics of a particular project and/or the Company's activities;
- The Company's ability to raise additional capital and/or pursue additional strategic options, and the potential impact on its business, financial condition and results of
  operations of doing so or not;
- The impact of changing foreign currency exchange rates on the Company's financial condition;
- The impairment of goodwill and likelihood of further impairment of other long-lived assets;
- · Whether using major financial institutions with high credit ratings mitigates credit risk;
- · The impact of changing economic conditions on interest rates;
- · Expectations regarding future recovery of value-added taxes ("VAT") paid in Mexico; and
- The merits of any claims in connection with, and the expected timing of any, ongoing legal proceedings.

These statements are based on certain assumptions and analyses made by the Company in light of its experience and perception of historical trends, current conditions, expected future developments and other factors it believes are appropriate in the circumstances. Such statements are subject to a number of assumptions, risks and uncertainties and actual results could differ from those expressed or implied in these forward-looking statements as a result of the factors described under "Risk Factors" in this Annual Report on Form 10-K, including:

- Termination of the South32 Option Agreement;
- The Company's ability to obtain additional financial resources on acceptable terms to (i) conduct exploration activities and (ii) maintain general and administrative
  expenditures at acceptable levels;
- The Company's ability to acquire additional mineral properties or property concessions;
- Results of future exploration at the Sierra Mojada Project;
- Worldwide economic and political events affecting (i) the market prices for silver, zinc, lead, copper and other minerals that may be found on the Company's exploration properties (ii) interest rates and (iii) foreign currency exchange rates;
- Outbreaks of disease, including the COVID-19 pandemic, and related stay-at-home orders, quarantine policies and restrictions on travel, trade and business operations;
- The amount and nature of future capital and exploration expenditures;
- · Volatility in the Company's stock price;
- · The Company's inability to obtain required permits;
- Competitive factors, including exploration-related competition;
- · Timing of receipt and maintenance of government approvals;
- · Unanticipated title issues;
- · Changes in tax laws;
- · Changes in regulatory frameworks or regulations affecting the Company's activities;
- · The Company's ability to retain key management, consultants and experts necessary to successfully operate and grow its business; and
- Political and economic instability in Mexico and other countries in which the Company conducts its business, and future potential actions of the governments in such countries with respect to nationalization of natural resources or other changes in mining or taxation policies.

These factors are not intended to represent a complete list of the general or specific factors that could affect the Company.

All forward-looking statements speak only as of the date made. All subsequent written and oral forward-looking statements attributable to the Company, or persons acting on its behalf, are expressly qualified in their entirety by the cautionary statements. Except as required by law, the Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which it is made or to reflect the occurrence of anticipated or unanticipated events or circumstances. Undue reliance should not be placed on these forward-looking statements.

#### Cautionary Note Regarding Exploration Stage Companies

Silver Bull is an exploration stage company and does not currently have any known mineral reserves and cannot be expected to have known mineral reserves unless and until a feasibility study is completed for the Sierra Mojada concessions that shows proven and probable mineral reserves. There can be no assurance that the Company's concessions contain proven and probable mineral reserves and investors may lose their entire investment. See the "Risk Factors" section below.

#### Cautionary Note to U.S. Residents Concerning Disclosure of Mineral Resources

Silver Bull is a U.S. domestic issuer for United States Securities and Exchange Commission ("SEC") purposes, most of its shareholders are U.S. residents, it is required to report its financial results under U.S. Generally Accepted Accounting Principles ("U.S. GAAP"), and its shares of common stock are listed on the Toronto Stock Exchange (the "TSX") and trade on the OTCQB marketplace. However, because Silver Bull is a reporting issuer in Canada, certain prior regulatory filings required in Canada contain or incorporate by reference therein certain disclosure that satisfies the additional requirements of Canadian securities laws, which differ from the requirements of United States' securities laws. Unless otherwise indicated, all resource estimates included in those Canadian filings, and in the documents incorporated by reference therein, had been prepared in accordance with Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") and the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") classification system. NI 43-101 is a rule developed by the Canadian Securities Administrators which establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects.

Canadian standards, including NI 43-101, may differ from the requirements of subpart 1300 of Regulation S-K, as defined in the Glossary of Technical Terms ("S-K 1300"). Thus, resource information contained, or incorporated by reference, in the Company's Canadian filings, and in the documents incorporated by reference therein, may not be comparable to similar information disclosed by companies reporting mineral reserve and mineral resource information under S-K 1300.

The terms "mineral reserve", "proven mineral reserve" and "probable mineral reserve" are Canadian mining terms as defined in accordance with NI 43-101 and CIM standards. Pursuant to S-K 1300, the SEC now recognizes estimates of "measured mineral resources," "indicated mineral resources" and "inferred mineral resources." In addition, the SEC has amended its definitions of "proven mineral reserves" and "probably mineral reserves" to be substantially similar to the corresponding standards of the CIM.

Investors are cautioned that while terms are substantially similar to CIM standards, there are differences in the definitions and standards under S-K 1300 and the CIM standards. Accordingly, there is no assurance any mineral reserves or mineral resources that the Company may report as "proven reserves", "probable reserves", "measured mineral resources", "indicated mineral resources" and "inferred mineral resources" under NI 43-101 will be the same as the reserve or resource estimates prepared under the standards adopted under S-K 1300.

Investors are also cautioned that while the SEC now recognizes "measured mineral resources," "indicated mineral resources" and "inferred mineral resources", investors should not assume that any part or all of mineral deposits in these categories will ever be converted into reserves. Mineralization described using these terms has a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an "measured mineral resource," "indicated mineral resource" or "inferred mineral resource" will ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies, except in rare cases. Investors are cautioned not to assume that all or any part of an inferred mineral resource exists or is economically or legally mineable. Disclosure of "contained ounces" in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade without reference to unit measures.

#### Technical Report Summaries and Qualified Persons

The scientific and technical information concerning our mineral projects in this Form 10-K have been reviewed and approved by "qualified persons" under S-K 1300, including our Chief Executive Officer and Director, Timothy Barry and our Director, David Underwood. For a description of the key assumptions, parameters and methods used to estimate mineral reserves and mineral resources included in this Form 10-K, as well as data verification procedures and a general discussion of the extent to which the estimates may be affected by any known environmental, permitting, legal, title, taxation, sociopolitical, marketing or other relevant factors, please review the Technical Report Summaries for each of the Company's material properties which are included as exhibits to, and incorporated by reference into, this annual report on Form 10-K.

#### **Glossary of Common Terms**

The following terms are used throughout this Annual Report on Form 10-K.

Concession	A grant of a tract of land made by a government or other controlling authority in return for stipulated services or a promise that the land will be used for a specific purpose.
Exploration Stage	A prospect that is not yet in either the development or production stage.
Feasibility Study	An engineering study designed to define the technical, economic, and legal viability of a mining project with a high degree of reliability.
Formation	A distinct layer of sedimentary rock of similar composition.
Mining	The process of extraction and beneficiation of mineral reserves to produce a marketable metal or mineral product. Exploration continues during the mining process and, in many cases, mineral reserves are expanded during the life of the mine operations as the exploration potential of the deposit is realized.
Ore, Ore Reserve, or Mineable Ore Body	The part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination.
Mineral Reserves	An estimate of tonnage and grade or quality of indicated and measured mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.
Mineral Resource	A concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.
Tonne	A metric ton which is equivalent to 2,204.6 pounds.
	PART I

#### Items 1 and 2. BUSINESS AND PROPERTIES

#### **Overview and Corporate Structure**

Silver Bull Resources, Inc. was incorporated in the State of Nevada on November 8, 1993 as the Cadgie Company for the purpose of acquiring and developing mineral properties. The Cadgie Company was a spin-off from its predecessor, Precious Metal Mines, Inc. On June 28, 1996, the Company's name was changed to Metalline Mining Company ("Metalline"). On April 21, 2011, the Company's name was changed to Silver Bull Resources, Inc. The Company has not realized any revenues from its planned operations, and is considered an exploration stage company. The Company has not established any reserves with respect to its exploration projects and may never enter into the development stage with respect to any of its projects.

The Company is engaged in the business of mineral exploration. It currently owns a number of property concessions in Mexico within a mining district known as the Sierra Mojada District, located in the west-central part of the state of Coahuila, Mexico. Operations are conducted in Mexico through the Company's wholly-owned subsidiary corporations, Minera Metalin S.A. de C.V. ("Minera Metalin"), and Minas de Coahuila SBR S.A. de C.V ("Minera").

In April 2010, Metalline Mining Delaware, Inc., a wholly-owned subsidiary incorporated in the State of Delaware, was merged with and into Dome Ventures Corporation ("Dome"), a Delaware corporation. As a result, Dome became a wholly-owned subsidiary of Silver Bull. Dome has a wholly-owned subsidiary, Dome Asia Inc. ("Dome Asia"), which is incorporated in the British Virgin Islands.

On June 5, 2015, the Company announced its decision to voluntarily delist its shares of common stock from the NYSE MKT due to costs associated with the continued listing and NYSE MKT exchange rules regarding maintenance of a minimum share price. On June 29, 2015, the Company's shares began trading on the OTCQB marketplace operated by OTC Markets Group. The Company's shares of common stock continue to trade on the TSX.

On August 12, 2020, the Company entered into an option agreement (the "Beskauga Option Agreement") with Copperbelt AG, a corporation existing under the laws of Switzerland ("CB Parent"), and Dostyk LLP, an entity existing under the laws of Kazakhstan and a wholly-owned subsidiary of CB Parent (the "CB Sub," and together with CB Parent, "CB"), pursuant to which the Company had the exclusive right and option (the "Beskauga Option") to acquire CB's right, title and 100% interest in the Beskauga property located in Kazakhstan (the "Beskauga Property"), which consists of the Beskauga Main project (the "Beskauga Main Project," and together the Beskauga Main Project, the "Beskauga Project"). The transaction contemplated by the Beskauga Option Agreement closed on January 26, 2021.

On February 5, 2021, Arras Minerals Corp. ("Arras") was incorporated in British Columbia, Canada, as a wholly-owned subsidiary of Silver Bull. On March 19, 2021, pursuant to an asset purchase agreement with Arras, Silver Bull transferred its right, title and interest in and to the Beskauga Option Agreement, among other things, to Arras. On September 24, 2021, Silver Bull distributed to its shareholders one Arras common share for each Silver Bull share held by such shareholders, or 34,547,838 Arras common shares in total (the "Distribution"). Upon completion of the Distribution, the Company retained 1,452,162 Arras common shares, or approximately 4% of the outstanding Arras common shares, as a strategic investment, and Arras became a stand-alone company. The financial results of Arras are included in the Company's consolidated statement of operations for the period from February 5, 2021 to September 24, 2021, the date of the Distribution.

The Company's efforts and expenditures have been and are expected to be concentrated in the exploration of properties, principally the Sierra Mojada property located in Coahuila, Mexico (the "Sierra Mojada Property"). Silver Bull has not determined whether its exploration properties contain ore reserves that are economically recoverable. The ultimate realization of investment in exploration properties is dependent upon the success of future property sales, the existence of economically recoverable reserves, and the Company's ability to obtain financing or make other arrangements for exploration, development and future profitable production activities. The ultimate realization of the Company's investment in exploration properties cannot be determined at this time.

### South32 Option Agreement

On June 1, 2018, the Company's subsidiaries Minera Metalin and Contratistas entered into an earn-in option agreement (the "South32 Option Agreement") with South32 International Investment Holdings Pty Ltd ("South32"), a wholly owned subsidiary of South32 Limited (ASX/JSE/LSE: S32), whereby South32 was able to obtain an option to purchase 70% of the shares of Minera Metalin and Contratistas (the "South32 Option").

On October 11, 2019, the Company and subsidiary Minera Metalin issued a notice of force majeure to South32 pursuant to the South32 Option Agreement. Due to a blockade by a cooperative of local miners called Sociedad Cooperativa de Exploración Minera Mineros Norteños, S.C.L. ("Mineros Norteños"), all work was halted on the Sierra Mojada Property. The notice of force majeure was issued because of the blockade's impact the Company and subsidiary Minera Metalin's ability to perform their obligations under the South32 Option Agreement. Pursuant to the South32 Option Agreement, any time period provided for in the South32 Option Agreement was to be generally extended by a period equal to the period of delay caused by the event of force majeure.

On August 31, 2022, the South32 Option Agreement was mutually terminated by South32 and the Company. South32 paid \$518,000 to the Company as a final payment for the exploration costs occurred by the Company during the blockade and released South32 from all claims as the date of termination.

As of January 26, 2023, the blockade by Mineros Norteños at, on and around the Sierra Mojada Property is ongoing.

#### Sierra Mojada Project

## Location, Access and Infrastructure

The Sierra Mojada Project is located within a mining district known as the Sierra Mojada District. The Sierra Mojada District is located in the west-central part of the state of Coahuila, Mexico, near the Coahuila-Chihuahua state border approximately 200 kilometers south of the Big Bend of the Rio Grande River. The principal mining area extends for approximately five kilometers in an east-west direction along the base of the precipitous, 1,000-meter high Sierra Mojada Range.

The Sierra Mojada Project site is situated to the south of the village of Esmeralda, on the northern side of a major escarpment that forms the northern margin of the Sierra Mojada range. In general, the site is approximately 1,500 meters above sea level. The project is accessible by paved road from the city of Torreon, Coahuila, which lies approximately 250 kilometers to the south. Esmerelda is served by a rail spur of the Coahuila Durango railroad. There is an airstrip east of Esmeralda, although its availability is limited, and another airstrip at the nearby Peñoles plant, which the Company can use occasionally. The Sierra Mojada District has high voltage electric power supplied by the national power company, Comisión Federal de Electricidad, C.F.E., and is supplied water by the municipality of Sierra Mojada. Although power levels are sufficient for current operations and exploration, future development of the project, if any, may require additional power supplies to be sourced.

Sierry Mojada Project facilities in Mexico include offices, accommodation for employees, workshops, warehouse buildings and exploration equipment located at Calle Mina #1, La Esmeralda, Coahuila, Mexico.



The map below shows the location of the Sierra Mojada Project:





#### Property History

Silver and lead were first discovered by a foraging party in 1879, and mining through 1886 consisted of native silver, silver chloride, and lead carbonate ores. After 1886, silver-lead-zinc-copper sulphide ores within limestone and sandstone units were produced. No accurate production history has been found for historical mining during this period.

Approximately 95 years ago, zinc silicate and zinc carbonate minerals ("Zinc Manto Zone") were discovered underlying the silver-lead mineralized horizon. The Zinc Manto Zone is predominantly zinc dominated, but with subordinate lead-rich manto and is principally situated in the footwall rocks of the Sierra Mojada Fault System. Since discovery and until 1990, zinc, silver, and lead ores were mined from various mines along the strike of the deposit, including from the Sierra Mojada Property. Ores mined from within these areas were hand-sorted, and the concentrate shipped mostly to smelters in the United States.

Activity during the period of 1956 to 1990 consisted of operations by the Mineros Norteños and operations by individual owners and operators of pre-existing mines. The Mineros Norteños operated the San Salvador, Encantada, Fronteriza, Esmeralda, and Parrena mines, and shipped oxide zinc ore to Zinc National's smelter in Monterrey, while copper and silver ore were shipped to smelters in Mexico and the United States.

It is estimated that over 45 mines have produced ore from underground workings throughout the approximately five kilometers by two-kilometer area that comprises the Sierra Mojada District. It is estimated that since its discovery in 1879, the Sierra Mojada District has produced approximately 10 million tons of silver, zinc, lead and copper ore. The Sierra Mojada District does not have a mill to concentrate ore, and all mining conducted thus far has been limited to selectively mined ore of sufficient grade to direct ship to smelters. The Company believes that mill-grade mineralization that was not mined remains available for extraction. No mining operations are currently active within the area of the Sierra Mojada District, except for a dolomite quarry by Peñoles near Esmeralda.

In the 1990s, Kennecott Copper Corporation ("Kennecott") had a joint venture agreement with USMX, Inc. ("USMX") involving its Sierra Mojada concessions. Kennecott terminated the joint venture in approximately 1995. Metalline entered into a Joint Exploration and Development Agreement with USMX in July 1996 involving USMX's Sierra Mojada concessions. In 1998, Metalline purchased the Sierra Mojada and the USMX concessions, and the joint exploration and development agreement was terminated. Metalline also purchased certain other concessions during this time and conducted exploration for copper and silver mineralization from 1997 through 1999.

#### Title and Ownership Rights

The Sierra Mojada Project is comprised of 20 concessions consisting of 6,496 hectares (about 16,052 acres). The Company periodically obtains additional concessions in the Sierra Mojada Project area, and whether it will continue to hold these additional concessions will depend on future exploration work and exploration results and its ability to obtain financing. As in prior years, the Company continually assesses its concession ownership, and may terminate its rights to certain concessions holdings.

Each mining concession enables Silver Bull to explore the underlying concession in consideration for the payment of a semi-annual fee to the Mexican government and completion of certain annual assessment work. Annual assessment work in excess of statutory annual requirements can be carried forward and applied to future periods.

Ownership of a concession provides the owner with exclusive exploration and exploitation rights to all minerals located on the concessions, but does not include the surface rights to the real property. Therefore, the Company will need to negotiate any necessary agreements with the appropriate surface landowners if it is determined that a mining operation is feasible for the concessions. The Company owns surface rights to five lots in the Sierra Mojada Property (Sierra Mojada lot #1, #3, #4, #6 and #7) but anticipates that it will be required to obtain additional surface rights if it is determined that a mining operation is feasible.

#### Geology and Mineralization

The Sierra Mojada concessions contain a mineral system which can be separated into two distinct zones: a silver-rich zone (the "Silver Zone") and a zinc-rich zone (the "Zinc Zone"). These two zones lie along the Sierra Mojada Fault which trends east–west along the base of the Sierra Mojada range. The majority of the mineralization identified to date is seen as oxide, which has been derived from primary "sulphide" bodies that have been oxidized and remained in situ or remobilized into porous and fractured rock along the Sierra Mojada Fault. The formation of the Silver Zone and the Zinc Zone is a reflection of the mobility of the metals in the ground water conditions at Sierra Mojada.

The geology of the Sierra Mojada District is composed of a Cretaceous limestone and dolomite sequence sitting on top of the Jurassic "San Marcos" red sediments. This sedimentary sequence was subsequently intruded by Tertiary volcanics, which are considered to be responsible for the mineralization seen at Sierra Mojada. Historical mines are dry, and the rocks are competent for the most part. The Company believes that the thickness and attitude of the mineral resources could potentially be amenable to high volume mechanized mining methods and low-cost production.

#### Sierra Mojada Technical Report Summary (2023)

On January 24, 2023, Archer, Cathro & Associates (1981) Limited and Timothy Barry delivered a technical report summary (the "Sierra Mojada 2023 TRS") on the silver and zinc mineralization at the Sierra Mojada Project in accordance with subpart 1300 of Regulation S-K. The Sierra Mojada 2023 TRS supersedes the prior mineral resources estimate released by the Company on October 30, 2018. The Sierra Mojada 2023 TRS includes an update on the silver and zinc mineralization which was estimated from 1,336 diamond drill holes, 24 reverse circulation drill holes, 9,027 channel samples and 2,346 underground long holes. Using a net smelter return ("NSR") economic cut-off, the Sierra Mojada 2023 TRS indicates mineral resources in the optimized pit of 70.4 million tonnes at an average silver grade of 38.6 grams/tonne silver, an average zinc percentage of 3.4%, an average copper percentage of 0.04% and an average lead percentage of 0.3%. The Sierra Mojada Report used a \$13.50/tonne NSR cut-off grade and assumed a silver price of \$18.00/ounce and a zinc price of \$1.20/pound based on a five year average.

#### Sampling, Analysis, Quality Control and Security

The Company's activities conform to mining industry standard practices and follow the Best Practices Guidelines of the Canadian Institute of Mining, Metallurgy, and Petroleum (CIM). Sampling is directed and supervised by trained and experienced geologists. Drill core and other samples are processed and logged using industry standard methods. Standard samples, duplicates and blanks are periodically entered into the stream of samples submitted for assays, and campaigns of re-sampling and duplicate analyses and round-robin inter-laboratory validations are conducted periodically. ALS Chemex – Vancouver ("ALS Chemex") laboratory is the Company's independent primary laboratory. ALS Chemex is ISO 9001:2000 certified. All analytical results that are used in resource models are exclusively from the independent primary laboratory.

Silver Bull's consultants perform technical audits of its operations, including a formal quality assurance/quality control ("QA/QC") program, and recommend improvements as needed. A systematic program of duplicate sampling and assaying of representative samples from previous exploration activities was completed in 2010 under the direction and control of the Company's consultants. Results of this study acceptably confirm the values in the project database used for resource modeling.

The Company formerly operated a sample preparation and an analytical laboratory at the project that prepared samples for shipment, performed QA/QC analyses to ensure against cross-contamination of samples during preparation and removed most low-value samples from the flow to the primary laboratory. For cost and other reasons, the internal laboratory has been shut down.

#### Prior Exploration Activities

Exploration efforts have been focused on two primary locations: the Silver Zone and the Zinc Zone. As further described below, various exploration activities have been conducted at the Sierra Mojada Project; however, to date, the Company has not established any reserves, and the project remains in the exploration stage and may never enter the development stage.

Prior to 2008, exploration efforts largely focused on the Zinc Zone with surface and underground drilling. In fiscal year 2009, exploration activities were scaled back and administrative costs were reduced to conserve capital while the Company tried to secure additional sources of capital resources.

After closing the transaction with Dome in April 2010, exploration activities at Sierra Mojada primarily focused on the Silver Zone, which lies largely at surface. By the end of calendar 2018, approximately 101,000 meters of diamond drilling from surface and 10,000 meters of underground drilling had been completed.

The silver contained within the Silver Zone is seen primarily as silver halide minerals. The zinc contained within the Zinc Zone is contained mostly in the mineral hemimorphite and, to a lesser amount, in the mineral smithsonite.

#### 2023 Exploration Activities

In January 2023, the Company's board of directors approved an exploration budget for the Sierra Mojada Property of \$0.3 million and \$0.7 million for general and administrative expenses for calendar year 2023. Due to the blockade by Mineros Norteños previously mentioned under the "South32 Option Agreement" section of this Form 10-K, all work at the Sierra Mojada Property remains halted.

#### 2022 Drilling

During the year ended October 31, 2022, no drilling was conducted as the drilling program remained halted due to the continuing blockade.

#### Airborne Geophysics

Between September 2018 and November 2018, a 5,297 line kilometer helicopter-borne Versatile Time Domain Electro Magnetic (VTEM) and Magnetic Geophysical Survey was completed over the Sierra Mojada Property. The results of this survey aided in refining the design of the drilling program.

#### 2023 Exploration Program

The focus of the 2023 calendar year exploration program on the Sierra Mojada Property will be to resolve the blockade and maintain property concessions. The continued exploration of the Sierra Mojada Property ultimately will require the Company to raise additional capital, identify other sources of funding or identify a strategic partner.

#### Metallurgical Studies

In May 2015, a selection of high-grade zinc material samples were shipped to a lab in Denver, Colorado for "fine bubble" flotation test work and to a group in Australia to assess their proprietary hydrometallurgy process. Previous test work completed by Silver Bull using mechanical flotation has shown an 87% recovery of zinc from the white zinc zone to produce a rough concentrate of 43% zinc, and a 72.5% recovery of zinc from the red zinc zone to produce a rough concentrate of 30% zinc. The "fine bubble" flotation test work that was performed did not improve recovery, but based on analysis of the results, it was determined that the "fine bubble" flotation test process may be able to be adjusted to improve recovery. Further testing is not planned at this time.



In addition, a metallurgical program was previously conducted to test the recovery of (i) the silver mineralization using the agitation cyanide leach method and (ii) the zinc mineralization using the SART process (sulfidization, acidification, recycling, and thickening). The test work on the Silver Zone focused on cyanide leach recovery of the silver using "Bottle Roll" tests to simulate an agitation leach system and to determine the recovery of (A) low-grade zinc that occurs in the Silver Zone and (B) high-grade zinc from the Zinc Zone that had been blended with mineralization from the Silver-rich Zone to the leach solution. The silver was recovered from the cyanide leach solution using the Merrill Crowe technique, and the zinc was recovered from the leach solution using the SART process. The SART process is a metallurgical process that regenerates and recycles the cyanide used in the leaching process of the silver and zinc and allows for the recovery of zinc that has been leached by the cyanide solution. The results showed an overall average silver recovery of 73.2%, with peak values of 89.0% and an overall average zinc recovery of 44% in the Silver Zone.

#### Mineral Resources

Under S-K 1300, a mineral resource is defined as "a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction." A mineral resource is a "reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled." More information supporting assumptions, methodologies, and procedures can be found in the Technical Report Summary filed as Exhibit 96.1 to this Form 10-K.

# Sierra Mojada - Summary of Silver and Zinc Mineral Resources at the End of the Fiscal Year Ended October 31, 2022 Based on \$18.00/oz Silver and \$1.20/lb Zinc

			Grade		Containe	ed Metal	Cut-off	Metallurgica	l Recovery
	Tonnes (Mt)	Ag (g/t)	Zn (%)	NSR (%/t)	Ag (Moz)	Zn (Mlbs)	NSR (\$/t)	Ag	Zn
Measured Mineral Resources	52.0	39.2	4.0%	\$44.3	65.5	4,589.3	\$13.50	73.2%	44%
Indicated Mineral Resources	18.4	37.0	1.9%	\$27.3	21.9	764.6	\$13.50	73.2%	44%
Measured + Indicated Mineral Resources	70.4	38.6	3.4%	\$39.8	87.4	5,353.9	\$13.50	73.2%	44%
Inferred Mineral Resources	0.1	8.8	6.4%	\$52.3	0.02	10.7	\$13.50	73.2%	44%

1) S-K 1300 definitions were followed for the Mineral Resource.

2) The Mineral Resource is reported within a conceptual pit-shell using an NSR cut-off value of US\$13.50/tonne.

3) Mineral Resources are not reserves and do not demonstrate economic viability.

4) Tonnages are reported to the nearest 100,000 tonne. Grades are rounded to the nearest decimal place

5) Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade, and contained metal.

6) Tonnages and grades are as reported directly from block model; with mined out areas removed.

#### **Competition and Mineral Prices**

#### Mineral Prices

Silver and zinc are commodities, and their prices are volatile. From January 1, 2022 to December 31, 2022 the price of silver ranged from a low of \$17.77 per troy ounce to a high of \$26.17 per troy ounce, and from January 1, 2022 to December 31, 2022 the price of zinc ranged from a low of \$2,967 per tonne to a high of \$4,360 per tonne. Silver and zinc prices are affected by many factors beyond the Company's control, including prevailing interest rates and returns on other asset classes, expectations regarding inflation, speculation, currency values, governmental decisions regarding the disposal of precious metals stockpiles, global and regional demand and production, political and economic conditions and other factors. The competitive nature of the business and the risks faced are discussed further in the "Risk Factors – Risks Related to the Company's Business" section below.

The following tables set forth, for the periods indicated, high and low silver and zinc prices on the London Metal Exchange in U.S. dollars per troy ounce and per tonne, respectively. On October 31, 2022, the closing price of silver was \$19.17 per troy ounce. On October 31, 2022, the closing price of zinc was \$2,967 per tonne.

	Silver (per troy ounce)			
Year	High	Low		
2015	\$18.23	\$13.71		
2016	\$20.71	\$13.58		
2017	\$18.56	\$15.22		
2018	\$17.52	\$13.97		
2019	\$19.31	\$14.38		
2020	\$28.89	\$12.00		
2021	\$29.58	\$21.52		
2022	\$26.17	\$17.77		

	Zin	c
	(per to	nne)
Year	High	Low
2015	\$2,281	\$1,528
2016	\$2,566	\$1,520
2017	\$3,264	\$2,573
2018	\$3,533	\$2,434
2019	\$2,932	\$2,272
2020	\$2,780	\$1,903
2021	\$3,399	\$2,705
2022	\$4,360	\$2,967

#### Competition

The mining industry is highly competitive. Silver Bull competes with other mining and exploration companies in the acquisition and exploration of mineral properties. There is competition for a limited number of mineral property acquisition opportunities, some of which is with other companies having substantially greater financial resources, staff and facilities than the Company does. As a result, there may be difficulty acquiring attractive exploration properties, staking claims related to the Company's properties and exploring properties. The Company's competitive position depends upon its ability to successfully and economically acquire and explore new and existing mineral properties.

#### **Government Regulation**

Mineral exploration activities are subject to various national, state/provincial, and local laws and regulations, which govern prospecting, development, mining, production, exports, taxes, labor standards, occupational health, waste disposal, protection of the environment, mine safety, hazardous substances and other matters. Similarly, if any of the Company's properties are developed and/or mined, those activities are also subject to significant governmental regulation and oversight. Silver Bull plans to obtain the licenses, permits and other authorizations currently required to conduct its exploration programs. The Company believes that it is in compliance in all material respects with applicable mining, health, safety and environmental statutes and the regulations applicable to the mineral interests held in Mexico.

#### **Environment Regulations**

The Company's activities are subject to various national and local laws and regulations governing protection of the environment. These laws are continually changing and, in general, are becoming more restrictive. Silver Bull intends to conduct business in a way that safeguards public health and the environment and is in compliance with applicable laws and regulations.



Changes to current state or federal laws and regulations in Mexico could, in the future, require additional capital expenditures and increased operating and/or reclamation costs. Although the Company is unable to predict what additional legislation, if any, might be proposed or enacted, additional regulatory requirements could impact the economics of its projects.

During fiscal year 2022, Silver Bull had no material environmental incidents or non-compliance with any applicable environmental regulations.

#### Employees

Silver Bull has four employees, all of whom work full time. Minera Metalin, its wholly-owned operating subsidiary in Mexico, currently has one full-time employee.

#### **Corporate Offices**

Silver Bull's corporate office is located at 777 Dunsmuir Street, Suite 1605, Vancouver, British Columbia, Canada V7Y 1G6, telephone number is (604) 687-5800.

#### **Available Information**

The Company maintains a website at <a href="http://www.silverbullresources.com">http://www.silverbullresources.com</a>. The information on the website is not incorporated by reference in this Annual Report on Form 10-K. The Company makes available on or through its website certain reports and amendments to those reports that are filed with or furnished to the SEC in accordance with the Exchange Act. Readers may also obtain this information from the SEC's website, http://www.sec.gov.

## Item 1A. RISK FACTORS

A purchase of the Company's securities involves a high degree of risk. The Company's business or operating or financial condition could be harmed due to any of the following risks. Accordingly, investors should carefully consider these risks in making a decision as to whether to purchase, sell or hold securities of the Company. In addition, investors should note that the risks described below are not the only risks facing the Company. Additional risks not presently known to the Company, or risks that do not seem significant today, may impair business operations in the future. Readers should carefully consider the risks described below, as well as the other information contained in this Annual Report on Form 10-K and the documents incorporated by reference herein, before making a decision to invest in securities of the Company.

Risk factors are grouped into the following categories:

- · Risks Relating to the Company's Business;
- · Risks Relating to the Mineral Exploration Industry; and
- Risks Relating to the Company's Common Stock;

#### **RISKS RELATING TO THE COMPANY'S BUSINESS:**

#### There is substantial doubt about whether the Company can continue as a going concern.

To date, the Company has earned no revenues and has incurred accumulated net losses of \$137,394,000. In addition, the Company has limited financial resources. As of October 31, 2022, the Company had cash and cash equivalents of \$887,000 and working capital of \$620,000. Therefore, continuation as a going concern is dependent upon achieving a future financing or a strategic transaction. However, there is no assurance that the Company will have the ability to be successful pursuing a financing or strategic transaction. Accordingly, there is substantial doubt as to whether existing cash resources and working capital are sufficient to enable the Company to continue its operations for the next 12 months as a going concern. Ultimately, in the event that the Company cannot obtain additional financial resources, or achieve profitable operations, it may have to liquidate its business interests and investors may lose their investment. The accompanying consolidated financial resources or generate profitable operations. Such additional financial resources may not be available or may not be available on reasonable terms. The consolidated financial statements do not include any adjustments that may result from the outcome of this uncertainty. Such adjustments could be material.

#### The Company may have difficulty meeting its current and future capital requirements.

The Company's management and the board of directors monitor overall costs and expenses and, if necessary, adjust programs and planned expenditures in an attempt to ensure that the Company has sufficient operating capital. The Company continues to evaluate its costs and planned expenditures for its ongoing exploration efforts at the Sierra Mojada Project. As of October 31, 2022, the Company had cash and cash equivalents of \$887,000. Even with the successful additional financial resources, the continued exploration and possible development of the Sierra Mojada Project will require significant amounts of additional capital. If the Company is unable to fund future operations by way of financings, including public or private offerings of equity or debt securities, it will need to reorganize or significantly reduce its operations, which may result in an adverse impact on the Company's business, financial condition and exploration activities. The Company does not have a credit, off-take or other commercial financing arrangement in place that would finance continued evaluation or development of the Sierra Mojada Project, and the Company believes that securing credit for these projects may be difficult. Moreover, equity financing may not be available on attractive terms and, if available, will likely result in significant dilution to existing stockholders.

#### The Company is an exploration stage mining company with no history of operations.

The Company is an exploration stage enterprise engaged in mineral exploration in Mexico. The Company has a very limited operating history and is subject to all the risks inherent in a new business enterprise. As an exploration stage company, it may never enter the development and production stages. To date, the Company has had no revenues and have relied upon equity financing, South32 funding and sale of investments to fund its operations. The likelihood of success must be considered in light of the problems, expenses, difficulties, complications, and delays frequently encountered in connection with an exploration stage business, and the competitive and regulatory environment in which the Company operates and will operate, such as under-capitalization, personnel limitations, and limited financing sources.

#### The Company has no commercially mineable ore body.

No commercially mineable ore body has been delineated on the Sierra Mojada Project, nor have the Company's properties been shown to contain proven or probable mineral reserves. Investors should not assume that the projections contained in the Sierra Mojada Report will ever be realized. The Company cannot guarantee that any mineral deposits identified on the Sierra Mojada Project will qualify as an ore body that can be legally and economically exploited or that any particular level of recovery of silver, zinc or other minerals from discovered mineralization will in fact be realized. Most exploration projects do not result in the discovery of commercially mineable ore deposits. Even if the presence of reserves is established at a project, the legal and economic viability of the project may not justify exploitation.

#### Mineral resource estimates may not be reliable.

There are numerous uncertainties inherent in estimating quantities of mineral resources such as silver, zinc, lead, and copper, including many factors beyond the Company's control, and no assurance can be given that the recovery of mineral resources will be realized. In general, estimates of mineral resources are based upon a number of factors and assumptions made as of the date on which the estimates were determined, including:

- geological and engineering estimates that have inherent uncertainties;
- the assumed effects of regulation by governmental agencies;
- the judgment of the engineers preparing the estimate;
- estimates of future metals prices and operating costs;
- the quality and quantity of available data;
- the interpretation of that data; and
- the accuracy of various mandated economic assumptions, all of which may vary considerably from actual results.

All estimates are, to some degree, uncertain. For these reasons, estimates of the recoverable mineral resources prepared by different engineers or by the same engineers at different times may vary substantially. As such, there is significant uncertainty in any mineral resource estimate, and actual deposits encountered and the economic viability of a deposit may differ materially from the Company's estimates.

#### The Company's business plan is highly speculative, and its success largely depends on the successful exploration of the Sierra Mojada concessions.

The Company's business plan is focused on exploring the Sierra Mojada concessions to identify reserves and, if appropriate, to ultimately develop each property. Although the Company has reported mineral resources on the Sierra Mojada Project, it has not established any reserves and remains in the exploration stage. The Company may never enter the development or production stage. Exploration of mineralization and determination of whether the mineralization might be extracted profitably is highly speculative, and it may take a number of years until production is possible, during which time the economic viability of the project may change. Substantial expenditures are required to establish reserves, extract metals from ore and construct mining and processing facilities.

The Sierra Mojada Project is subject to all of the risks inherent in mineral exploration and development. The economic feasibility of any mineral exploration and/or development project is based upon, among other things, estimates of the size and grade of mineral reserves, proximity to infrastructures and other resources (such as water and power), anticipated production rates, capital and operating costs, and metals prices. To advance from an exploration project to a development project, the Company will need to overcome various hurdles, including completing favorable feasibility studies, securing necessary permits, and raising significant additional capital to fund activities. There can be no assurance that the Company will be successful in overcoming these hurdles. Because of the Company's focus on the Sierra Mojada Project and its proximity to Torreon, Mexico, the success of its operations and profitability may be disproportionately exposed to the impact of adverse conditions unique to the region.

#### Due to the Company's history of operating losses, it is uncertain that it will be able to maintain sufficient cash to accomplish its business objectives.

During the fiscal years ended October 31, 2022 and 2021 the Company incurred net losses of \$3,168,000 and \$2,448,000 respectively. At October 31, 2022, the Company had stockholders' equity of \$5,867,000 and cash and cash equivalents of \$887,000. Significant amounts of capital will be required to continue to explore and potentially develop the Sierra Mojada concessions. The Company is not engaged in any revenue producing activities, and does not expect to be in the near future. Currently, potential sources of funding consist of the sale of additional equity securities, entering into joint venture agreements or selling a portion of the Company's interests in its assets. There is no assurance that any additional capital that the Company will require will be obtainable on terms acceptable to it, if at all. Failure to obtain such additional financing could result in delays or indefinite postponement of further exploration of the projects. Additional financing, if available, will likely result in substantial dilution to existing stockholders.

#### Exploration activities require significant amounts of capital that may not be recovered.

Mineral exploration activities are subject to many risks, including the risk that no commercially productive or extractable resources will be encountered. There can be no assurance that the Company's activities will ultimately lead to an economically feasible project or that it will recover all or any portion of its investment. Mineral exploration often involves unprofitable efforts, including drilling operations that ultimately do not further exploration efforts. The cost of minerals exploration is often uncertain, and cost overruns are common. Drilling and exploration operations may be curtailed, delayed or canceled as a result of numerous factors, many of which are beyond the Company's control, including title problems, weather conditions, protests, compliance with governmental requirements, including permitting issues, and shortages or delays in the delivery of equipment and services.

## The Company's financial condition could be adversely affected by changes in currency exchange rates, especially between the U.S. dollar and each of the Mexican peso ("\$MXN") and the Canadian dollar ("\$CDN") given its focus on the Sierra Mojada Project in Mexico and the corporate office in Vancouver, Canada.

The Company's financial condition is affected in part by currency exchange rates, as portions of its exploration costs in Mexico and general and administration costs in Canada are denominated in the local currency. A weakening U.S. dollar relative to the \$MXN and \$CDN will have the effect of increasing exploration costs and general and administration costs while a strengthening U.S. dollar will have the effect of reducing exploration costs and general and administration costs. The exchange rates between the \$CDN and the U.S. dollar and between the \$MXN and U.S. dollar have fluctuated widely in response to international political conditions, general economic conditions and other factors beyond the Company's control.

#### The Company's success depends on developing and maintaining relationships with local communities and other stakeholders.

The Company's ongoing and future success depends on developing and maintaining productive relationships with the communities surrounding its operations and other stakeholders in its operating locations. The Company believes that its operations can provide valuable benefits to surrounding communities, in terms of direct employment, training and skills development. In addition, the Company seeks to maintain its partnerships and relationships with local communities and stakeholders in a variety of ways, including in-kind contributions, sponsorships and donations. Notwithstanding ongoing efforts, local communities and stakeholders can become dissatisfied with the Company's activities or the level of benefits provided, which may result in legal or administrative proceedings, civil unrest, protests, direct action or campaigns against the Company, such as the blockade by Mineros Norteños that caused the halt of all work on the Sierra Mojada Property. Any such occurrences, including the blockade, could materially and adversely affect the Company's financial condition, results of operations and cash flows.



## The Company shares certain key officers and directors with Arras, which means that those officers do not devote their full time and attention to its affairs, and the overlap may give rise to conflicts of interest.

The Company's Chief Executive Officer, Timothy Barry, President, Darren Klinck, and Chief Financial Officer, Christopher Richards also serve as Chief Executive Officer, President, , and Chief Financial Officer of Arras, respectively. As a result, the Company's executive officers do not devote their full time and attention to the Company's affairs. There may be circumstances in which the Company's executive officers are compelled to spend a significant portion of their time and attention to Arras' affairs, which may mean that they are unable to devote sufficient time to the Company's affairs. Furthermore, the Company's Chairman, Brian Edgar, also serves as Chairman of Arras, and three members of the board of directors (including Timothy Barry and Brian Edgar) are also directors of Arras. The overlapping officers and directors may have actual or apparent conflicts of interest with respect to matters involving or affecting each company. For example, conflicts may arise if there are issues or disputes under commercial arrangements that may exist between Arras and the Company. Any failure of the directors or officers of the Company to address these conflicts in an appropriate manner or to allocate opportunities that they become aware of to the Company could have a material adverse effect on the Company's business, financial condition, results of operations, cash flows or prospects.

#### The Company needs and relies upon key personnel.

Presently, the Company employs a limited number of full-time employees, utilizes outside consultants, and in large part relies on the efforts of its officers and directors. Success will depend, in part, upon the ability to attract and retain qualified employees. In particular, the Company has only three executive officers: Timothy Barry, Darren Klinck and Christopher Richards, and the loss of the services of any of these would adversely affect the Company's business.

## The Company is exposed to information systems and cybersecurity risks.

The Company's information systems (including those of any of its counterparties) may be vulnerable to the increasing threat of continually evolving cybersecurity risks. Unauthorized parties may attempt to gain access to these systems or information through fraud or other means of deception. The Company's operations depend, in part, on how well it and its counterparties protect networks, equipment, information technology systems and software against damage from threats. The failure of information systems or a component of information systems could, depending on the nature of any such failure, adversely impact the Company's reputation and results of operations. There can be no assurance that the Company or its counterparties will not incur such losses in the future. The Company's risk and exposure to these matters cannot be fully mitigated because of, among other things, the evolving nature of these threats. As a result, cybersecurity and the continued development and enhancement of controls, processes and practices designed to protect systems, computers, software, data and networks from attack, damage or unauthorized access remain an area of attention.

## The Company's operations may be disrupted, and its financial results may be adversely affected, by global outbreaks of contagious diseases, including the coronavirus (COVID-19) pandemic.

Global outbreaks of contagious diseases, including the December 2019 outbreak of a strain of coronavirus (COVID-19), have the potential to significantly and adversely impact the Company's operations and business. On March 11, 2020, the World Health Organization recognized COVID-19 as a global pandemic. Pandemics or disease outbreaks such as the COVID-19 outbreak may have a variety of adverse effects on the Company's business, including by depressing commodity prices and the market value of its securities and limiting the ability of management to meet with potential financing sources. The spread of COVID-19 has had, and continues to have, a negative impact on the financial markets, which may impact the Company's ability to obtain additional financing in the near term. A prolonged downturn in the financial markets could have an adverse effect on the Company's business, results of operations and ability to raise capital.



#### RISKS RELATING TO THE MINERAL EXPLORATION INDUSTRY:

## There are inherent risks in the mineral exploration industry.

The Company is subject to all of the risks inherent in the minerals exploration industry, including, without limitation, the following:

- competition from a large number of companies, most of which are significantly larger than the Company, in the acquisition, exploration, and development of mining properties;
- the possible inability to raise enough money to pay the fees and taxes and perform the labor necessary to maintain the Company's concessions in good status;
- exploration for minerals is highly speculative, involves substantial risks and is frequently unproductive, even when conducted on properties known to contain significant quantities of mineralization, and the Company's exploration projects may not result in the discovery of commercially mineable deposits of ore;
- the probability of an individual prospect ever having reserves that meet the requirements for reporting under S-K 1300 is remote, and any funds spent on exploration
  may be lost;
- the Company's operations are subject to a variety of existing laws and regulations relating to exploration and development, permitting procedures, safety precautions, property reclamation, employee health and safety, air quality standards, pollution and other environmental protection controls, and it may not be able to comply with these regulations and controls; and
- a large number of factors beyond the Company's control, including fluctuations in metal prices, inflation, and other economic conditions, will affect the economic feasibility of mining.

## Metals prices are subject to extreme fluctuation.

The Company's activities are influenced by the prices of commodities, including silver, zinc, lead, copper and other metals. These prices fluctuate widely and are affected by numerous factors beyond the Company's control, including interest rates, expectations for inflation, speculation, currency values (in particular, the strength of the U.S. dollar), global and regional demand, political and economic conditions and production costs in major metal-producing regions of the world.

The Company's ability to establish reserves through its exploration activities, its future profitability and long-term viability depend, in large part, on the market prices of silver, zinc, lead, copper and other metals. The market prices for these metals are volatile and are affected by numerous factors beyond the Company's control, including:

- global or regional consumption patterns;
- supply of, and demand for, silver, zinc, lead, copper and other metals;
- speculative activities and producer hedging activities;
- · expectations for inflation;
- · political and economic conditions; and
- supply of, and demand for, consumables required for production.

Future weakness in the global economy could increase volatility in metals prices or depress metals prices, which could in turn reduce the value of the Company's properties, make it more difficult to raise additional capital, and make it uneconomical for it to continue its exploration activities.

#### There are inherent risks with foreign operations.

The Company's business activities are primarily conducted in Mexico, and as such, its activities are exposed to various levels of foreign political, economic and other risks and uncertainties. These risks and uncertainties include, but are not limited to, terrorism, hostage taking, military repression, extreme fluctuations in currency exchange rates, high rates of inflation, labor unrest, war or civil unrest, expropriation and nationalization, renegotiation or nullification of existing concessions, licenses, permits, approvals and contracts, illegal mining, changes in taxation policies, restrictions on foreign exchange and repatriation, changing political conditions (including, potential instability if the United States withdraws from the United States-Mexico-Canada Agreement), currency controls and governmental regulations that favor or require the rewarding of contracts to local contractors or require foreign contractors to employ citizens of, or purchase supplies from, a particular jurisdiction.

Changes, if any, in mining or investment policies or shifts in political attitude in Mexico may adversely affect the Company's exploration and possible future development activities. The Company may also be affected to varying degrees by government regulations with respect to, but not limited to, foreign investment, maintenance of claims, environmental legislation, land use, land claims of local people, water use and mine safety. Failure to comply strictly with applicable laws, regulations and local practices relating to mineral right applications and tenure could result in loss, reduction or expropriation of entitlements, or the imposition of additional local or foreign parties as joint venture partners with carried or other interests.

The occurrence of these various factors and uncertainties cannot be accurately predicted and could have an adverse effect on the Company's operations. In addition, legislation in the United States, Canada or Mexico regulating foreign trade, investment and taxation could have a material adverse effect on the Company's financial condition.

#### The Sierra Mojada Project is located in Mexico and is subject to varying levels of political, economic, legal and other risks.

The Sierra Mojada Project is in Mexico. In the past, Mexico has been subject to political instability, changes and uncertainties that have resulted in changes to existing governmental regulations affecting mineral exploration and mining activities. Mexico's status as a developing country may make it more difficult for the Company to obtain any required financing for the Sierra Mojada Project or other projects in Mexico in the future. The Sierra Mojada Project is also subject to a variety of governmental regulations governing health and worker safety, employment standards, waste disposal, protection of historic and archaeological sites, mine development, protection of endangered and protected species and other matters. Mexican regulators have broad authority to shut down and/or levy fines against facilities that do not comply with regulations or standards.

The Company's exploration activities in Mexico may be adversely affected to varying degrees by changing government regulations relating to the mining industry or shifts in political conditions that increase the costs related to the Sierra Mojada Project. Changes, if any, in mining or investment policies or shifts in political attitude may adversely affect the Company's financial condition. Expansion of the Company's activities will be subject to the need to obtain sufficient access to adequate supplies of water and assure the availability of sufficient power and surface rights that could be affected by government policy and competing operations in the area.

The Company also has litigation risk with respect to its operations. See Part I, Item 3 – Legal Proceedings of this Annual Report on Form 10-K for an explanation of material legal proceedings to which Silver Bull or its subsidiaries have been a party.

The occurrence of these various factors and uncertainties cannot be accurately predicted and could have an adverse effect on the Company's financial condition. Future changes in applicable laws and regulations or changes in their enforcement or regulatory interpretation could negatively impact current or planned exploration activities with the Sierra Mojada Project or in respect to any other projects in which the Company becomes involved in Mexico. Any failure to comply with applicable laws and regulations, even if inadvertent, could result in the interruption of exploration operations or material fines, penalties or other liabilities.

#### Title to the Company's properties may be challenged or defective.

The Company's future operations, including its activities at the Sierra Mojada Project and other exploration activities, will require additional permits from various governmental authorities. The Company's operations are and will continue to be governed by laws and regulations governing prospecting, mineral exploration, exports, taxes, labor standards, occupational health, waste disposal, toxic substances, land use, environmental protection, mine safety, mining royalties and other matters. There can be no assurance that the Company will be able to acquire all required licenses, permits or property rights on reasonable terms or in a timely manner, or at all, that such terms will not be adversely changed, that required extensions will be granted, or that the issuance of such licenses, permits or property rights will not be challenged by third parties.

The Company attempts to confirm the validity of its rights of title to, or contract rights with respect to, each mineral property in which it has a material interest. However, the Company cannot guarantee that title to its properties will not be challenged. The Sierra Mojada Property may be subject to prior unregistered agreements, interests or native land claims, and title may be affected by undetected defects. There may be valid challenges to the title of any of the claims comprising the Sierra Mojada Property that, if successful, could impair possible development and/or operations with respect to such properties in the future. Challenges to permits or property rights (whether successful or unsuccessful), changes to the terms of permits or property rights, or a failure to comply with the terms of any permits or property rights that have been obtained could have a material adverse effect on business by delaying or preventing or making continued operations economically unfeasible.

A title defect could result in Silver Bull losing all or a portion of its right, title, and interest to and in the properties to which the title defect relates. Title insurance generally is not available, and the Company's ability to ensure that it has obtained secure title to individual mineral properties or mining concessions may be severely constrained. In addition, the Company may be unable to operate its properties as permitted or to enforce its rights with respect to its properties. The Company annually monitors the official mining records in Mexico City to determine if there are annotations indicating the existence of a legal challenge against the validity of any of its concessions. As of January 2023, and to the best of the Company's knowledge, there are no such annotations, nor is the Company aware of any challenges from the government or from third parties, except for the matters described in Part I, Item 3 – Legal Proceedings.

In addition, in connection with the purchase of certain mining concessions, Silver Bull agreed to pay a net royalty interest on revenue from future mineral sales on certain concessions at the Sierra Mojada Project, including concessions on which a significant portion of its mineral resources are located. The aggregate amount payable under this royalty is capped at \$6.875 million (the "Royalty"), an amount that will only be reached if there is significant future production from the concessions. As noted in Part I, Item 3 (Legal Proceedings), this Royalty is currently the subject of a dispute with a local cooperative. In addition, records from prior management indicate that additional royalty interests may have been created, although the continued applicability and scope of these interests are uncertain. The existence of these royalty interests may have a material effect on the economic feasibility of potential future development of the Sierra Mojada Project.

# The Company is subject to complex environmental and other regulatory risks, which could expose it to significant liability and delay and potentially the suspension or termination of exploration efforts.

The Company's mineral exploration activities are subject to federal, state and local environmental regulations in the jurisdictions where its mineral properties are located. These regulations mandate, among other things, the maintenance of air and water quality standards and land reclamation. They also set forth limitations on the generation, transportation, storage and disposal of solid and hazardous waste. No assurance can be given that environmental standards imposed by these governments will not be changed, thereby possibly materially adversely affecting the Company's proposed activities. Compliance with these environmental requirements may also necessitate significant capital outlays or may materially affect the Company's earning power.

Environmental legislation is evolving in a manner that will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects, and a heightened degree of responsibility for companies and their officers, directors and employees. As a result of recent changes in environmental laws in Mexico, for example, more legal actions supported or sponsored by non-governmental groups interested in halting projects may be filed against companies operating in all industrial sectors, including the mining sector. Mexican projects are also subject to the environmental agreements entered into by Mexico, the United States and Canada in connection with the United States-Mexico-Canada Agreement.

Future changes in environmental regulations in the jurisdictions where the Company's projects are located may adversely affect its exploration activities, make them prohibitively expensive, or prohibit them altogether. Environmental hazards may exist on the properties in which the Company currently holds interests, such as the Sierra Mojada Project, or may hold interests in the future, that are unknown to it at present and that have been caused by it or previous owners or operators, or that may have occurred naturally. The Company may be liable for remediating any damage that it may have caused. The liability could include costs for removing or remediating the release and damage to natural resources, including ground water, as well as the payment of fines and penalties.

## The Company's industry is highly competitive, attractive mineral properties and property concessions are scarce, and it may not be able to obtain quality properties or concessions.

The Company competes with other mining and exploration companies in the acquisition of mineral properties and property concessions. There is competition for a limited number of attractive mineral property acquisition opportunities, some of which is with other companies having substantially greater financial resources, staff and facilities than the Company. As a result, the Company may have difficulty acquiring quality mineral properties or property concessions.

### The Company may face a shortage of water.

Water is essential in all phases of the exploration and development of mineral properties. It is used in such processes as exploration, drilling, leaching, placer mining, dredging, testing, and hydraulic mining. Both the lack of available water and the cost of acquisition may make an otherwise viable project economically impossible to complete. In November 2013, Silver Bull was granted the right to exploit up to 3.5 million cubic meters of water per year from six different well sites by the water regulatory body in Mexico, La Comisión Nacional del Agua, but it has yet to be determined if the six well sites can produce this much water over a sustained period of time.

#### The Company's non-operating properties are subject to various hazards.

The Company is subject to risks and hazards, including environmental hazards, possible encounters with unusual or unexpected geological formations, cave-ins, flooding and earthquakes, and periodic interruptions due to inclement or hazardous weather conditions. These occurrences could result in damage to, or the destruction of, mineral properties or future production facilities, personal injury or death, environmental damage, delays in exploration activities, asset write-downs, monetary losses and possible legal liability. The Company may not be insured against all losses or liabilities, either because such insurance is unavailable or because it has elected not to purchase such insurance due to high premium costs or other reasons. Although the Company maintains insurance in an amount that it considers to be adequate, liabilities might exceed policy limits, in which event the Company could incur significant costs that could adversely affect its activities. The realization of any significant liabilities in connection with the Company's activities as described above could negatively affect its activities and the price of its common stock.

#### **RISKS RELATING TO THE COMPANY'S COMMON STOCK:**

#### Further equity financings may lead to the dilution of the Company's common stock.

In order to finance future operations, the Company may raise funds through the issuance of common stock or the issuance of debt instruments or other securities convertible into common stock. The Company cannot predict the size of future issuances of common stock or the size and terms of future issuances of debt instruments or other securities convertible into common stock or the effect, if any, that future issuances and sales of the Company's securities will have on the market price of its common stock. Any transaction involving the issuance of previously authorized but unissued shares, or securities convertible into common stock, would result in dilution, possibly substantial, to present and prospective security holders. Demand for equity securities in the mining industry has been weak; therefore, equity financing may not be available on attractive terms and, if available, will likely result in significant dilution to existing shareholders.

#### No dividends are anticipated.

At the present time, the Company does not anticipate paying dividends, cash or otherwise, on its common stock in the foreseeable future. Future dividends will depend on the Company's earnings, if any, its financial requirements and other factors. There can be no assurance that the Company will pay dividends.

#### The Company's stock price can be very volatile.

The common stock of the Company is listed on the TSX and trades on the OTCQB. The trading price of the Company's common stock has been, and could continue to be, subject to wide fluctuations in response to announcements of its business developments, results and progress of its exploration activities at the Sierra Mojada Project, progress reports on its exploration activities, and other events or factors. In addition, stock markets have experienced significant price volatility in recent months and years. This volatility has had a substantial effect on the share prices of companies, at times for reasons unrelated to their operating performance. These fluctuations could be in response to:

- volatility in metal prices;
- · political developments in the foreign countries in which its properties are located; and
- · news reports relating to trends in the industry or general economic conditions.

These broad market and industry fluctuations may adversely affect the price of the Company's common stock, regardless of its operating performance.

The Company cannot make any predictions or projections as to what the prevailing market price for its common stock will be at any time, including as to whether its common stock will achieve or remain at levels at or near its offering price, or as to what effect the sale of shares or the availability of common stock for sale at any time will have on the prevailing market price.

## Item 1B. UNRESOLVED STAFF COMMENTS

None.

#### Item 3. LEGAL PROCEEDINGS

On May 20, 2014, Mineros Norteños filed an action in the Local First Civil Court in the District of Morelos, State of Chihuahua, Mexico, against the Company's subsidiary, Minera Metalin, claiming that Minera Metalin breached an agreement regarding the development of the Sierra Mojada Project. Mineros Norteños sought payment of the Royalty, including interest at a rate of 6% per annum since August 30, 2004, even though nor evenue has been produced from the applicable mining concessions. It also sought payment of wages to the cooperative's members since August 30, 2004, even though none of the individuals were hired or performed work for Minera Metalin under this agreement and Minera Metalin did not commit to hiring them. On January 19, 2015, the case was moved to the Third District Court (of federal jurisdiction). On October 4, 2017, the court ruled that Mineros Norteños was time barred from bringing the case. On October 19, 2017, Mineros Norteños appealed this ruling. On July 31, 2019, the Federal Appeals Court upheld the original ruling. This ruling was subsequently challenged by Mineros Norteños and on January 24, 2020, the Federal Circuit Court ruled that the Federal Appeals Court upheld the original ruling. In March 2020, the Federal Appeals Court upheld the original ruling date considering these additional factors in its ruling. In March 2020, the Federal Appeals Court upheld the original ruling the subsequently challenged by Mineros Norteños and on January 24, 2020, On March 26, 2021, the Federal Circuit Court issued a final and conclusive resolution, affirming the Federal Appeals Court upheld the original ruling. Mineros Norteños appealed this ruling. In March 2020, the Federal Appeals Court upheld the original ruling the Subsequently challenged by Court decision. Despite the judgments in favour of the Company, Mineros Norteños has continued to block access to the facilities at Sierra Mojada since September 2019. The Company has filed criminal complaints with the State of Coahuila, federal and state auth

On February 15, 2016, Messrs. Jaime Valdez Farias and Maria Asuncion Perez Alonso (collectively, "Valdez") filed an action before the Local First Civil Court of Torreon, State of Coahuila, Mexico, against the Company's subsidiary, Minera Metalin, claiming that Minera Metalin had breached an agreement regarding the development of the Sierra Mojada Property. Valdez sought payment in the amount of \$5.9 million for the alleged breach of the agreement. On April 28, 2016, Minera Metalin filed its response to the complaint, asserting various defenses, including that Minera Metalin terminated the agreement before the payment obligations arose and that certain conditions precedent to such payment obligations were never satisfied by Valdez. The Company and its Mexican legal counsel asserted all applicable defenses. In May 2017, a final judgment was entered finding for the Company, the defendant, acquitting it of all of the plaintiff's claims and demands. However, due to a technicality in an early procedural act, Valdez was allowed to, and did, challenge the judgment before a local Appeals Court. On October 1, 2020, the Appeals Court entered a resolution overturning the previous judgment and entering a resolution in favor of Valdez in the amount of \$5 million, plus court costs. In November 2020, the judgment of the Appeals Court rule in favor of the plaintiff. In consultation with the Company's Mexican legal counsel, the Company believes these judgments are contrary to applicable law. No efforts have been made by the plaintiff to enforce the Appeals Court resolution, and in the event such efforts are undertaken, the Company intends to assert a variety of further defenses. The Company believes the likelihood of the plaintiff succeeding in collecting any amount on this claim is remote, as such it has not accrued any amounts in the consolidated financial statements with respect to this claim.

See Note 16 - Commitments and Contingencies to the Company's consolidated financial statements.

## Item 4. MINE SAFETY DISCLOSURES

Not applicable.

#### PART II

# Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

#### **Market Information**

From May 2, 2011 to June 28, 2015, Silver Bull's common stock traded on the NYSE MKT (the predecessor stock exchange to the NYSE American) under the symbol "SVBL." On June 5, 2015, the Company announced its decision to voluntarily delist its shares of common stock from the NYSE MKT due to costs associated with the continued listing and NYSE MKT exchange rules regarding maintenance of a minimum share price. On June 29, 2015, Silver Bull shares began trading on the OTCQB marketplace operated by OTC Markets Group. Since August 26, 2010, the Company's common stock has been trading on the TSX under the symbol "SVB."

The sales prices on the OTCQB reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

#### Holders

As of January 26, 2023, there were 312 holders of record of the Company's common stock. This does not include persons or entities that hold common stock in brokerage accounts or otherwise in "street name."

#### Dividends

The Company has not declared or paid any cash dividends on its common stock during the last two fiscal years. The Company has no plans to pay any cash dividends in the foreseeable future.

#### Securities Authorized for Issuance Under Equity Compensation Plans

As of October 31, 2022, the Company had one formal equity compensation plan under which equity securities were authorized for issuance to its officers, directors, employees and consultants: the 2019 Stock Option and Stock Bonus Plan (the "2019 Plan"). The 2019 Plan was adopted by the board of directors in February 2019 and approved by the shareholders in April 2019. The 2019 Plan was amended by the board of directors in February 2022, and the amendment was approved by shareholders in April 2022 (the "Amended 2019 Plan"). Under the Amended 2019 Plan, the lesser of (i) 15,000,000 shares or (ii) 10% of the total shares outstanding will be reserved to be issued upon the exercise of options or the grant of stock bonuses. As of October 31, 2022, there were 355,565 shares reserved for issuance under the Amended 2019 Plan. As of October 31, 2022, options issued under the 2010 Stock Option and Stock Bonus Plan, as amended (the "2010 Plan"), were outstanding to acquire 43,750 shares of common stock. The term of the 2010 Plan expired on or around December 22, 2019. As of October 31, 2022, no additional shares remain available for issuance under the 2010 Plan.

The following table gives information about the Company's common stock that may be issued upon the exercise of options, warrants and rights under its compensation plans as of October 31, 2022.

Plan Category	Number of securities to be issued upon exercise of outstanding options and rights	Weighted average exercise price of outstanding options and rights	Number of securities remaining available for future issuance
Equity compensation plans approved by	2 102 750 (])	\$0.24	255 565 (2)
security holders	5,195,750 (7	\$0.24	555,505 (7
Total	3,193,750	\$0.24	355,565

(1) Includes options to acquire 43,750 shares of common stock under the 2010 Plan.

(2) Includes 355,565 shares of common stock available for issuance under the 2019 Plan.

#### Recent Sales of Unregistered Securities and Purchases of Equity Securities by the Issuer and Affiliated Purchasers

#### Recent Sales of Unregistered Securities

No sales of unregistered equity securities occurred during the period covered by this report.

#### Purchases of Equity Securities by the Company and Affiliated Purchasers

No purchases of equity securities were made by or on behalf of Silver Bull or any "affiliated purchaser" within the meaning of Rule 10b-18 under the Exchange Act during the period covered by this report.

## Item 6. [RESERVED]

## Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

#### **Business Overview**

Silver Bull, incorporated in Nevada, is an exploration stage company, engaged in the business of mineral exploration. The Company's primary objective is to define sufficient mineral reserves on the Sierra Mojada Property to justify the development of a mechanized mining operation. Operations in Mexico are conducted through the Company's wholly-owned Mexican subsidiaries, Minera Metalin and Minas. However, as noted above, Silver Bull has not established any reserves at the Sierra Mojada Property, is in the exploration stage and may never enter the development or production stage.

Silver Bull's corporate office is located at 777 Dunsmuir Street, Suite 1605, Vancouver, British Columbia, Canada V7Y 1G6, telephone number is (604) 687-5800.

#### **Recent Developments**

#### South32 Option Agreement

On June 1, 2018, Silver Bull and its subsidiaries Minera Metalin and Contratistas entered into an earn-in option agreement (the "South32 Option Agreement") with South32 International Investment Holdings Pty Ltd ("South32"), a wholly owned subsidiary of South32 Limited (ASX/JSE/LSE: S32), whereby South32 was able to obtain an option to purchase 70% of the shares of Minera Metalin and Contratistas (the "South32 Option").

On October 11, 2019, the Company and its subsidiary Minera Metalin issued a notice of force majeure to South32 pursuant to the South32 Option Agreement. Due to a blockade by a cooperative of local miners called Sociedad Cooperativa de Exploración Minera Mineros Norteños, S.C.L. ("Mineros Norteños"), all work was halted on the Sierra Mojada Property. The notice of force majeure was issued because of the blockade's impact on the ability of the Company and its subsidiary Minera Metalin to perform their obligations under the South32 Option Agreement. Pursuant to the South32 Option Agreement, any time period provided for in the South32 Option Agreement was to be generally extended by a period equal to the period of delay caused by the event of force majeure.

On August 31, 2022, the South32 Option Agreement was mutually terminated by South32 and the Company. South32 paid \$518,000 to the Company as a final payment for the exploration costs occurred by the Company during the blockade and released South32 from all claims as the date of termination.

As of January 26, 2023, the blockade by Mineros Norteños at, on and around the Sierra Mojada Property is ongoing.

#### Goodwill and Possible Other Long-Lived Assets Impairment

Goodwill represents the excess, at the date of acquisition, of the purchase price of the business acquired over the fair value of the net tangible and intangible assets acquired. Due to a sustained decrease in the value of the Company's common stock as a result of the continued blockade at the Sierra Mojada Property, management concluded that this constituted an indication of impairment of goodwill. On April 30, 2022, management performed a qualitative assessment to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. Based on this assessment, management determined it is more likely than not that the fair value of the reporting unit is less than its carrying amount. Based on this assessment, management determined it is more likely than not that the fair value of the reporting unit is less than its carrying amount, and recorded a goodwill impairment of \$2,058,031 in the fiscal year ended October 31, 2022. If the blockade at Sierra Mojada Property continues and the Company's share price remains depressed, then further impairment of other long-lived assets such as property concessions is possible.

#### Sierra Mojada Property

In January 2023, the Company's board of directors approved an exploration budget for the Sierra Mojada Property of \$0.3 million and a \$0.7 million budget for general and administrative expenses for calendar year 2023. Due to the blockade by Mineros Norteños previously mentioned under the "Recent Developments" section of this Form 10-K, all exploration work remains halted at the Sierra Mojada Property. Until the blockade situation is resolved, the focus of the exploration budget for the Sierra Mojada Property is maintaining the Company's property concessions.

#### 2022 Drilling

During the year ended October 31, 2022, no drilling was conducted as the drilling program remained halted due to the continuing blockade.

#### 2023 Exploration Program

The focus of the Company's 2023 calendar year exploration program at the Sierra Mojada Property will be to resolve the blockade and to maintain property concessions in Mexico. Upon resolution of the blockade, the Company will develop and announce an updated exploration program.

#### **Results of Operations**

#### Fiscal Year Ended October 31, 2022 Compared to Fiscal Year Ended October 31, 2021

For the fiscal year ended October 31, 2022, the Company reported a consolidated net loss of \$3,168,000 or approximately \$0.09 per share, compared to a consolidated net loss of \$2,448,000 or approximately \$0.07 per share during the fiscal year ended October 31, 2021. The \$720,000 increase in the consolidated net loss was primarily due to a \$1,414,000 increase in exploration and property holding costs (which was mainly the result of the \$2,058,000 goodwill impairment as described in the "Recent Developments" section) which was partially offset by a \$615,000 decrease in exploration and property costs, a \$1,518,000 decrease in general and administrative expense and a \$824,000 decrease in other income in the 2022 fiscal year compared to 2021 fiscal year as described below.

#### Exploration and Property Holding Costs

Exploration and property holding costs increased by \$1,414,000 to \$2,392,000 in the 2022 fiscal year from \$978,000 in the 2021 fiscal year. This increase was mainly the result of a \$2,058,000 goodwill impairment (as described in the "Recent Developments" section) which was partially offset by a \$615,000 decrease in exploration and holding costs as the result of costs incurred in connection with the Beskauga Option Agreement in the 2021 fiscal year. There were no comparable expenses in the 2022 fiscal year.

#### General and Administrative Costs

General and administrative expenses decreased by \$1,518,000 to \$1,045,000 in the 2022 fiscal year from \$2,563,000 in the 2021 fiscal year as described below.

Stock-based compensation was a factor in the fluctuations in general and administrative expenses. Overall stock-based compensation included in general and administrative expense decreased to \$296,000 in the 2022 fiscal year from \$492,000 in the 2021 fiscal year. This was mainly due to stock options granted to Silver Bull employees, directors and advisors in the 2022 fiscal year compared to Arras stock options granted to Arras' employees, directors and advisors in the 2021 fiscal year, while Arras was a subsidiary of the Company.

Personnel costs decreased by \$433,000 to \$453,000 in the 2022 fiscal year from \$886,000 in the 2021 fiscal year. This decrease was mainly due to a decrease in employees' salaries in the 2022 fiscal year compared to the 2021 fiscal year included the personnel costs related to Arras.

Office and administrative expenses decreased by \$146,000 to \$235,000 in the 2022 fiscal year from \$381,000 in the 2021 fiscal year. This decrease was primarily due to decreased investor relations activities, which in the 2021 fiscal year were incurred in relation to a special meeting of shareholders in December 2020 and the planned distribution of Arras shares to Silver Bull shareholders.

Professional services decreased by \$685,000 to \$183,000 in the 2022 fiscal year from \$868,000 in the 2021 fiscal year. This decrease was mainly due to legal and accounting fees incurred in relation to the special meeting of shareholders in December 2020, the incorporation of Arras and the planned distribution of Arras shares in the 2021 fiscal year.



Directors' fees decreased by \$208,000 to \$158,000 in the 2022 fiscal year as compared to \$366,000 for the 2021 fiscal year. This decrease was primarily due to a \$137,000 decrease in director fees and decrease in stock-based compensation expense to \$86,000 in the 2022 fiscal year from \$156,000 in the 2021 fiscal year as a result of stock options vesting in the 2022 fiscal year having a lower fair value than stock options vesting in the 2021 fiscal year.

The Company recorded a \$14,000 provision for uncollectible VAT for the 2022 fiscal year as compared to a \$62,000 provision for uncollectible VAT in the 2021 fiscal year. The allowance for uncollectible taxes in Mexico was estimated by management based upon a number of factors, including the length of time the returns have been outstanding, responses received from tax authorities, general economic conditions in Mexico and estimated net recovery after commissions.

#### Other Income (Expenses)

The Company recorded other income of \$273,000 in the 2022 fiscal year as compared to other income of \$1,097,000 in the 2021 fiscal year. The significant factor contributing to other income in the 2022 fiscal year was a gain of \$301,000 from selling Arras common shares and interest income of \$6,000, which was offset by a \$34,000 foreign currency transaction loss. The significant factor contributing to other income in the 2021 fiscal year was a \$1,091,000 unrealized gain of Arras shares held by Silver Bull and \$6,000 in foreign currency transaction income.

#### Material Changes in Financial Condition; Liquidity and Capital Resources

#### Disposition of Arras Shares

On December 6, 2021, the Company sold 600,000 common shares of Arras at a price of \$CDN 1.00 per share for proceeds of \$469,484 (\$CDN 600,000).

On June 15, 2022, the Company sold its remaining 852,262 common shares of Arras at a price of \$CDN 1.50 per share for gross proceeds of \$994,704 (\$CDN 1,278,393), incurring broker costs of \$30,075 in relation to the sale.

## Termination of South32 Option Agreement

On August 31, 2022, the South32 Option Agreement was mutually terminated by South32 and the Company. During the 2022 fiscal year, Silver Bull received a payment from South32 in the amount of \$518,000 as reimbursement for costs incurred during the force majeure period.

#### Cash Flows

During the 2022 fiscal year, cash and cash equivalents were primarily utilized to fund general and administrative expenses and exploration activities at the Sierra Mojada Property.

In addition, the Company received \$518,000 from South32 and net proceeds of \$1,434,000 from the sale of Arras common shares. As a result of the funding from South32 and the proceeds received from the sale of Arras common shares, which were partially offset by exploration activities and general and administrative expenses, cash and cash equivalents increased from \$190,000 at October 31, 2021 to \$887,000 at October 31, 2022.

Cash flows used in operations for the 2022 fiscal year were \$1,255,000 as compared to \$1,685,000 for the 2021 fiscal year. The decrease was mainly due to due diligence and exploration activities at the Beskauga Property in relation to the Beskauga Option Agreement in the 2021 fiscal year and decreased general and administrative expenses, which were offset by the timing of certain payments.

Cash flows provided by investing activities for the 2022 fiscal year were net proceeds of \$1,434,000 from the sale Arras common shares. Cash flows used in investing activities for the 2021 fiscal year were \$2,516,000, which included \$1,928,000 for loans made to Ekidos Minerals LLP, \$505,000 cash and cash equivalents that were for the deconsolidation of Arras and \$82,000 for the purchase of equipment.

Cash flows provided by financing activities for the 2022 fiscal year were \$518,000 as compared to \$2,531,000 in the 2021 fiscal year. The cash flows provided by financing activities in the 2022 fiscal year were due to funding from South32. The cash flows provided by financing activities in the 2021 fiscal year was due to the 2021 Silver Bull Private Placement, the Arras private placement, the second tranche of 2020 Silver Bull Private Placement, funding from South32 and a Canada Emergency Business Account loan.



#### Capital Resources

As of October 31, 2022, the Company had cash and cash equivalents of \$887,000 as compared to cash and cash equivalents of \$190,000 as of October 31, 2021. The increase in liquidity was primarily the result of the proceeds from the sale of investments and funding from South32, which were partially offset by exploration activities and property holding costs at the Sierra Mojada Property and general and administrative expenses.

Since the Company's inception in November 1993, it has not generated revenue and has incurred an accumulated deficit of \$137,394,000. Accordingly, the Company has not generated cash flows from operations, and since inception has relied primarily upon proceeds from private placements and registered direct offerings of its equity securities, warrant exercises, the sale of investments and funding from South32 as the primary sources of financing to fund operations. Based on the limited cash and cash equivalents, and history of losses, there is substantial doubt as to whether the Company's existing cash resources are sufficient to enable it to continue operations for the next 12 months as a going concern. Management plans to pursue possible financing and strategic options, including, but not limited to, obtaining additional equity financing and the exercise of warrants by warrantholders. However, there is no assurance that the Company will be successful in pursuing these plans.

Any future additional financing in the near term will likely be in the form of the issuance of equity securities, which will result in dilution to Silver Bull's existing shareholders. Moreover, the Company may incur significant fees and expenses in the pursuit of a financing or other strategic transaction, which will increase the rate at which its cash and cash equivalents are depleted.

#### Capital Requirements and Liquidity; Need for Additional Funding

The Company's management and board of directors monitor overall costs, expenses, and financial resources and, if necessary, will adjust planned operational expenditures in an attempt to ensure that the Company has sufficient operating capital. The Company continues to evaluate its costs and planned expenditures, including its Sierra Mojada Property as discussed below.

The continued exploration of the Sierra Mojada Property will require significant amounts of additional capital. In January 2023, the board of directors approved an exploration budget for the Sierra Mojada Property of \$0.3 million and \$0.7 million for general and administrative expenses for calendar year 2023. As of December 31, 2022, the Company had approximately \$0.8 million in cash and cash equivalents. The continued exploration of the Sierra Mojada Property ultimately will require the Company to raise additional capital, identify other sources of funding or identify a strategic partner.

The Company will continue to evaluate its ability to obtain additional financial resources, and will attempt to reduce or limit expenditures on the Sierra Mojada Property as well as general and administrative costs if it is determined that additional financial resources are unavailable or available on terms that it determines are unacceptable. However, it may not be possible to reduce costs, and even if the Company is successful in reducing costs, it still may not be able to continue operations for the next 12 months as a going concern. If the Company is unable to fund future operations by obtaining additional financial resources or through public or private offerings of equity, it does not expect to have sufficient available cash and cash equivalents to continue its operations for the next 12 months as a going concern. Debt or equity financing may not be available, may result in substantial dilution to existing stockholders. If the Company is unable to fund future operations by way of financings, including public or private offerings of equity or debt securities, its business, financial condition and results of operations will be adversely impacted.

#### **Off-Balance Sheet Arrangements**

There are no significant off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on the Company's financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to its shareholders.

#### Recent Accounting Pronouncements Adopted in the Fiscal Year Ended October 31, 2022

On November 1, 2020, Silver Bull adopted the Financial Accounting Standards Board's ("FASB's") Accounting Standards Updated ("ASU") 2020-01, "Investments – Equity Securities (Topic 321), Investments – Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) – Clarifying the Interactions between Topic 321, Topic 323, and Topic 815." This ASU is effective for interim and annual periods beginning after December 15, 2020. The adoption of this update did not have a material impact on the Company's financial position, results of operations or cash flows and disclosures.

#### **Recent Accounting Pronouncements Not Yet Adopted**

In March 2022, the FASB issued ASU 2022-01, "Derivatives and Hedging (Topic 815): Fair Value Hedging—Portfolio Layer Method" which is intended to make amendments to the fair value hedge accounting previously issued in ASU 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities". The new standard will be effective for reporting periods beginning after December 15, 2022. The standard introduced the portfolio layer method allowing multiple hedged layers of a single closed portfolio when applying fair value hedge accounting. The adoption of this update is not expected to have a material impact on the Company's financial position, results of operations or cash flows and disclosures.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force) and the SEC did not or are not expected to have a material impact on the present or future consolidated financial statements of the Company.

#### **Critical Accounting Policies and Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") requires the Company to establish accounting policies and make estimates and assumptions that affect reported amounts of assets and liabilities at the date of the consolidated financial statements. These consolidated financial statements include some estimates and assumptions that are based on informed judgments and estimates of management. The Company evaluates its policies and estimates on an ongoing basis and discuss the development, selection and disclosure of critical accounting policies with the audit committee of the board of directors. Predicting future events is inherently an imprecise activity and as such requires the use of judgment. The Company's consolidated financial statements may differ based upon different estimates and assumptions.

Significant accounting policies are discussed in Note 2, Summary of Significant Accounting Policies, to the consolidated financial statements. The significant accounting policies are subject to judgments and uncertainties that affect the application of such policies. The Company believes that these consolidated financial statements include the most likely outcomes with regard to amounts that are based on management's judgment and estimates. The consolidated financial position and results of operations may be materially different when reported under different conditions or when using different assumptions in the application of such policies. If estimates or assumptions prove to be different from the actual amounts, adjustments are made in subsequent periods to reflect more current information. The Company believes that the following accounting policies are critical to the preparation of its consolidated financial statements due to the estimation process and business judgment involved in their application:

#### Principles of Consolidation - South32 Option Agreement

The Company consolidated entities in which it had a controlling financial interest based on either the variable interest entity (VIE) or voting interest model. Generally, the primary beneficiary of a VIE is a reporting entity that has (a) the power to direct the activities that most significantly impact the VIE's economic performance, and (b) the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE. Currently, the Company managed the mineral exploration program in the property concessions in Mexico through its wholly-owned subsidiary corporations Minera Metalin.

The Company determined that Minera Metalin was a variable interest entity and it was the primary beneficiary.

Management had applied judgment in reaching its conclusion with respect to accounting for the South32 Option Agreement with South32, described in Note 3 to the consolidated financial statements. Under the South32 Option Agreement, South32 was able to obtain an option to purchase 70% of the shares of Minera Metalin (the "South32 Option"). Management had determined that the South32 Option Agreement did not result in the transfer of control of the Sierra Mojada Project to South32 and that the South32 Option Agreement represented non-employee share-based compensation associated with the collaborative exploration program undertaken by the parties. The compensation cost was expensed when the associated exploration activity occurred. The share-based payments had been classified as equity instruments and valued based on the fair value of consideration received, as it was more reliably measurable than the fair value of the equity interest. In the event the South32 Option was exercised and shares were issued prior to a decision to develop a mine, such shares would have been classified as temporary equity as they would have been contingently redeemable in exchange for a net smelter royalty under circumstances not wholly in control of us or South32 and which were not probable. No portion of the equity value has been classified as temporary equity as the South32 Option has no intrinsic value.

#### Use of Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates based on assumptions about future events that affect the amounts reported in the consolidated financial statements and related notes to the consolidated financial statements. Actual results could differ from those estimates. Estimates and assumptions are reviewed on an ongoing basis based on historical experience and other factors that are considered to be relevant under the circumstances. Revisions to estimates and assumptions are accounted for prospectively.

Significant areas involving the use of estimates include determining the allowance for uncollectible taxes, evaluating recoverability of property concessions, evaluating impairment of long-lived assets, evaluating impairment of goodwill, valuation of investments, establishing a valuation allowance on future use of deferred tax assets, calculating a valuation for stock option liability and calculating stock-based compensation.

#### Property Concessions

Property concession acquisition costs are capitalized when incurred and will be amortized using the units of production method following the commencement of production. If a property concession is subsequently abandoned or impaired, any capitalized costs will be expensed in the period of abandonment or impairment. To date, no property concessions have reached the production stage.

Acquisition costs include cash consideration and the fair market value of shares issued on the acquisition of property concessions.

#### Exploration Costs

Exploration costs incurred are expensed to the date of establishing that costs incurred are economically recoverable. Exploration expenditures incurred subsequent to the establishment of economic recoverability are capitalized and included in the carrying amount of the related property. To date, the Company has not established the economic recoverability of its exploration prospects; therefore, all exploration costs are being expensed.

#### Impairment of Long-Lived Assets

The Company reviews and evaluates its long-lived assets for impairment when events and changes in circumstances indicate that the related carrying amounts of its assets may not be recoverable. Impairment is considered to exist if the future cash flows on an undiscounted basis are less than the carrying amount of the long-lived asset. An impairment loss is measured and recorded based on the difference between book value and fair value of the asset group. In estimating future cash flows, assets are grouped at the lowest level for which there is identifiable cash flows that are largely independent of cash flows from other asset groups. In estimating future cash flows, the Company estimates the price that would be received to sell an asset group in an orderly transaction between market participants at the measurement date. Significant factors that impact this price include the price of silver and zinc, and general market conditions for exploration companies, among other factors.

#### Goodwill

Goodwill is the purchase premium after adjusting for the fair value of net assets acquired. Goodwill is tested for impairment at the reporting unit level at least annually, or more frequently if events or changes in circumstances indicate that the assets may be impaired. Goodwill impairment tests require judgment, including the identification of reporting units, assignment of assets and liabilities to reporting units, assignment of goodwill to reporting units, and determination of the fair value of each reporting unit. Annual goodwill impairment testing is performed on April 30<sup>th</sup> of each fiscal year.

#### Income Taxes

The Tax Cuts and Jobs Act of 2017 was signed into law on December 22, 2017. The law includes significant changes to the U.S. corporate income tax system, including a federal corporate rate reduction from 35% to 21%, limitations on the deductibility of interest expense and executive compensation, and the transition of U.S. international taxation from a worldwide tax system to a territorial tax system. The law did not have a material impact on the Company's financial position, results of operations or cash flows and disclosures.

The asset and liability method of accounting for income taxes is followed. Under this method, deferred income tax assets and liabilities are determined based on temporary differences between the tax basis and accounting basis of the assets and liabilities measured using tax rates enacted at the balance sheet date. The tax benefit from uncertain tax positions is recognized only if it is at least "more likely than not" that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon settlement with the taxing authorities. This accounting standard also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods and disclosure.

A valuation allowance is recorded against deferred tax assets if management does not believe that the Company has met the "more likely than not" standard imposed by this guidance to allow recognition of such an asset. Management recorded a full valuation allowance at October 31, 2022 and October 31, 2021 against the deferred tax assets as it determined that future realization would not meet the "more likely than not" criteria.

#### Stock-Based Compensation

The Black-Scholes pricing model is used as a method for determining the estimated fair value for all stock options awarded to employees, officers, directors and consultants. The expected term of the options is based upon an evaluation of historical and expected future exercise behavior. The risk-free interest rate is based on rates published by the government for bonds with a maturity similar to the expected remaining life of the options at the valuation date. Volatility is determined based upon historical volatility of the Company's stock and adjusted if future volatility is expected to vary from historical experience. The dividend yield is assumed to be none as Silver Bull has not paid dividends nor does it anticipate paying any dividends in the foreseeable future. The graded vesting attribution method is used to recognize compensation costs over the requisite service period.

Cumulative compensation cost associated with options on subsidiary equity are classified as additional paid-in capital until exercised.

#### Foreign Currency Translation

During the fiscal years ended October 31, 2022 and October 31, 2021, the functional currency of Silver Bull Resources, Inc. and its subsidiaries was the U.S. dollar.

During the fiscal years ended October 31, 2022 and October 31, 2021, Silver Bull's Mexican operations' monetary assets and liabilities with foreign source currencies were translated into U.S. dollars at the period-end exchange rate, and non-monetary assets and liabilities with foreign source currencies were translated using the historical exchange rate. The Mexican operations' revenue and expenses were translated at the average exchange rate during the period except for depreciation of office and mining equipment, costs of office and mining equipment sold and impairment of property concessions, all of which are translated using the historical exchange rate. Foreign currency translation gains and losses of the Mexican operations are included in the consolidated statements of operations.

#### Accounting for Loss Contingencies and Legal Costs

From time to time, the Company is named as a defendant in legal actions arising from its normal business activities. An accrual for the estimated loss from a loss contingency is recorded when information available prior to issuance of the financial statements indicates that it is probable that a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. Disclosure of a loss contingency is made by the Company if there is at least a reasonable possibility that a loss has been incurred, and either an accrual has not been made or an exposure to loss exists in excess of the amount accrued. In cases where only disclosure of the loss contingency is required, either the estimated loss or a range of estimated loss is disclosed or it is stated that an estimate cannot be made. Legal costs incurred in connection with loss contingencies are considered period costs and accordingly are expensed in the period services are provided.

#### Investments

Investments comprise an approximately nil and 3% interest in Arras at October 31, 2022 and 2021, respectively. Investments are measured at fair value through profit or loss, with gains or losses from changes in fair value recognized in the consolidated statements of operations and comprehensive loss.

### Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

## Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

See "Index to Consolidated Financial Statements" following the signature page of this Annual Report on Form 10-K.

## Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.



## Item 9A. CONTROLS AND PROCEDURES

#### (a) Evaluation of Disclosure Controls and Procedures

As of October 31, 2022, the Company has carried out an evaluation under the supervision of, and with the participation of its Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of its disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act). Based on the evaluation as of October 31, 2022, the Company's Chief Executive Officer and Chief Financial Officer have concluded that its disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) were effective.

Disclosure controls and procedures are designed to ensure that information required to be disclosed in the Company's reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in its reports filed under the Exchange Act is accumulated and communicated to management, including the Company's principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

#### (b) Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as that term is defined in Rule 13a-15(f) under the Exchange Act. Under the supervision and with the participation of the Company's management, including its principal executive and principal financial officers, the Company assessed, as of October 31, 2022, the effectiveness of its internal control over financial reporting. This assessment was based on criteria established in the Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the Company's assessment using those criteria, management concluded that its internal control over financial reporting as of October 31, 2022 was effective.

Internal control over financial reporting is defined as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by its board of directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets;
- provide reasonable assurance that transactions are recorded as necessary to permit the preparation of financial statements in accordance with U.S. generally accepted
  accounting principles and that receipts and expenditures are being made only in accordance with authorizations of management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of assets that could have a material effect on the financial statements.

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the internal control system are met. Because of the inherent limitations of any internal control system, no evaluation of controls can provide absolute assurance that all control issues, if any, within a company have been detected.

#### (c) Changes in Internal Controls over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the fiscal year ended October 31, 2022 that materially affected, or were reasonably likely to materially affect, its internal control over financial reporting.

#### Item 9B. OTHER INFORMATION

None.

## Item 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.



### PART III

## Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information relating to this item will be included in an amendment to this report or in the proxy statement for Silver Bull's 2023 annual meeting of shareholders and is incorporated by reference in this report.

The Company has adopted a Code of Ethics that applies to all directors and employees, including its principal executive officer, principal financial officer, principal accounting officer, and those officers performing similar functions. The full text of the Company's Code of Ethics can be found on the Corporate Governance page of its website – at http://www.silverbullresources.com/corporate/corporate-governance/. If the board of directors approves an amendment to or waiver from any provision of the Code of Ethics, Silver Bull will disclose the required information pertaining to such amendment or waiver on its website.

#### Item 11. EXECUTIVE COMPENSATION

Information relating to this item will be included in an amendment to this report or in the proxy statement for Silver Bull's 2023 annual meeting of shareholders and is incorporated by reference in this report.

# Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information relating to this item will be included in an amendment to this report or in the proxy statement for Silver Bull's 2023 annual meeting of shareholders and is incorporated by reference in this report.

#### Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information relating to this item will be included in an amendment to this report or in the proxy statement for Silver Bull's 2023 annual meeting of shareholders and is incorporated by reference in this report.

#### Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information relating to this item will be included in an amendment to this report or in the proxy statement for Silver Bull's 2023 annual meeting of shareholders and is incorporated by reference in this report.

## PART IV

## Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

## Financial Statements and Financial Statement Schedules

See "Index to Consolidated financial statements" on page F-1.

	Inc	orporated Reference	l by e	Filed/
Exhibit Description	Form	Date	Exhibit	Furnished Herewith
Amended and Restated Articles of Incorporation of Silver Bull Resources, Inc.	8-K 04	4/21/2021	3.1	
Bylaws	10-K 0	1/14/2011	3.1.2	
Description of Capital Stock	10-Q 0	3/16/2022	4.1	
Form of Silver Bull Resources, Inc. Warrant Certificate	8-K 1	1/02/2020	10.2	
Separation and Distribution Agreement, dated as of August 31, 2021, by and between Silver Bull Resources, Inc. and Arras Minerals Corp.	8-K 0	9/03/2021	10.1	
Silver Bull Resources, Inc. 2019 Stock Option and Stock Bonus Plan	10-Q 0	6/14/2019	10.2	
Silver Bull Resources, Inc. Management Retention Bonus Plan, dated April 15, 2021	10-Q 0	6/11/2021	10.1	
Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Timothy Barry	8-K 02	2/17/2022	10.1	
Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westcott Management Ltd.	8-K 02	2/17/2022	10.2	
Amended and Restated Employment Agreement, dated as of February 17, 2022, by and among Silver Bull Resources, Inc., Arras Minerals Corp. and Christopher Richards	8-K 02	2/17/2022	10.3	
Amendment to Silver Bull Resources, Inc. Management Retention Bonus Plan, dated as of February 17, 2022	8-K 02	2/17/2022	10.4	
Amended to Amendment to the Silver Bull Resources, Inc. 2019 Stock Option and Stock Bonus Plan	8-K 04	4/20/2022	10.1	
Form of Indemnification Agreement (Directors and Officers)	10-K 0	1/13/2020	10.10	
Code of Ethics	8-K 1	1/07/2019	14.1	
Subsidiaries of the Registrant				Х
Consent of Independent Registered Public Accounting Firm (Smythe LLP; Vancouver, Canada; PCAOB ID# 995				Х
Consent of Archer, Cathro & Associates (1981) Limited				Х
Consent of Timothy Barry				Х
	Exhibit Description           Amended and Restated Articles of Incorporation of Silver Bull Resources, Inc.           Bylaxs           Description of Capital Stock           Form of Silver Bull Resources, Inc. Warrant Certificate           Separation and Distribution Agreement, dated as of August 31, 2021, by and between Silver Bull Resources, Inc. and Arras Minerals Corp.           Silver Bull Resources, Inc. 2019 Stock Option and Stock Bonus Plan           Silver Bull Resources, Inc. 2019 Stock Option and Stock Bonus Plan, dated April 15, 2021           Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westcott Management Ldd.           Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westcott Management Ltd.           Amended and Restated Employment Agreement, dated as of February 17, 2022, by and among Silver Bull Resources, Inc. and Westcott Management Ltd.           Amended to Silver Bull Resources, Inc. Management Retention Bonus Plan, dated as of February 17, 2022, by and among Silver Bull Resources, Inc. Arras Minerals Corp. and Christopher Richards           Amended to Silver Bull Resources, Inc. Management Retention Bonus Plan, dated as of February 17, 2022, by and among Silver Bull Resources, Inc. Arras Minerals Corp. and Christopher Richards           Consent of Indemnification Agreement/Directors and Officers)           Code of Ethics           Subsidiaries of the Registrant           Consent of Independent Registered Public Accounting Firm (Smythe LLP; Vancouver, Can	Exhibit Description       Form         Amended and Restated Articles of Incorporation of Silver Bull Resources. Inc.       8-K 0         Bylaxs       0-Q0         Description of Capital Stock       0-Q0         Form of Silver Bull Resources, Inc. Warrant Certificate       8-K 1         Separation and Distribution Agreement, dated as of August 31, 2021. by and between Silver Bull Resources. Inc. and Arras Mineral's Corp.       8-K 0         Silver Bull Resources, Inc. 2019 Stock Option and Stock Bonus Plan.       0-Q0         Silver Bull Resources, Inc. Management Retention Bonus Plan. dated April 15, 2021       0-Q0         Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westedt       8-K 0         Management I.d.       Management Retention Bonus Plan. dated April 15, 2021       0-Q0         Consulting Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westedt       8-K 0         Management I.d.       Amended and Restated Employment Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westedt       8-K 0         Amended and Restated Employment Agreement, dated as of February 17, 2022, by and between Silver Bull Resources, Inc. and Westedt       8-K 0         Amended to Silver Bull Resources, Inc. Management Retention Bonus Plan, dated as of February 17, 2022       8-K 0         Amended to Silver Bull Resources, Inc. Management Retention Bonus Plan, dated as o	Exhibit Description         Form         Detection           Amended and Restated Articles of Incorporation of Silver Bull Resources. Inc.         8-K         0/21/2021           Jacan         0-0<07/2022	Interpretent         Interpretent<

		Incorporated by Reference	
Exhibit Number	Exhibit Description	FormDateExhibit	Filed/ Furnished Herewith
31.1	Certification of CEO Pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		X
31.2	Certification of CFO Pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002		Х
32.1	Certification of CEO Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002		XX
32.2	Certification of CFO Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002		XX
96.1	Technical Report Summary		Х
101.INS*	XBRL Instance Document		Х
101.SCH*	XBRL Schema Document		Х
101.CAL*	XBRL Calculation Linkbase Document		Х
101.DEF*	XBRL Definition Linkbase Document		Х
104	Cover Page Interactive Data File—the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document		

X Filed herewith

XX Furnished herewith

+ Indicates a management contract or compensatory plan, contract or arrangement.

† Filed herewith under Items 1 and 2 - Business and Properties.

\* The following financial information from Silver Bull Resources, Inc.'s Annual Report on Form 10-K for the fiscal year ended October 31, 2022, formatted in XBRL (Extensible Business Reporting Language): Consolidated Balance Sheets, Consolidated Statements of Operations and Comprehensive Loss, Consolidated Statement of Stockholders' Equity, Consolidated Statements of Cash Flows

## Item 16. FORM 10-K SUMMARY

None.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SILVER BULL RESOURCES, INC.
By: /s/ Timothy Barry Timothy Barry, Chief Executive Officer (Principal Executive Officer)
By: /s/ Christopher Richards Christopher Richards, Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
has been signed by the following persons on behalf of the registrant and in the capacities and
By:/s/ Timothy Barry Timothy Barry, Chief Executive Officer and Director
/s/ Brian Edgar Brian Edgar, Director
By:/s/ Daniel Kunz Daniel Kunz, Director
By:/s/ David Underwood David Underwood, Director
# INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

# SILVER BULL RESOURCES, INC.

(An Exploration Stage Company)

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Consolidated Statements of Operations and Comprehensive Loss	F-5
Consolidated Statements of Cash Flows	F-6 – F-7
Consolidated Statements of Stockholders' Equity	F-8 – F-9
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#### **REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of Silver Bull Resources, Inc.:

#### **Opinion on the Consolidated Financial Statements**

We have audited the accompanying consolidated balance sheets of Silver Bull Resources, Inc. (an exploration stage company) (the "Company") as of October 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive loss, cash flows, and stockholders' equity for the years then ended, and the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of October 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

## **Going Concern Uncertainty**

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has limited cash and cash equivalents at October 31, 2022. These circumstances raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

## **Basis for Opinion**

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

## **Critical Audit Matters**

Critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing a separate opinion on the critical audit matters or on the accounts or disclosures to which they relate.

We have determined that there are no critical audit matters to communicate in our auditors' report.

## /s/ Smythe LLP

Smythe LLP, Chartered Professional Accountants

We have served as the Company's auditor since 2016.

Vancouver, Canada January 26, 2023

## SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED BALANCE SHEETS

	 October 31, 2022	 October 31, 2021	
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	\$ 886,728	\$ 189,607	
Value-added tax receivable, net of allowance for uncollectible taxes of \$420,982 (Note 5)	_	120,810	
Other receivables	2,834	7,307	
Prepaid expenses and deposits	49,537	196,178	
Due from related party (Note 4)	23,196	_	
Investments (Note 6)	_	1,166,770	
Total Current Assets	 962,295	 1,680,672	
Value-added tax receivable, net of allowance for uncollectible taxes of \$449,219 (Note 5)	127,036	—	
Office and mining equipment, net (Note 7)	143,568	164,140	
Property concessions (Note 8)	5,019,927	5,019,927	
Goodwill (Note 9)	 	 2,058,031	
TOTAL ASSETS	\$ 6,252,826	\$ 8,922,770	
LIABILITIES AND STOCKHOLDERS' EQUITY			
CURRENT LIABILITIES			
Accounts payable	\$ 159,585	\$ 465,865	
Accrued liabilities and expenses	179,607	324,454	
Income tax payable	 3,000	 1,000	
Total Current Liabilities	 342,192	 791,319	
Loan payable (Note 10)	43,959	48,450	
TOTAL LIABILITIES	 386,151	 839,769	
COMMITMENTS AND CONTINGENCIES (Note 16)			
STOCKHOLDERS' EOUITY (Notes 3, 11, 12 and 13)			
Common stock, \$0.01 par value: 150.000.000 shares authorized.			
35.055.652 and 34.547.838 shares issued and outstanding, respectively	2.418.415	2.413.337	
Additional paid-in capital	140,750,310	139,803,515	
Accumulated deficit	(137,394,298)	(134,226,099)	
Other comprehensive income	92.248	92.248	
Total Stockholders' Equity	5,866,675	 8,083,001	
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 6,252,826	\$ 8,922,770	

The accompanying notes are an integral part of these consolidated financial statements.

## SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	Years Ended October 31,			,
		2022		2021
REVENUES	\$	<u> </u>	\$	
EXPLORATION AND PROPERTY HOLDING COSTS				
Exploration and property holding costs (Note 12)		313 410		928 832
Depreciation (Note 7)		20 572		49 192
Goodwill impairment (Note 9)		2 058 031		.,,,,,2
TOTAL EXPLORATION AND PROPERTY HOLDING COSTS		2,392,013		978,024
GENERAL AND ADMINISTRATIVE EXPENSES				
Personnel (Note 12)		453,489		886,204
Office and administrative		235,231		380,661
Professional services		183,337		868,007
Directors' fees (Note 12)		158,378		365,611
Provision for uncollectible value-added taxes (Note 5)		14,113		62,024
TOTAL GENERAL AND ADMINISTRATIVE EXPENSES		1,044,548		2,562,507
LOSS FROM OPERATIONS		(3,436,561)		(3,540,531)
OTHER INCOME				
Interest income		5,715		92
Foreign currency transaction (loss) gain		(34,326)		6,384
Gain on investment (Note 6)		301,493		1,090,953
TOTAL OTHER INCOME		272,882		1,097,429
LOSS BEFORE INCOME TAXES		(3,163,679)		(2,443,102)
INCOME TAX EXPENSE (Note 14)		(4,520)		(4,550)
NET AND COMPREHENSIVE LOSS		(3,168,199)		(2,447,652)
NET AND COMPREHENSIVE LOSS ATTRIBUTABLE TO				
Common shareholders		(3.168.199)		(2.249.514)
Non-controlling interests (Note 6)		_		(198,138)
BASIC AND DILUTED NET LOSS PER COMMON SHARE	\$	(0.09)	\$	(0.07)
BASIC AND DILUTED WEIGHTED AVERAGE NUMBER OF COMMON SHARES OUTSTANDING		34,904,003		33,893,867

The accompanying notes are an integral part of these consolidated financial statements.

# SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended October 31,			<i>J</i> 1,
		2022		2021
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net loss	\$	(3,168,199)	\$	(2,447,652)
Adjustments to reconcile net loss to net cash used by operating activities:				
Depreciation (Note 7)		20,572		49,192
Goodwill impairment (Note 9)		2,058,031		_
Provision for uncollectible value-added taxes (Note 5)		14,113		62,024
Foreign currency transaction loss		31,795		3,804
Stock options issued for compensation (Note 12)		305,779		587,505
Shares of common stock issued for services (Note 11)		128,094		_
Realized share of net gain of subsidiary (Note 6)		(301,493)		_
Unrealized share of net gain of subsidiary (Note 6)		_		(1,090,953)
Changes in operating assets and liabilities:				
Value-added tax receivable		(16,064)		45,919
Income tax receivables		_		611
Other receivables		4,509		(6,077)
Prepaid expenses and deposits		140,937		33,469
Due from related party (Note 4)		(23,196)		_
Accounts payable		(307,282)		595,986
Accrued liabilities and expenses		(144,588)		485,125
Income tax payable		2,000		(4,000)
Net cash used in operating activities	-	(1.254.992)	-	(1.685.047)
·····		(-,,)		(1,000,011)
CASH FLOWS FROM INVESTING ACTIVITIES				
Proceeds from role of investments, net of costs (Nete 6)		1 /3/ 113		
Purchase of equipment		1,454,115		(82033)
		_		(1.928.450)
Deconsolidation of subsidiary (Note 6)		_		(1,726,430)
Not association of substatiaty (Note of		1 424 112		(303,228)
Net cash provided by (used in) investing activities		1,434,113		(2,515,711)
CASH FLOWS FROM FINANCING ACTIVITIES:				
Property concessions funding (Note 3)		518,000		82,670
Proceeds from loan financing (Note 10)		_		15,615
Proceeds from issuance of common stock, net of offering costs (Note 11)		—		452,828
Proceeds from issuance of common shares of subsidiary, net of offering costs (Note 6)				1,979,632
Net cash provided by financing activities		518,000		2,530,745
Effect of exchange rates on cash and cash equivalents		_		(1,898)
Net increase (decrease) in cash and cash equivalents		697,121		(1,671,911)
Cash and cash equivalents beginning of year		189,607		1,861,518
		,		,,
Cash and cash equivalents end of year	\$	886,728	\$	189,607

The accompanying notes are an integral part of these consolidated financial statements.

# SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)

	Years Ended October 31,			
	 2022		1	
SUPPLEMENTAL CASH FLOW DISCLOSURES:				
Income taxes paid	\$ 2,499	\$	4,825	
Interest paid				
NON-CASH INVESTING AND FINANCING ACTIVITIES:				
Offering costs included in accounts payable and accrued liabilities	\$ 	\$	8,997	

The accompanying notes are an integral part of these consolidated financial statements.

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## SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock			Common Stock								
	Number of Shares Amount		Number of Shares Amount		Accumulated Deficit	Com	Other prehensive Income		Total Equity			
Balance, October 31, 2021	34,547,838	\$	2,413,337	\$ 139,803,515	\$ (134,226,099)	\$	92,248	\$	8,083,001			
Earn-in option agreement (Note 3)			—	518,000	—		—		518,000			
Issuance of common stock as follows:												
-for compensation at \$0.25 per share (Note 11)	507,814		5,078	123,016			—		128,094			
Stock option activity as follows:												
- Stock-based compensation for options issued to directors, officers,												
employees and advisors (Note 12)	—		—	305,779	—		_		305,779			
Net loss for the year ended October 31, 2022	_		_		(3,168,199)		_		(3,168,199)			
Balance, October 31, 2022	35,055,652	\$	2,418,415	\$ 140,750,310	\$ (137,394,298)	\$	92,248	\$	5,866,675			

The accompanying notes are an integral part of these consolidated financial statements.

## SILVER BULL RESOURCES, INC. (AN EXPLORATION STAGE COMPANY) CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (CONTINUED)

	Common Stock								
	Number of Shares	A	Amount	Additional Paid-in Capital	Accumulated Deficit	Cor	Other nprehensive Income	Non- Controlling Interests	Total Equity
Balance, October 31, 2020	33,165,945	\$ 2	,399,518	\$ 138,613,286	\$ (132,019,148)	\$	92,248	\$	\$ 9,085,904
Earn-in option agreement (Note 3)	—		—	82,670	—		—	—	82,670
Issuance of common stock as follows:									
- for cash at a price of \$0.47 per share with attached warrants, less									
offering costs of \$6,780 (Note 11)	319,000		3,190	139,960	—		—		143,150
- for cash at a price of Canadian Dollar ("\$CDN") 1.00 per share,									
less offering costs of \$14,628 (Note 11)	500,000		5,000	385,723	—		—	—	390,723
- for cashless exercise of options (Note 12)	562,893		5,629	(5,629)	—		—	—	_
Changes in interests in subsidiary			_	—	—		—	1,980,557	1,979,633
Stock option activity as follows:									
- Stock-based compensation for options issued to directors, officers,									
employees and advisors (Note 12)	—		_	587,505	—		—	—	587,505
Deconsolidation of subsidiary (Note 6)	—		—	—	42,563		—	(1,781,495)	(1,738,932)
Net loss for the year ended October 31, 2021	—		_	—	(2,249,514)		—	(198,138)	(2,447,652)
Balance, October 31, 2021	34,547,838	\$ 2	2,413,337	\$ 139,803,515	\$ (134,226,099)	\$	92,248	\$	\$ 8,083,001

The accompanying notes are an integral part of these consolidated financial statements.

#### NOTE 1 - ORGANIZATION AND DESCRIPTION OF BUSINESS

Silver Bull Resources, Inc. (the "Company") was incorporated in the State of Nevada on November 8, 1993 as the Cadgie Company for the purpose of acquiring and developing mineral properties. The Cadgie Company was a spin-off from its predecessor, Precious Metal Mines, Inc. On June 28, 1996, the Company's name was changed to Metalline Mining Company. On April 21, 2011, the Company's name was changed to Silver Bull Resources, Inc. The Company's fiscal year-end is October 31. The Company has not realized any revenues from its planned operations and is considered an exploration stage company. The Company has not established any reserves with respect to its exploration projects and may never enter into the development stage with respect to any of its projects.

The Company engages in the business of mineral exploration. The Company currently owns a number of property concessions in Mexico (collectively known as the "Sierra Mojada Property"). The Company conducts its operations in Mexico through its wholly-owned subsidiary corporations, Minera Metalin S.A. de C.V. ("Minera Metalin"), Contratistas de Sierra Mojada S.A. de C.V. ("Contratistas") and Minas de Coahuila SBR S.A. de C.V. ("Minas"). On August 26, 2021, Contratistas merged with and into Minera Metalin.

On April 16, 2010, Metalline Mining Delaware, Inc., a wholly-owned subsidiary of the Company incorporated in the State of Delaware, was merged with and into Dome Ventures Corporation ("Dome"), a Delaware corporation. As a result, Dome became a wholly-owned subsidiary of the Company. Dome has a wholly-owned subsidiary Dome Asia Inc. ("Dome Asia"), which is incorporated in the British Virgin Islands.

On August 12, 2020, the Company entered into an option agreement (the "Beskauga Option Agreement") with Copperbelt AG, a corporation existing under the laws of Switzerland ("Copperbelt Parent"), and Dostyk LLP, an entity existing under the laws of Kazakhstan and a wholly-owned subsidiary of Copperbelt (the "Copperbelt Sub," and together with Copperbelt Parent, "Copperbelt"), pursuant to which the Company has the exclusive right and option (the "Beskauga Option") to acquire Copperbelt's right, title and 100% interest in the Beskauga property located in Kazakhstan (the "Beskauga Property"), which consists of the Beskauga Main project (the "Beskauga Main Project," and together the Beskauga Main Project, the "Beskauga Project"). After the completion of due diligence, the transaction contemplated by the Beskauga Option Agreement closed on January 26, 2021.

On February 5, 2021, Arras Minerals Corp. ("Arras") was incorporated in British Columbia, Canada, as a wholly-owned subsidiary of the Company. On March 19, 2021, pursuant to an asset purchase agreement with Arras, the Company transferred its right, title and interest in and to the Beskauga Option Agreement, among other things, to Arras in exchange for 36,000,000 common shares of Arras. On September 24, 2021, the Company distributed to its shareholders one Arras common share for each Silver Bull share held by such shareholders, or 34,547,838 Arras shares in total. Upon completion of the distribution, the Company retained 1,452,162 Arras common shares, or approximately 4% of the outstanding Arras common shares, as a strategic investment (Note 5), and Arras became a stand-alone company. The Company has included the financial results of Arras in its consolidated statement of operations for the period from February 5, 2021 to September 24, 2021, the date of the distribution.

The Company's efforts and expenditures have been concentrated on the exploration of properties, principally in the Sierra Mojada Property located in Coahuila, Mexico. The Company has not determined whether its exploration properties contain ore reserves that are economically recoverable. The ultimate realization of the Company's investment in exploration properties is dependent upon the success of future property sales, the existence of economically recoverable reserves, and the ability of the Company to obtain financing or make other arrangements for exploration, development, and future profitable production activities. The ultimate realization of the Company's investment in exploration properties cannot be determined at this time.

## Going Concern

Since its inception in November 1993, the Company has not generated revenue and has incurred an accumulated deficit of \$137,394,000. Accordingly, the Company has not generated cash flows from operations, and since inception the Company has relied primarily upon proceeds from private placements and registered direct offerings of the Company's equity securities and warrant exercises as the primary sources of financing to fund the Company's operations. As of October 31, 2022, the Company had cash and cash equivalents of \$887,000. Based on the Company's limited cash and cash equivalents, and history of losses, there is substantial doubt as to whether the Company's existing cash resources are sufficient to enable the Company to continue its operations for the next 12 months as a going concern. Management plans to pursue possible financing and strategic options including, but not limited to, obtaining additional equity financing. Management has successfully pursued these options previously and believes that they alleviate the substantial doubt that the Company can continue its operations for the next 12 months as a going concern. However, there is no assurance that the Company will be successful in pursuing these plans. These consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary in the event the Company can no longer continue as a going concern. Such adjustments could be material.

## NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

This summary of significant accounting policies is presented to assist in understanding the consolidated financial statements. The consolidated financial statements and notes are representations of the Company's management, which is responsible for their integrity and objectivity.

#### Basis of Presentation

The Company's consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") using the accrual method of accounting, except for cash flow amounts.

All figures are in United States dollars unless otherwise noted.

#### Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries, after elimination of intercompany accounts and transactions. The wholly owned subsidiaries of the Company are listed in Note 1 to the consolidated financial statements.

The Company consolidated entities in which it has a controlling financial interest based on either the variable interest entity (VIE) or voting interest model.

Under the VIE model, a VIE is a reporting entity that has (a) the power to direct the activities that most significantly impact the VIE's economic performance, and (b) the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE. Currently, the Company manages the mineral exploration program in the property concessions in Mexico through its wholly-owned subsidiary corporation Minera Metalin.

#### Use of Estimates

The preparation of these consolidated financial statements in conformity with GAAP requires management to make estimates based on assumptions about future events that affect the amounts reported in the consolidated financial statements and related notes to the consolidated financial statements. Actual results could differ from those estimates. Estimates and assumptions are reviewed on an ongoing basis based on historical experience and other factors that are considered to be relevant under the circumstances. Revisions to estimates and assumptions are accounted for prospectively.

Significant areas involving the use of estimates include determining the allowance for uncollectible taxes, evaluating recoverability of property concessions, evaluating impairment of long-lived assets, evaluating impairment of goodwill, valuation of investments, establishing a valuation allowance on future use of deferred tax assets, calculating a valuation for stock option liability and calculating stock-based compensation.

#### Cash and Cash Equivalents

Cash and cash equivalents include all highly-liquid investments with an original maturity of three months or less at the date of purchase.

#### Property Concessions

Property concession acquisition costs are capitalized when incurred and will be amortized using the units of production method following the commencement of production. If a property concession is subsequently abandoned or impaired, any capitalized costs will be expensed in the period of abandonment or impairment. To date, no property concessions have reached the production stage.

Acquisition costs include cash consideration and the fair market value of shares issued on the acquisition of property concessions.

#### Exploration Costs

Exploration costs incurred are expensed to the date of establishing that costs incurred are economically recoverable. Exploration expenditures incurred subsequent to the establishment of economic recoverability are capitalized and included in the carrying amount of the related property. To date, the Company has not established the economic recoverability of its exploration prospects; therefore, all exploration costs are being expensed.

## Office and Mining Equipment

Property and equipment are recorded at cost less accumulated depreciation and impairment losses. Assets under construction are depreciated when they are substantially complete and available for their intended use, over their estimated useful lives. Repairs and maintenance of property and equipment are expensed as incurred. Costs incurred to enhance the service potential of property and equipment are capitalized and depreciated over the remaining useful life of the improved asset. Property and equipment are depreciated using the straight-line method over the estimated useful lives of the related assets as follows:

- Mining equipment five to 10 years
- Vehicles four years
- Building and structures 40 years
- Computer equipment and software three years
- Well equipment 10 to 40 years
- Office equipment three to 10 years

#### Impairment of Long-Lived Assets

Management reviews and evaluates its long-lived assets for impairment when events and changes in circumstances indicate that the related carrying amounts of its assets may not be recoverable. Impairment is considered to exist if the future cash flows on an undiscounted basis are less than the carrying amount of the long-lived asset. An impairment loss is measured and recorded based on the difference between book value and fair value of the asset group. In estimating future cash flows, assets are grouped at the lowest level for which there is identifiable cash flows that are largely independent of cash flows from other asset groups. In estimating future cash flows, the Company estimates the price that would be received to sell an asset group in an orderly transaction between market participants at the measurement date. Significant factors that impact this price include the price of silver and zinc, and general market conditions for exploration companies, among other factors.

#### Goodwill

Goodwill is the purchase premium after adjusting for the fair value of net assets acquired. The Company tests goodwill for impairment at the reporting unit level at least annually, or more frequently if events or changes in circumstances indicate that the assets may be impaired. Goodwill impairment tests require judgment, including the identification of reporting units, assignment of assets and liabilities to reporting units, assignment of goodwill to reporting units, and determination of the fair value of each reporting unit. The Company performs its annual goodwill impairment tests on April 30<sup>th</sup> of each fiscal year. Based on this assessment, management determined it is more likely than not that the fair value of the reporting unit is less than its carrying amount, and recorded a goodwill impairment of \$2,058,031 during the year ended October 31, 2022.

#### Income Taxes

The Company follows the asset and liability method of accounting for income taxes. Under this method, deferred income tax assets and liabilities are determined based on temporary differences between the tax basis and accounting basis of the assets and liabilities measured using tax rates enacted at the balance sheet date. The Company recognizes the tax benefit from uncertain tax positions only if it is at least "more likely than not" that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon settlement with the taxing authorities. This accounting standard also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods and disclosure.

A valuation allowance is recorded against deferred tax assets if management does not believe that the Company has met the "more likely than not" standard imposed by this guidance to allow recognition of such an asset. Management recorded a full valuation allowance at October 31, 2022 and 2021 against the deferred tax assets as it determined that future realization would not meet the "more likely than not" criteria.



#### Stock-Based Compensation

The Company uses the Black-Scholes pricing model as a method for determining the estimated fair value for all stock options awarded to employees, officers, directors and consultants. The expected term of the options is based upon an evaluation of historical and expected future exercise behavior. The risk-free interest rate is based on rates published by the government for bonds with a maturity similar to the expected remaining life of the options at the valuation date. Volatility is determined based upon historical volatility of the Company's stock and adjusted if future volatility is expected to vary from historical experience. The dividend yield is assumed to be none as the Company has not paid dividends nor does the Company anticipate paying any dividends in the foreseeable future. The Company uses the graded vesting attribution method to recognize compensation costs over the requisite service period.

The Company classifies cumulative compensation cost associated with options on subsidiary equity as additional paid-in capital until exercise.

#### Loss per Share

Basic loss per share includes no dilution and is computed by dividing net loss available to common shareholders by the weighted average common shares outstanding for the period. Diluted loss per share reflects the potential dilution of securities that could share in the earnings of an entity similar to fully diluted loss per share. Although there were stock options and warrants in the aggregate of 5,165,039 shares and 2,015,039 shares outstanding at October 31, 2022 and 2021, respectively, they were not included in the calculation of loss per share because they would have been considered anti-dilutive.

## Foreign Currency Translation

During the years ended October 31, 2022 and 2021, the functional currency of Silver Bull Resources, Inc. and its subsidiaries was the U.S. dollar.

During the years ended October 31, 2022 and 2021, the Company's Mexican operations' monetary assets and liabilities with foreign source currencies were translated into U.S. dollars at the period-end exchange rate and non-monetary assets and liabilities with foreign source currencies were translated using the historical exchange rate. The Company's Mexican operations' revenue and expenses were translated at the average exchange rate during the period except for depreciation of office and mining equipment, costs of office and mining equipment of property concessions, all of which are translated using the historical exchange rate. Foreign currency translation gains and losses of the Company's Mexican operations are included in the consolidated statement of operations.

#### Accounting for Loss Contingencies and Legal Costs

From time to time, the Company is named as a defendant in legal actions arising from its normal business activities. The Company records an accrual for the estimated loss from a loss contingency when information available prior to issuance of its financial statements indicates that it is probable that a liability has been incurred at the date of the financial statements and the amount of the loss can be reasonably estimated. Disclosure of a loss contingency is made by the Company if there is at least a reasonable possibility that a loss has been incurred, and either an accrual has not been made or an exposure to loss exists in excess of the amount accrued. In cases where only disclosure of the loss contingency is required, either the estimated loss or a range of estimated loss is disclosed or it is stated that an estimate cannot be made. Legal costs incurred in connection with loss contingencies are considered period costs and accordingly are expensed in the period services are provided.

#### Investments

Investments comprise an approximately nil and 3% interest in Arras at October 31, 2022 and 2021, respectively. The Company's investments are measured at fair value through profit or loss, with gains or losses from changes in fair value recognized in the consolidated statements of operations and comprehensive loss.

#### Recent Accounting Pronouncements Adopted in the Year

On November 1, 2021, the Company adopted the Financial Accounting Standards Board's ("FASB") Accounting Standards Updated ("ASU") 2019-12, "Income Taxes -Simplifying the Accounting for Income Taxes (Topic 740)" which is intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and clarifies and amends existing guidance to improve consistent application. ASU 2019-12 will be effective for interim and annual periods beginning after December 15, 2020. Early adoption is permitted. The adoption of this update did not have a material impact on the Company's financial position, results of operations or cash flows and disclosures.

#### Recent Accounting Pronouncements Not Yet Adopted

In March 2022, the FASB issued ASU 2022-01, "Derivatives and Hedging (Topic 815): Fair Value Hedging—Portfolio Layer Method" which is intended to make amendments to the fair value hedge accounting previously issued in ASU 2017-12 "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities". The new standard will be effective for reporting periods beginning after December 15, 2022. The standard introduced the portfolio layer method allowing multiple hedged layers of a single closed portfolio when applying fair value hedge accounting. The adoption of this update is not expected to have a material impact on the Company's financial position, results of operations or cash flows and disclosures.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force) and the SEC did not or are not expected to have a material impact on the Company's present or future consolidated financial statements.

## NOTE 3 - SOUTH32 OPTION AGREEMENT

On June 1, 2018, the Company and its subsidiaries Minera Metalin and Contratistas entered into an earn-in option agreement (the "South32 Option Agreement") with South32 International Investment Holdings Pty Ltd ("South32"), a wholly-owned subsidiary of South32 Limited (ASX/JSE/LSE: S32), whereby South32 was able to obtain an option to purchase 70% of the shares of Minera Metalin and Contratistas (the "South32 Option").

On October 11, 2019, the Company and its subsidiary Minera Metalin issued a notice of force majeure to South32 pursuant to the South32 Option Agreement. Due to a blockade by a cooperative of local miners called Sociedad Cooperativa de Exploración Minera Mineros Norteños, S.C.L. ("Mineros Norteños"), all work was halted on the Sierra Mojada Property. The notice of force majeure was issued because of the blockade's impact on the ability of the Company and its subsidiary Minera Metalin to perform their obligations under the South32 Option Agreement. Pursuant to the South32 Option Agreement, any time period provided for in the South32 Option Agreement was to be generally extended by a period equal to the period of delay caused by the event of force majeure.

On August 31, 2022, the South32 Option Agreement was mutually terminated by South32 and the Company. No portion of the equity value has been classified as temporary equity as the South32 Option has no intrinsic value.

Minera Metalin owns the Sierra Mojada Property located in Coahuila, Mexico (the "Sierra Mojada Project") and supplies labor for the Sierra Mojada Project. Under the South32 Option Agreement, South32 could have earned into the South32 Option by funding a collaborative exploration program on the Sierra Mojada Project. Upon the terms and subject to the conditions set forth in the South32 Option Agreement, in order for South32 to earn and maintain its four-year option, South32 was to have contributed to Minera Metalin for exploration of the Sierra Mojada Project at least \$3 million by the end of Year 1, \$6 million by the end of Year 2, \$8 million by the end of Year 3 and \$10 million by the end of Year 4 (the "Initial Funding"). Funding was made on a quarterly basis based on the subsequent quarter's exploration budget. South32 was able to exercise the South32 Option by contributing \$100 million to Minera Metalin (the "Subscription Payment"), less the amount of Initial Funding previously contributed by South32. The issuance of shares upon notice of exercise of the South32 Option by South32 was subject to antitrust approval by the Mexican government. If the full amount of the Subscription Payment had been advanced by South32 and the South32 Option became exercisable and was exercised, the Company and South32 would have been obligated to contribute funding to Minera Metalin on a 30/70 pro rata basis. If South32 elected not to continue with the South32 Option during the four-year option period, the Sierra Mojada Project would remain 100% owned by the Company. The exploration program was initially managed by the Company, with South32 being able to approve the exploration program funded by it. The Company received funding of \$3,144,163 from South32 for Year 1 of the South32 Option Agreement. In April 2019, the Company received a notice from South32 to maintain the South32 Option Agreement for Year 2 by providing cumulative funding of \$6 million by the end of such period. The Company received funding of \$1,502,831, which included payments of \$319,430, \$1,100,731 and \$82,670 received during the years ended October 31, 2019, 2020 and 2021, respectively, from South32 for Year 2 of the South32 Option Agreement, the time period for which was extended by the event of force majeure as described above. During the year ended October 31, 2022, the Company received a payment from South32 in the amount of \$518,000 as reimbursement for costs incurred during the force majeure period. As of October 31, 2022, the Company had received cumulative funding of \$5,164,994 under the South32 Option Agreement. If the South32 Option Agreement was terminated by South32 without cause or if South32 was unable to obtain antitrust authorization from the Mexican government, the Company would be under no obligation to reimburse South32 for amounts contributed under the South32 Option Agreement.

Upon exercise of the South32 Option, Minera Metalin would have been required to issue common shares to South32. Pursuant to the South32 Option Agreement, following exercise and until a decision has been made by the board of directors of Minera Metalin to develop and construct a mine on the Sierra Mojada Project, each shareholder holding greater than or equal to 10% of the shares may withdraw as an owner in exchange for a 2% net smelter royalty on products produced and sold from the Sierra Mojada Project. Any shareholder whose holdings are reduced to less than 10% must surrender its interest in exchange for a 2% net smelter royalty.

The Company determined that Minera Metalin is a variable interest entity and that the South32 Option Agreement did not result in the transfer of control of the Sierra Mojada Project to South32. The Company also determined that the South32 Option Agreement represented non-employee share-based compensation associated with the collaborative exploration program undertaken by the parties. The compensation cost is expensed when the associated exploration activity occurs. The share-based payments have been classified as equity instruments and valued based on the fair value of the cash consideration received, as it is more reliably measurable than the fair value of the equity interest. If the South32 Option had been exercised and shares were issued prior to a decision to develop a mine, such shares would have been classified as temporary equity as they would have been contingently redeemable in exchange for a net smelter royalty under circumstances that were not wholly in control of the Company or South32 and were not probable.

As of January 26, 2023, the blockade by Mineros Norteños at, on and around the Sierra Mojada Property is ongoing. South32 paid \$518,000 to the Company as a final payment for the exploration costs occurred by the Company during the blockade and released South32 from all claims as the date of termination.

## NOTE 4 – DUE FROM RELATED PARTY

As of October 31, 2022, due from related party consists of \$23,196 due from Arras for shared employees' salaries and office expenses. This amount is non-interest bearing and to be repaid on demand.

## NOTE 5 – VALUE-ADDED TAX RECEIVABLE

Value-added tax ("VAT") receivable relates to VAT paid in Mexico. The Company estimates net VAT of \$127,036 (2021 - \$120,810) will be received and believes that it remains legally entitled to be refunded the full amount of the VAT receivable and intends to rigorously continue its VAT recovery efforts, this being supported by the Company's July 2022 receipt of its claim for the month of October 2017 in the full amount of \$4,363 filed, with back interest and inflation adjustment amounts additionally being received (total of Mexican Peso ("\$MXN") 179,837). While the Company continues to pursue recovery from the Mexican government, the Company reclassified the carrying value of the receivable to non-current assets as of October 31, 2022 based on the continued failure to recover the VAT receivable and a recent preliminary unfavorable ruling from the Mexican tax authority, which the Company is in the process of challenging. The allowance for uncollectible VAT was estimated by management based upon a number of factors, including the length of time the returns have been outstanding, responses received from tax authorities, general economic conditions in Mexico and estimated net recovery after commissions.

A summary of the changes in the allowance for uncollectible VAT for the fiscal years ended October 31, 2022 and 2021 is as follows:

Allowance for uncollectible VAT – October 31, 2020	\$ 345,059
Provision for uncollectible VAT	62,024
Foreign currency translation adjustment	13,899
Allowance for uncollectible VAT – October 31, 2021	420,982
Provision for uncollectible VAT	14,113
Foreign currency translation adjustment	14,124
Allowance for uncollectible VAT – October 31, 2022	\$ 449,219

### NOTE 6 – INVESTMENTS

On August 12, 2020, the Company entered into the Beskauga Option Agreement with Copperbelt pursuant to which it had the exclusive right and option to acquire Copperbelt's right, title and 100% interest in the Beskauga property located in Kazakhstan. On March 19, 2021, the Company transferred its interest in the Beskauga Option Agreement to its subsidiary, Arras.

On September 24, 2021, pursuant to a Separation and Distribution Agreement, the Company distributed to its shareholders one Arras common share for each Silver Bull share held by such shareholders, or 34,547,838 Arras common shares in total (the "Distribution"). Upon completion of the Distribution, the Company retained 1,452,162 Arras shares, or approximately 4% of the outstanding Arras common shares, as a strategic investment.

At the time of the Distribution, the Company determined that Arras was no longer a controlled subsidiary due to the dilution of its interest in Arras and the fact that Arras became a stand-alone company at the time of the Distribution. On the date control was lost, the Company recorded its interest retained in Arras at carrying value without gain or loss.

The net assets of Arras as at September 24, 2021, the date of disposition, was as follows:

Cash and cash equivalents	\$ 505,228
Other receivables	13,319
Loan receivable	2,288,500
Property concessions	327,690
Office and mining equipment, net	108,534
Accounts payable	(547,405)
Accrued liabilities and expenses	(553,428)
Net assets – September 24, 2021	\$ 2,142,438

The Company determined that the Company's retained interest in Arras is accounted for using the fair value method for the period from September 24, 2021, onwards, and its investments in Arras is presented as an investment.

On October 21, 2021, Arras completed a private placement. The Company did not participate in this private placement. As a result of the Arras common share issuance, the Company's interest in Arras decreased to approximately 3% as of October 31, 2021.

On December 6, 2021, the Company sold 600,000 common shares of Arras at a price of \$CDN 1.00 per share for proceeds of \$469,484 (\$CDN 600,000).

On June 15, 2022, the Company sold the remaining 852,262 common shares of Arras at a price of \$CDN 1.50 per share for gross proceeds of \$994,704 (\$CDN 1,278,393) and incurred broker costs of \$30,075 in relation to the sale.

A summary of the changes in investments for the years ended October 31, 2022 and 2021 is as follows:

Equity security – October 31, 2020	\$ _
Carrying value of investment on deconsolidation	75,817
Gain on investment	1,090,953
Equity security – October 31, 2021	\$ 1,166,770
Sale of investment, net of costs	(1,434,113)
Gain on investment	301,493
Foreign currency translation adjustment	(34,150)
Equity security – October 31, 2022	\$ _

#### Non-Controlling Interest

On April 1, 2021, Arras completed an initial private placement (the "Arras Private Placement") for 5,035,000 common shares at a purchase price of \$CDN 0.50 per share for gross proceeds of \$2,000.319 (\$CDN 2,517,500). No placement agent or finder's fees were paid in connection with the Arras Private Placement. Arras incurred other offering costs associated with the Arras Private Placement of \$20,687.

The Arras Private Placement was considered a change in the ownership interest of a subsidiary that the Company controls and accordingly, the Company accounted for this as an equity transaction. The Company has correspondingly recorded a non-controlling interest for the portion of Arras not owned by the Company. As a result of the transaction, the Company maintains a controlling interest of 88% of Arras issued and outstanding common shares. Mainly due to this impact, the Company recorded a non-controlling interest for the dilution gain from changes in interest in subsidiary of \$1,979,633. There were no changes in the number of Arras common shares held by the Company.

On September 24, 2021, upon completion of the Distribution, the Company retained 1,452,162 Arras common shares, or approximately 4% of the outstanding Arras common shares, as a strategic investment, and Arras became a stand-alone company. The Company ceased consolidating the consolidated financial statements of Arras effective September 24, 2021, as the Company determined that it no longer exercised control over Arras. Accordingly, the Company's retained interest in Arras is accounted for using the fair value method. On September 24, 2021, the Company derecognized the net assets of Arras, and the non-controlling interest related to Arras.

As of October 31, 2021, the Company held approximately 3% of the outstanding Arras shares, reduced from the distribution date due to Arras completing an equity financing.



The carrying value of the non-controlling interest at October 31, 2021 was as follows:

Non-controlling interests - October 31, 2020	\$ _
Changes in interests in subsidiary – April 1, 2021	1,979,633
Loss for the period	(198,138)
Distribution of interest in Arras	(1,781,495)
Non-controlling interests - October 31, 2021	\$ _

## NOTE 7 – OFFICE AND MINING EQUIPMENT

The following is a summary of the Company's office and mining equipment at October 31, 2022 and 2021:

	 October 31, 2022	 October 31, 2021
Mining equipment	\$ 396,153	\$ 396,153
Vehicles	92,873	92,873
Buildings and structures	185,724	185,724
Computer equipment and software	74,236	74,236
Well equipment	39,637	39,637
Office equipment	47,597	47,597
	836,220	836,220
Less: Accumulated depreciation	(692,652)	(672,080)
Office and mining equipment, net	\$ 143,568	\$ 164,140

## NOTE 8 – PROPERTY CONCESSIONS

The following is a summary of the Company's property concessions in Sierra Mojada, Mexico as at October 31, 2022 and 2021:

Property Concessions - October 31, 2022 and 2021	\$ 5,019,927

## NOTE 9 – GOODWILL

Goodwill represents the excess, at the date of acquisition, of the purchase price of the business acquired over the fair value of the net tangible and intangible assets acquired. The Company's inability to advance the Sierra Mojada Project due to the ongoing blockade has resulted in a sustained decrease in the value of the Company's common stock. As such, the Company concluded that this constituted an indication of impairment of goodwill. On April 30, 2022, the Company elected to perform a qualitative assessment to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. Based on this assessment, management determined it is more likely than not that the fair value of the reporting unit is less than its carrying amount, and as such, the Company recorded a goodwill impairment of \$2,058,031 during the year ended October 31, 2022.

The following is a summary of the Company's goodwill balance as at October 31, 2022 and 2021:

Goodwill – October 31, 2021	\$ 2,058,031
Impairment	(2,058,031)
Goodwill – October 31, 2022	\$ 

## NOTE 10 - LOAN PAYABLE

In June 2020, the Company received \$29,531 (\$CDN 40,000) in the form of a Canada Emergency Business Account ("CEBA") loan. CEBA is part of the economic assistance program launched by the Government of Canada to ensure that businesses have access to capital during the COVID-19 pandemic that can only be used to pay non-deferrable operating expenses. During the period from receipt of the CEBA loan to December 31, 2022 (the "Initial Term"), no interest will be charged on the principal amount outstanding. If at least \$CDN 30,000 is repaid on or before the end of the Initial Term, the remaining \$CDN 10,000 of principal will be forgiven pursuant to the terms of the CEBA loan. During the period from January 1, 2023 to December 31, 2025 (the "Extended Term"), if any portion of the loan remains outstanding, interest will be payable monthly at a rate of 5% per annum on the outstanding principal balance.



In January 2021, the Company applied and qualified for an additional \$15,615 (\$CDN 20,000) CEBA loan. Fifty percent (50%) of the additional loan is forgivable if repaid by December 31, 2022. The loan accrues no interest before the end of the Initial Term, and thereafter converts to a three-year term loan with a 5% annual interest rate. Any portion of the loan is repayable without penalty at any time prior to December 31, 2025. The total CEBA loan amount stands at \$CDN 60,000 with \$CDN 20,000 forgivable if repaid by December 31, 2022. In January 2022, the repayment deadline for CEBA loan to qualify for loan forgiveness had been extended to December 31, 2023.

The balance of the CEBA loan is fully repayable on or before the end of the Extended Term, if not repaid on or before the end of the Initial Term. The Company anticipates repaying the CEBA loan upon or before the completion of the Initial Term. An income will be recognized in the period when the CEBA loan is forgiven.

Loan payable – October 31, 2020	\$ 30,034
Loan payable received – January 2021	15,615
Foreign currency translation adjustment	2,801
Loan payable – October 31, 2021	 48,450
Foreign currency translation adjustment	(4,491)
Loan payable – October 31, 2022	\$ 43,959

## NOTE 11 – COMMON STOCK

On February 17, 2022, the Company issued 507,814 shares of common stock at an average of \$0.25 per share of common stock as payment of accrued management bonuses in the amount of \$128,094 (\$CDN162,500) based on the closing trading price on the date of Board's approval.

Following shareholder approval, the Company amended its articles of incorporation on April 20, 2021 to, among other things, increase the number of authorized shares of common stock from 37,500,000 to 150,000,000.

On September 9, 2021, options to acquire 1,078,125 shares of common stock were exercised on a cashless basis, whereby the recipients elected to receive 220,471 shares without payment of the cash exercise price, and the remaining options for 857,654 shares were cancelled.

On June 25, 2021, the Company completed a private placement (the "2021 Silver Bull Private Placement") for 500,000 shares of common stock for gross proceeds of \$405,351 (\$CDN 500,000). No placement agent or finder's fees were paid in connection with the 2021 Silver Bull Private Placement. The Company incurred other offering costs associated with the 2021 Silver Bull Private Placement of \$14,628.

On June 15, 2021, options to acquire 375,000 shares of common stock were exercised on a cashless basis, whereby the recipient elected to receive 113,436 shares without payment of the cash exercise price, and the remaining options for 261,564 shares were cancelled.

On February 2, 2021, options to acquire 509,375 shares of common stock were exercised on a cashless basis, whereby the recipients elected to receive 228,986 shares without payment of the cash exercise price, and the remaining options for 280,389 shares were cancelled.

On November 9, 2020, the Company completed the second and final tranche of a private placement (the "2020 Silver Bull Private Placement") for 319,000 units (each, a "Unit") at a purchase price of \$0.47 per Unit for gross proceeds of \$149,930. Each Unit consists of one share of the Company's common stock and one half of one transferable common stock purchase warrant (each whole warrant, a "Warrant"). Each Warrant entitles the holder thereof to acquire one share of common stock and one common share of Arras as per the terms of the Separation and Distribution agreement between Silver Bull and Arras completed in conjunction with the Distribution, at a price of \$0.59 until November 9, 2025. The Company incurred other offering costs associated with the second and final tranche of the 2020 Silver Bull Private Placement of \$6,780. Subscribers of the second and final tranche of the 2020 Silver Bull Private Placement included management for a total 319,000 Units and gross proceeds of \$149,930.

## NOTE 12 - STOCK OPTIONS

The Company has one stock option plan under which equity securities are authorized for issuance to officers, directors, employees and advisors: the 2019 Stock Option and Stock Bonus Plan (the "2019 Plan"). The 2019 Plan was amended on April 19, 2022 (the "Amended 2019 Plan"). Under the Amended 2019 Plan, 10% of the total shares outstanding are reserved for issuance upon the exercise of options or the grant of stock bonuses, to a maximum of 15,000,000 shares.

Options are typically granted with an exercise price equal to the closing market price of the Company's stock at the date of grant, have a graded vesting schedule over two or three years and have a contractual term of five years.

A summary of the range of assumptions used to value stock options granted for the years ended October 31, 2022 and 2021 are as follows:

	Year Ended October		
Options	2022	2021	
Expected volatility	81% - 87%	—	
Risk-free interest rate	1.60% - 1.74%	—	
Dividend yield	—	—	
Expected term (in years)	2.50 - 5.00	_	

On February 17, 2022, the Company granted options to acquire 3,300,000 shares of common stock with a weighted-average grant-date fair value of \$0.14 per share and an exercise price of \$CDN 0.32 per share.

No options were exercised during the year ended October 31, 2022.

No options were granted during the year ended October 31, 2021.

On September 9, 2021, options to acquire 1,078,125 shares of common stock were exercised on a cashless basis at an average exercise price of \$CDN 1.03 per share. 220,471 shares of common stock were issued and 857,654 options were cancelled. The options had an intrinsic value of \$224,756 at the time of exercise.

On June 15, 2021, options to acquire 375,000 shares of common stock were exercised on a cashless basis at an average exercise price of \$CDN 1.03 per share. 113,436 shares of common stock were issued and 261,564 options were cancelled. The options had an intrinsic value of \$136,815 at the time of exercise.

On February 2, 2021, options to acquire 509,375 shares of common stock were exercised on a cashless basis at an average exercise price of \$CDN 0.60 per share. 228,986 shares of common stock were issued and 280,389 options were cancelled. The options had an intrinsic value of \$194,630 at the time of exercise.

The following is a summary of stock option activity for the fiscal years ended October 31, 2022 and 2021:

Options Shares		Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value	
Outstanding at October 31, 2020	2,043,750	\$ 0.72	1.83	\$ 53,546	
Exercised	(562,893)	0.69			
Cancelled	(1,399,607)	0.79		_	
Expired	(37,500)	1.65		_	
Outstanding at October 31, 2021	43,750	1.39	1.30		
Granted	3,300,000	0.24			
Cancelled	(150,000)	0.24	—	—	
Outstanding at October 31, 2022	3,193,750	0.23	4.25		
Exercisable at October 31, 2022	1,093,750	\$ 0.28	4.14	\$ —	

The Company recognized stock-based compensation costs for stock options of \$305,779 and \$nil for the fiscal years ended October 31, 2022 and 2021, respectively. As of October 31, 2022, there remains \$130,311 of total unrecognized compensation expense, which is expected to be recognized over a weighted average period of 0.53 years.

During the year ended October 31, 2021, while a subsidiary of the Company, Arras granted options to acquire 5,060,000 common shares with a weighted-average grant-date fair value of \$0.22 per share and an exercise price of \$CDN 0.50 per share.

The Company recognized stock-based compensation costs for the Arras stock options of \$587,505 for the period from inception on February 5, 2021 to September 24, 2021.



The Company and Arras applied the fair value method using the Black-Scholes option pricing model in accounting for their stock options granted. Accordingly, share-based compensation of \$223,895 was recognized as personnel costs for options granted to employees, share-based compensation of \$72,356 was recognized as directors' fees for options granted to directors and share-based compensation of \$9,528 was recognized as exploration and property holding costs for options granted to employees and advisors.

Summarized information about stock options outstanding and exercisable at October 31, 2022 is as follows:

	Options Outs	standing			Options E	xercis	sable
		Weighted Average Remaining Contractual	Weighted Average				Weighted Average
 Exercise Price	Number Outstanding	Life (Years)	 Exercise Price		Number Exercisable		Exercise Price
\$ 0.23	3,150,000	4.30	\$ 0.23		1,050,000	\$	0.23
 1.26	43,750	0.30	 1.26	_	43,750	_	1.26

## NOTE 13 - WARRANTS

A summary of warrant activity for the fiscal years ended October 31, 2022 and 2021 is as follows:

Warrants	Shares	Weighted Average Exercise Price		Weighted Average Remaining Contractual Life (Years)	Agg	regate Intrinsic Value
Outstanding at October 31, 2020	1,811,789	\$	0.59	4.99	\$	—
Issued in the initial tranche of the 2020 Silver Bull Private Placement						
(Note 11)	195,500		0.59			
Outstanding and exercisable at October 31, 2021	1,971,289	\$	0.59	3.99	\$	_
Outstanding and exercisable at October 31, 2022*	1,971,289	\$	0.59	2.99	\$	_

\*Pursuant to the Distribution (Note 6), 1,971,289 warrants with a weighted average exercise price of \$0.59 are exercisable into one share of common stock of the Company and one common share of Arras. The Company will receive \$0.34 of the proceeds from the exercise of each of these warrants and the remaining proceeds will be paid to Arras.

No warrants were issued or exercised during the year ended October 31, 2022.

During the year ended October 31, 2021, the Company issued 159,500 warrants with an exercise price of \$0.59 in connection with the 2020 Silver Bull Private Placement.

No warrants were exercised during the year ended October 31, 2021.

Summarized information about warrants outstanding and exercisable at October 31, 2022 is as follows:

Warrants Outstanding and Exercisable

		Number	Weighted Average Remaining			
_	Exercise Price	Outstanding	Contractual Life (Years)	W	eighted Average Exercise Price	
\$	0.59	1,971,289	2.99	\$	0.59	
						_

## NOTE 14 – INCOME TAXES

#### Provision for Taxes

The Tax Act was signed into law on December 22, 2017 and the Tax Act required the Company to use a statutory tax rate of 21% for the years ended October 31, 2022 and 2021.

The Company files a United States federal income tax return and a Canadian branch return on a fiscal year-end basis and files Mexican income tax returns for its two Mexican subsidiaries on a calendar year-end basis. The Company and two of its wholly-owned subsidiaries, Minera Metalin and Minas, have not generated taxable income since inception.

Contratistas, another wholly-owned Mexican subsidiary, has historically generated taxable income based upon intercompany fees billed to Minera Metalin on the services it provides. On August 26, 2021, Contratistas merged with and into Minera Metalin.

On April 16, 2010, a wholly-owned subsidiary of the Company was merged with and into Dome, resulting in Dome becoming a wholly-owned subsidiary of the Company. Dome, a Delaware corporation, files a tax return in the United States as part of the Company's consolidated tax return.

The components of loss before income taxes were as follows:

	For the ye Octob	ear e oer 3	nded 1,
	 2022 20		
United States	\$ (766,000)	\$	13,000
Foreign	(2,398,000)		(2,456,000)
Loss before income taxes	\$ (3,164,000)	\$	(2,443,000)

The components of the provision for income taxes are as follows:

	For the y Octo	vear end ber 31,	led
	2022		2021
Current tax expense	\$ 4,520	\$	4,550
Deferred tax expense	_		—
	\$ 4,520	\$	4,550

The Company's provision for income taxes for the fiscal year ended October 31, 2022 consisted of a tax expense of \$4,520 (2021 - \$4,550) related to a provision for income taxes for the Silver Bull Canadian branch return for the fiscal year ended October 31, 2022.

The reconciliation of the provision for income taxes computed at the U.S. statutory rate to the provision for income tax as shown in the statement of operations and comprehensive loss is as follows:

	For the year ended October 31,			d
		2022		2021
Income tax benefit calculated at U.S. federal income tax rate	\$	(665,000)	\$	(514,000)
Differences arising from:				
Other permanent differences		524,000		2,766,000
Differences due to foreign income tax rates		(29,000)		(129,000)
Adjustment to prior year taxes		447,000		56,000
Inflation adjustment foreign net operating loss		(797,000)		(323,000)
Foreign currency fluctuations		(51,000)		(227,000)
Decrease in valuation allowance		(1,840,000)		(2,551,000)
Net operating loss carry forwards deconsolidation - Canada		_		93,000
Net operating loss carry forwards expiration - Mexico		2,416,000		834,000
Net income tax provision	\$	5,000	\$	5,000

The components of the deferred tax assets at October 31, 2022 and 2021 were as follows:

	 For the year ended October 31,		
	2022		2021
Deferred tax assets:			
Net operating loss carry forwards – U.S.	\$ 5,235,000	\$	5,035,000
Net operating loss carry forwards – Mexico	3,711,000		5,922,000
Exploration costs	961,000		814,000
Other – United States	68,000		46,000
Other – Mexico	44,000		42,000
Total net deferred tax assets	10,019,000		11,859,000
Less: valuation allowance	(10,019,000)		(11,859,000)
Net deferred tax asset	\$ _	\$	_

At October 31, 2022, the Company has U.S. net operating loss carry-forwards of approximately \$20 million that expire in the years 2028 through 2037 and \$5 million which will be carried forward indefinitely. The Company has approximately \$16 million of net operating loss carry-forwards in Mexico that expire in the calendar years 2022 through 2031.

The valuation allowance for deferred tax assets of \$10.0 and \$11.9 million at October 31, 2022 and 2021, respectively, relates principally to the uncertainty of the utilization of certain deferred tax assets, primarily net operating loss carry forwards in various tax jurisdictions. The Company continually assesses both positive and negative evidence to determine whether it is more likely than not that the deferred tax assets can be realized prior to their expiration. Based on the Company's assessment, it has determined that the deferred tax assets are not currently realizable.

#### Net Operating Loss Carry Forward Limitation

For U.S. federal income tax purposes, a change in ownership under IRC Section 382 has occurred as a result of the Dome merger in April 2010. When an ownership change has occurred, the utilization of these losses against future income would be subject to an annual limitation, which would be equal to the value of the acquired company immediately prior to the change in ownership multiplied by the IRC Section 382 rate in effect during the month of the change.

## Accounting for Uncertainty in Income Taxes

During the fiscal years ended October 31, 2022 and 2021, the Company has not identified any unrecognized tax benefits or had any additions or reductions in tax positions and therefore a reconciliation of the beginning and ending amount of unrecognized tax benefits is not presented.

The Company does not have any unrecognized tax benefits as of October 31, 2022, and accordingly the Company's effective tax rate will not be materially affected by unrecognized tax benefits.

The following tax years remain open to examination by the Company's principal tax jurisdictions:

United States:	2018 and all following years
Mexico:	2017 and all following years
Canada:	2018 and all following years

The Company has not identified any uncertain tax position for which it is reasonably possible that the total amount of unrecognized tax benefit will significantly increase or decrease within the next 12 months.

The Company's policy is to classify tax related interest and penalties as income tax expense. There is no interest or penalties estimated on the underpayment of income taxes as a result of unrecognized tax benefits.

### NOTE 15 – FINANCIAL INSTRUMENTS

#### Fair Value Measurements

All financial assets and financial liabilities are recorded at fair value on initial recognition. Transaction costs are expensed when they are incurred, unless they are directly attributable to the acquisition of financial assets or the assumption of liabilities carried at amortized cost, in which case the transaction costs adjust the carrying amount.

The three levels of the fair value hierarchy are as follows:

- Level 1 Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2 Quoted prices in markets that are not active, or inputs that are observable, either directly or indirectly, for substantially the full term of the asset or liability; and
- Level 3 Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity).

Under fair value accounting, assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's financial instruments consist of cash and cash equivalents, due from related party, investments, accounts payable and loan payable.

Cash and cash equivalents, due from related party and accounts payable are classified as level 1 in the fair value hierarchy. Their carry amounts approximate fair value at October 31, 2022 and 2021 due to the short maturities of these financial instruments. Investments and loan payable are classified as level 2 in the fair value hierarchy.

## Credit Risk

Credit risk is the risk that the counterparty to a financial instrument will cause a financial loss for the Company by failing to discharge its obligations. To mitigate exposure to credit risk on financial assets, the Company has established policies to ensure liquidity of funds and ensure that counterparties demonstrate minimum acceptable credit worthiness.



The Company maintains its U.S. dollar and \$CDN cash and cash equivalents in bank and demand deposit accounts with major financial institutions with high credit standings. Cash deposits held in Canada are insured by the Canada Deposit Insurance Corporation ("CDIC") for up to \$CDN 100,000. Certain Canadian bank accounts held by the Company exceed these federally insured limits or are uninsured as they related to U.S. dollar deposits held in Canadian financial institutions. As of October 31, 2022 and 2021, the Company's cash and cash equivalent balances held in Canadian financial institutions included \$802,761 and \$98,617, respectively, which was not insured by the CDIC. The Company has not experienced any losses on such accounts and management believes that using major financial institutions with high credit ratings mitigates the credit risk in cash and cash equivalents.

The Company also maintains cash in bank accounts in Mexico. These accounts are denominated in the local currency and are considered uninsured. As of October 31, 2022 and 2021, the U.S. dollar equivalent balance for these accounts was \$10,702 and \$10,239, respectively.

#### Interest Rate Risk

The Company holds substantially all of the Company's cash and cash equivalents in bank and demand deposit accounts with major financial institutions. The interest rates received on these balances may fluctuate with changes in economic conditions. Based on the average cash and cash equivalent balances during the fiscal year ended October 31, 2022, a 1% decrease in interest rates would have resulted in a reduction in interest income for the period of approximately \$529.

#### Foreign Currency Exchange Risk

Certain purchases of labor, operating supplies and capital assets are denominated in \$CDN, \$MXN or other currencies. As a result, currency exchange fluctuations may impact the costs of the Company's operations. Specifically, the appreciation of the \$MXN or \$CDN against the U.S. dollar may result in an increase in operating expenses and capital costs in U.S. dollar terms. The Company currently does not engage in any currency hedging activities.

Based on the net exposures as at October 31, 2022, a 5% depreciation or appreciation of the \$CDN and \$MXN against the US dollar would result in an increase/decrease of approximately \$9,000 in the Company's net income.

#### Liquidity Risk

Liquidity risk is the risk that the Company will be unable to meet its financial obligations as they fall due. The Company's approach to managing its liquidity risk is to ensure, as far as possible, that it will have sufficient liquid funds to meet its liabilities when due.

At October 31, 2022, the Company has \$886,728 (2021 - \$189,607) of cash and cash equivalents to settle current liabilities of \$342,192 (2021 - \$791,319). All payables classified as current liabilities are due within one year.

### NOTE 16 - COMMITMENTS AND CONTINGENCIES

## Compliance with Environmental Regulations

The Company's exploration activities are subject to laws and regulations controlling not only the exploration and mining of mineral properties, but also the effect of such activities on the environment. Compliance with such laws and regulations may necessitate additional capital outlays or affect the economics of a project, and cause changes or delays in the Company's activities.

## Property Concessions Mexico

To properly maintain property concessions in Mexico, the Company is required to pay a semi-annual fee to the Mexican government and complete annual assessment work.

#### Royalty

The Company has agreed to pay a 2% net smelter return royalty on certain property concessions within the Sierra Mojada Property based on the revenue generated from production. Total payments under this royalty are limited to \$6.875 million (the "Royalty"). To date, no royalties have been paid.

#### Litigation and Claims

#### Mineros Norteños Case

On May 20, 2014, Mineros Norteños filed an action in the Local First Civil Court in the District of Morelos, State of Chihuahua, Mexico, against the Company's subsidiary, Minera Metalin, claiming that Minera Metalin breached an agreement regarding the development of the Sierra Mojada Property. Mineros Norteños sought payment of the Royalty, including interest at a rate of 6% per annum since August 30, 2004, even though nor evenue has been produced from the applicable mining concessions. It also sought payment of wages to the cooperative's members since August 30, 2004, even though none of the individuals were hired or performed work for Minera Metalin under this agreement and Minera Metalin did not commit to hiring them. On January 19, 2015, the case was moved to the Third District Court (of federal jurisdiction). On October 4, 2017, the court ruled that Mineros Norteños was time barred from bringing the case. On October 19, 2017, Mineros Norteños appealed this ruling. On July 31, 2019, the Federal Appeals Court upheld the original ruling. This ruling was subsequently challenged by Mineros Norteños and on January 24, 2020, the Federal Circuit Court ruled that the Federal Appeals Court upheld the original ruling. In March 2020, the Federal Appeals Court upheld the original ruling after considering these additional factors in its ruling. In March 2020, the Federal Appeals Court upheld the original ruling which appeal the Company timely responded and objected to on October 5, 2020. On March 26, 2021, the Federal Circuit Court issued a final and conclusive resolution, affirming the Federal Appeals Court decision. Despite the judgments in favour of the Company, Mineros Norteños has continued to block access to the facilities at Sierra Mojada since September 2019. The Company has filed criminal complaints with the State of Coahuila, federal and state authorities have been contacted to intervene and terminate the blockade, and the Company has attempted to negotiate with Mineros Norteños, without resolution to date. Th

#### Valdez Case

On February 15, 2016, Messrs. Jaime Valdez Farias and Maria Asuncion Perez Alonso (collectively, "Valdez") filed an action before the Local First Civil Court of Torreon, State of Coahuila, Mexico, against the Company's subsidiary, Minera Metalin, claiming that Minera Metalin had breached an agreement regarding the development of the Sierra Mojada Property. Valdez sought payment in the amount of \$5.9 million for the alleged breach of the agreement. On April 28, 2016, Minera Metalin filed its response to the complaint, asserting various defenses, including that Minera Metalin terminated the agreement before the payment obligations arose and that certain conditions precedent to such payment obligations were never satisfied by Valdez. The Company and the Company's Mexican legal counsel asserted all applicable defenses. In May 2017, a final judgment was entered finding for the Company, the defendant, acquitting the Company of all of the plaintiff's claims and demands. However, due to a technicality in an early procedural act, Valdez was allowed to, and did, challenge the judgment before a local Appeals Court. On October 1, 2020, the Appeals Court end a resolution overturning the previous judgment and entering a resolution in favor of Valdez in the amount of \$5 million, plus court costs. In November 2020, the judgment of the Appeals Court ruled in favour of the plaintiff. The Company believes these judgments are contrary to applicable law. The plaintiff initiated proceedings to enforce the Appeals Court resolution, and the Company has offered a mining concession as a payment in full to terminate this controversy definitively. The Company believes the likelihood of the plaintiff succeeding in collecting any amount on this claim is remote, as such the Company has not accrued any amounts in its consolidated financial statements with respect to this claim.

From time to time, the Company is involved in other disputes, claims, proceedings and legal actions arising in the ordinary course of business. The Company intends to vigorously defend all claims against the Company, and pursue its full legal rights in cases where the Company has been harmed. Although the ultimate outcome of these proceedings cannot be accurately predicted due to the inherent uncertainty of litigation, in the opinion of management, based upon current information, no other currently pending or overtly threatened proceeding is expected to have a material adverse effect on the Company's business, financial condition or results of operations.

#### COVID-19

Global outbreaks of contagious diseases, including the December 2019 outbreak of a strain of coronavirus (COVID-19), have the potential to significantly and adversely impact the Company's operations and business. On March 11, 2020, the World Health Organization recognized COVID-19 as a global pandemic. Pandemics or disease outbreaks such as the COVID-19 outbreak may have a variety of adverse effects on the Company's business, including by depressing commodity prices and the market value of its securities and limiting the ability of management to meet with potential financing sources. The spread of COVID-19 has had, and continues to have, a negative impact on the financial markets, which may impact the Company's ability to obtain additional financing in the near term. A prolonged downturn in the financial markets could have an adverse effect on the Company's business, results of operations and ability to raise capital.



## NOTE 17 – SEGMENT INFORMATION

The Company operates in a single reportable segment: the exploration of mineral property interests. The Company has mineral property interests in Sierra Mojada, Mexico.

Geographic information is approximately as follows:

		For the Year Ended October 31,		
	2	022	2021	
Net loss				
Mexico	\$	(2,397,000) \$	(400,000)	
Kazakhstan		_	(642,000)	
Canada		(771,000)	(1,406,000)	
Net Loss	\$	(3,168,000) \$	(2,448,000)	

The following table details allocation of assets included in the accompanying consolidated balance sheets at October 31, 2022:

		Canada		Canada Mexico		Total	
Cash and cash equivalents	\$	876,000	\$	11,000	\$	887,000	
Value-added tax receivable, net				127,000		127,000	
Other receivables		3,000				3,000	
Prepaid expenses and deposits		45,000		4,000		49,000	
Due from related party		23,000				23,000	
Office and mining equipment, net				144,000		144,000	
Property concessions				5,020,000		5,020,000	
	\$	947,000	\$	5,306,000	\$	6,253,000	

The following table details the allocation of assets included in the accompanying consolidated balance sheet at October 31, 2021:

	Canada		I	Mexico	Total
Cash and cash equivalents	\$ 1	80,000	\$	10,000	\$ 190,000
Value-added tax receivable, net		—		121,000	121,000
Other receivables		3,000		4,000	7,000
Prepaid expenses and deposits		96,000		100,000	196,000
Investments	1,1	67,000			1,167,000
Office and mining equipment, net		—		164,000	164,000
Property concessions				5,020,000	5,020,000
Goodwill		—		2,058,000	2,058,000
	\$ 1,3	70,000	\$	7,477,000	\$ 8,923,000

The Company has significant assets in Coahuila, Mexico. Although Mexico is generally considered economically stable, it is always possible that unanticipated events in Mexico could disrupt the Company's operations. The Mexican government does not require foreign entities to maintain cash reserves in Mexico.

The following table details the allocation of exploration and property holding costs for the exploration properties:

	For the Year Ended October 31,			
	 2022	2021		
Exploration and property holding costs for the year				
Mexico	\$ (2,392,000)	\$	(338,000)	
Kazakhstan	 		(640,000)	
	\$ (2,392,000)	\$	(978,000)	

## SUBSIDIARIES OF THE REGISTRANT

Silver Bull Resources, Inc. (the "Company") currently conduct its operations through subsidiaries. The names and ownership structure of its subsidiaries as of October 31, 2022 are set forth in the chart below:

Jurisdiction of Incorporation or					
Name	Organization	Ownership Percentage			
Metalline, Inc. ("Metalline")	Colorado, USA	100% by Silver Bull			
Minera Metalin S.A. de C.V. ("Minera Metalin")	Mexico	99.998% by Silver Bull and 0.002% by Metalline			
Minas de Coahuila SBR S.A. de C.V.	Mexico	99.998% by Silver Bull and 0.002% by Metalline			
Dome Ventures Corporation ("Dome")	Delaware, USA	100% by Silver Bull			
Dome Asia Inc.	British Virgin Islands	100% by Dome			
Dome Minerals Nigeria Limited	Nigeria	99.99% by Dome Asia Inc.			

## CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-1 (File Nos. 333-214228, 333-221459, 333-227465, and 333-251229), as amended, and Form S-8 (File Nos. 333-171723, 333-180142, 333-214229, 333-221460, and 333-232627) of Silver Bull Resources, Inc. of our report dated January 26, 2023 relating to the audit of the consolidated financial statements, which appears in this Annual Report on Form 10-K for the year ended October 31, 2022.

<u>/s/ Smythe LLP</u> Smythe LLP Chartered Professional Accountants

Vancouver, Canada January 26, 2023

## CONSENT OF ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

We, Archer, Cathro & Associates (1981) Limited, hereby consent to the incorporation by reference of any mineral resources and other analyses performed by us in our capacity as an independent consultant to Silver Bull Resources, Inc. (the "Company"), which are set forth in the Company's Annual Report on Form 10-K for the year ended October 31, 2022 (the "Form 10-K"), in the Company's Registration Statements on Form S-1 (File Nos. 333-214228, 333-221459, 333-227465, and 333-251229), as amended, and Form S-8 (File Nos. 333-171723, 333-180142, 333-214229, 333-221460, and 333-232627), or in any prospectuses or amendments or supplements thereto. We also consent to the reference to us under the heading "Experts" in such Registration Statements and any related amendments or prospectuses.

In connection with the Company's Form 10-K, we also consent to:

- the filing and use of the technical report summary titled "S-K 1300 Summary Technical Report on the Resources of the Silver-Zinc Sierra Mojada Project Coahuila, Mexico" (the "Technical Report Summary"), dated January 24, 2023, as an exhibit to and referenced in the Form 10-K or any amendment or supplement thereto;
- the use of and references to our name, including our status as an expert or "qualified person" (as defined in Subpart 1300 of Regulation S-K promulgated by the Securities and Exchange Commission), in connection with the Form 10-K or any amendment or supplement thereto and any such Technical Report Summary; and
- the information derived, summarized, quoted or referenced from the Technical Report Summary, or portions thereof, that was prepared by us, that we supervised the preparation of and/or that was reviewed and approved by us, that is included or incorporated by reference in the Form 10-K or any amendment or supplement thereto.

We are a qualified person responsible for authoring, and this consent pertains to, the following sections of the Technical Report Summary:

· Sections 1 - 3, 9, 11 and 22

Date: January 26, 2023

#### ARCHER, CATHRO & ASSOCIATES (1981) LIMITED By: /s/ Matthew Dumala

Name: Matthew Dumala, P.Eng. Title: Partner and Senior Engineer

## CONSENT OF TIMOTHY BARRY

I, Timothy Barry, in connection with Silver Bull Resources, Inc.'s Annual Report on Form 10-K dated January 26, 2023 (the "Form 10-K"), consent to:

- the filing and use of the technical report summary titled "S-K 1300 Summary Technical Report on the Resources of the Silver-Zinc Sierra Mojada Project Coahuila, Mexico" (the "Technical Report Summary"), dated January 24, 2023, as an exhibit to and referenced in the Form 10-K or any amendment or supplement thereto;
- the use of and references to my name, including my status as an expert or "qualified person" (as defined in Subpart 1300 of Regulation S-K promulgated by the Securities and Exchange Commission), in connection with the Form 10-K or any amendment or supplement thereto and any such Technical Report Summary; and
- the information derived, summarized, quoted or referenced from the Technical Report Summary, or portions thereof, that was prepared by me, that I supervised the preparation of and/or that was reviewed and approved by me, that is included or incorporated by reference in the Form 10-K or any amendment or supplement thereto.

I am a qualified person responsible for authoring, and this consent pertains to, the following sections of the Technical Report Summary:

· Sections 1 - 8, 10 and 20 - 22

Date: January 26, 2023

By: /s/ Timothy Barry

Name: Timothy Barry, MAusIMM (CP)

## CERTIFICATION OF CEO PURSUANT TO EXCHANGE ACT RULES 13a-14 AND 15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Timothy Barry, certify that:

- 1. I have reviewed this Annual Report on Form 10-K of Silver Bull Resources, Inc.;
- Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light
  of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: January 26, 2023

By: /s/ Timothy Barry

Timothy Barry, Chief Executive Officer (Principal Executive Officer)

#### CERTIFICATION OF CFO PURSUANT TO EXCHANGE ACT RULES 13a-14 AND 15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Christopher Richards, certify that:

- 1. I have reviewed this Annual Report on Form 10-K of Silver Bull Resources, Inc.;
- Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light
  of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: January 26, 2023

By:

/s/ Christopher Richards Christopher Richards, Chief Financial Officer (Principal Accounting and Financial Officer)

#### CERTIFICATION OF CEO PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350 of Chapter 63 of Title 18 of the United States Code), the undersigned officer of Silver Bull Resources, Inc. (the "Company") does hereby certify with respect to the Annual Report of the Company on Form 10-K for the period ended October 31, 2022 (the "Report") that:

- 1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- 2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: January 26, 2023

By: /s/ Timothy Barry Timothy Barry, Chief Executive Officer (Principal Executive Officer)

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350 of Chapter 63 of Title 18 of the United States Code). It shall not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934 (15 U.S.C. Section 78r) or otherwise subject to the liability of that section. It shall also not be deemed incorporated by reference into any filing under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, except to the extent that the Company specifically incorporates it by reference.

#### CERTIFICATION OF CFO PURSUANT TO 18 U.S.C. SECTION 1350 AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350 of Chapter 63 of Title 18 of the United States Code), the undersigned officer of Silver Bull Resources, Inc. (the "Company") does hereby certify with respect to the Annual Report of the Company on Form 10-K for the period ended October 31, 2022 (the "Report") that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: January 26, 2023

By: /s/ Christopher Richards

Chief Financial Officer (Principal Accounting and Financial Officer)

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350 of Chapter 63 of Title 18 of the United States Code). It shall not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934 (15 U.S.C. Section 78r) or otherwise subject to the liability of that section. It shall also not be deemed incorporated by reference into any filing under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, except to the extent that the Company specifically incorporates it by reference.

# S-K1300 SUMMARY TECHNICAL REPORT on the RESOURCES of the SILVER-ZINC SIERRA MOJADA PROJECT COAHUILA, MEXICO

NAD 27 Zone 13 Mexico

Latitude 27°24' North and Longitude 103°43' West (Centre of Project)

Report Date: January 24, 2023 Effective Date: January 24, 2023

**Prepared for:** 



Silver Bull Resources Inc. Suite 1610, 777 Dunsmuir Street, Vancouver, BC, Canada V7Y 1K4 Ph: (604) 687-5800

Prepared by

Mr. Timothy Barry, MAusIMM (CP)., Silver Bull Resources Inc.

Archer, Cathro & Associates (1981) Limited

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# **1 EXECUTIVE SUMMARY**

#### **1.1 INTRODUCTION**

This technical report, dated January 24, 2023 (the "Technical Report"), was prepared by Archer Cathro Ltd. ("AC") and Mr. Timothy Barry for Silver Bull Resources Inc. ("Silver Bull" or "SBR"), in accordance with subpart 1300 of Regulation S-K ("S-K 1300") promulgated under the Securities Act of 1933, as amended, for the updated mineral resources at the Sierra Mojada Project in Coahuila state, Mexico.

This Technical Report replaces the technical report for the mineral resources at the Sierra Mojada Project in Coahuila state, Mexico, dated October 30, 2018, prepared in accordance with NI-43-101 by Mr. Matthew Dumala of AC and Mr. Timothy Barry of Silver Bull. This Technical Report is inclusive of both the near surface silver mineralization that has been referred to as the "Shallow Silver Zone" (SSZ) and the historic "red" and "white" zinc zones that had been historically mined by underground methods. Since the previous report, significant work has been done on structural and geologic mapping, modeling of the deposit and follow-up on previous work recommendations.

The Sierra Mojada Project has been the subject of previous NI43-101 technical reports which disclosed mineral resource estimates for the Shallow Silver Zone and the Red Zinc Zone respectively:

- Archer Cathro Ltd. & Silver Bull Resources Inc. report, dated October 2018
- Tuun and AFK Mining resource report, dated May 2015
- JDS Preliminary Economic Assessment (PEA) in December 2013
- JDS resource report in April 2013
- SRK in July 2012 and November 2011
- John Nilsson (and Ronald Simpson) in April 2011
- Pincock Allen & Holt (PAH) in January 2010.

#### **1.2 PROPERTY DESCRIPTION**

The Sierra Mojada project is located in the northwestern part of Coahuila State, Mexico, close to the border with Chihuahua State. The project centre coordinates are 27°24' North and longitude 103°43' West. The project is adjacent to the towns of Esmeralda and Sierra Mojada and is about 250 km northeast of the city of Torreón. The project has excellent paved highway and rail access.

Silver Bull has 20 registered mining concessions for a total area of 9,530.4 hectares.

Silver Bull operates in Mexico through a wholly owned Mexican subsidiary, Minera Metalin S.A. de C.V. All minerals in Mexico are owned by the federal government and mineral rights are granted by soliciting mining concessions, which by law have priority over surface land use, but in practice the concessions owner must have an agreement with the surface owner.

# **1.3 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

The Sierra Mojada project area is situated in the northwestern part of Coahuila State, Mexico at latitude, close to the border with Chihuahua State, south of the village of Esmeralda. It is accessible by paved roads from the city of Torreón, which lies about 250 km to the southwest. Most of the area adjacent to the project site is used for low yield cattle ranching, however; the

southeastern boundary of the project abuts the Peñoles dolomite extraction and processing facility. The Peñoles quarrying facility contains associated waste piles and a 1 km long conveyor belt transporting crushed dolomitic carbonate aggregate of specific magnesium carbonate grade to the railroad spur for transportation to the Peñoles process plant known locally as Quimica del Rey.

A rail line utilized by Peñoles to transport material to its chemical plant extends west to La

Esmeralda. The remains of an older section extend right up to old workings and a loading facility located south of La Mesa Blanca right in the center of the Sierra Mojada Camp. The spur line connects the main national line that connects Escalon and Monclova. Rail traffic to the east is through Frontera to the United States via Eagle Pass, Texas, or southward to Monterrey or the seaport at Altamira. Service to the west is available as well as to the western USA via El Paso, or to points south connected through Torreón. Although power levels are sufficient for current operations and exploration, any development of the project would potentially require additional power supplies to be sourced.

#### **1.4 HISTORY**

The Sierra Mojada project area is host to several mineralized zones varying from the 'red zinc' (hemimorphite-rich) manto; a 'white zinc' (smithsonite-rich) manto; and silver-lead rich zones. As reported in the AC and SVB October 2018 resource report:



"Silver and lead were first discovered by a foraging party in 1879, and mining to 1886 consisted of native silver, silver chloride, and lead carbonate ores. After 1886, silver-lead-zinc-copper sulphate ores within limestone and sandstone units were produced. No accurate production history has been found for historical mining during this period."

"Approximately 120 years ago, zinc silicate and zinc carbonate minerals (Zinc Manto Zone) were discovered underlying the silver-lead mineralized horizon. The zinc manto is predominantly zinc dominated, but with subordinate lead–rich manto and is principally situated in the footwall rocks of the Sierra Mojada Fault System. Since discovery and up to 1990; zinc, silver, and lead ores were mined from various mines along the strike of the deposit, including from the Sierra Mojada property. Ores mined from within these areas were hand sorted and the concentrate shipped mostly to smelters in the United States."

Metalline Mining Company (Metalline) entered into a Joint Exploration and Development Agreement with USMX in July 1996, involving USMX's Sierra Mojada concessions. In October 1999, Metalline entered into a joint venture with North Limited of Melbourne, Australia (now Rio Tinto). Exploration by North Limited consisted of underground channel samples in addition to surface RC and diamond drilling. North Limited withdrew from the joint venture in October 2000.

A joint venture agreement was made with Peñoles in November 2001. The agreement allowed Peñoles to acquire 60% of the project by completing a bankable Feasibility Study and making annual payments to Metalline.

During 2002, Peñoles conducted an underground exploration program consisting of driving raises through the oxide zinc manto, diamond drilling, continuation of the percussion drilling and channel sampling of the oxide zinc workings (stopes and drifts) previously started by Metalline in 1999, and continued by North in 2000 and Metalline during 2001.

In December 2003, the joint venture was terminated by mutual consent between Peñoles and Metalline. Since 2003, Metalline continued sampling numerous underground workings through channel and grab samples.

In April 2010, Metalline merged with Dome Ventures, retaining the name Metalline Mining Inc. Subsequently, in April 2011, the company changed its name to Silver Bull Resources. Silver Bull continued to diamond drill the project until February of 2013."

In June 2018, Silver Bull signed a Joint Venture option with South32 Limited to form a 70/30 joint venture on the Sierra Mojada Project. To maintain the option in good standing, South32 must contribute minimum exploration funding of US\$10 million ("Initial Funding") during a 4 year option period with minimum aggregate exploration funding of US\$3 million, US\$6 million and US\$8 million to be made by the end of years 1, 2 and 3 of the option period respectively. South32 may exercise its option to subscribe for 70% of the shares of Minera Metalin S.A. De C.V. ("Metalin"), the wholly owned subsidiary of Silver Bull which holds the claims in respect of the Project, by contributing \$US100 million to Metalin for Project funding, less the amount of the Initial Funding contributed by South32 during the option period.

The option with South32 was terminated in September 2022 due to an ongoing blockade of the project.

### **1.5 GEOLOGY AND MINERALIZATION**

Sierra Mojada is located in the Eastern Tectonic Zone of Mexico, which represents a passive plate margin relative to the Western Zone that abuts a convergent plate margin. The boundary between the Eastern and Western terrains is in Chihuahua State, just west of the Sierra Mojada project area. Within the Eastern Zone, the project is located in the Coahuila terrain, which consists of moderately metamorphosed flysch and unmetamorphosed andesitic volcanic rocks cut by granite and granodiorite intrusives of Permian to Triassic age. The district is located on passive margin type Cretaceous platform carbonate rocks of the Sabinas Basin, which have been structurally prepared from Jurassic through Tertiary time by the complex San Marcos fault system.

Along the San Marcos fault system are one or more mineralizing intrusions that are inferred from direct and indirect evidence in the district leading to the identification of the district as being a CRD (Carbonate Replacement Deposit). The district shows a complex history of hypogene sulphide mineralization followed by oxidation and supergene alteration of the mineral profile. Hydrothermal alteration follows a clear sequence of dolomitization, carbonate and silica alteration; followed by late carbonate, silica, argillic, and iron oxide alterations related to the oxidation-supergene events. Approximately 80% of the district mineralization is hosted by dolomite; the remainder is in limestone.

The alteration-mineralizing events have generated two types of mineralization in the Sierra Mojada district. The Shallow Silver Zone (SSZ) and the Base Metal Manto Zone (BMM). Mineralization in the Shallow Silver Zone is dominated by acanthite, the silver halide solid solution of bromargyritechlorargyrite, and tennantite. Silver occurs in early to late high-grade structures, karst breccias, low angle fault breccias, and mantos, and as disseminated replacements in porous hydrothermally altered dolomites.

The Base Metal mineralization is dominated by hemimorphite in the Red Zinc Zone and smithsonite in the White Zinc Zone. Mineralization primarily occurs as replacement of karst breccia and accessory faults that feed the breccia zones. Non-sulphide base metal mineralization is a result of oxidation and supergene enrichment of an original zone of semi-to massive pyrite-sphalerite-galena mineralization largely located in the lead zone manto mineralization.

The result is a silver-rich polymetallic zone of mineralization overlaying a large non-sulphide zinc-lead-copper resource, both forming a linear zone of manto shaped mineralization which is cross cut by mineralized structures.

### **1.6 EXPLORATION STATUS**

Since the Archer Cathro and SVB October 2018 resource report, work has focused on sulphide mineralization that lies outside the resource defined by the 2015 Report. A joint venture option was signed with South32 Ltd. in June 2018 to explore the sulphide potential of the property at depth. The sulphide mineralization is thought to be of the same genesis as the oxide mineralization and is simply the "unoxidized" version of the mineralization originally emplaced at Sierra Mojada. However, because a different metallurgical process would almost certainly be required to beneficiate the sulphide mineralization, the new zone of sulphide mineralization recently identified at Sierra Mojada is not included in the resource outlined in this report.

#### **1.7 SAMPLE PREPARATION, ANALYSES, SECURITY AND DATA VERIFICATION**

During the time Mr. Barry has worked on the Sierra Mojada Project there has been no change in the methodology of sample preparation and chain-of-custody. In 2010, the onsite assay lab was decommissioned to eliminate any questions of sampling bias. As noted in Tuun and AFK May 2015 resource report:

"All analytical work used in the project has been performed in the ALS laboratory ("ALS") in Vancouver, BC, Canada. ALS is a leading independent provider of assaying and analytical testing services for mining and exploration companies. The laboratory is ISO 9001:2000 and ISO/IEC 1702S:2005 certified. SRK is of the opinion that the sample preparation, security and analysis meets or exceeds industry standards and is adequate to support a mineral resource estimate as defined under NI 43- 101, but that better care should be taken in reviewing and analyzing the QA/QC.

SRK downloaded all available data from ALS and compared the digital database supplied by Silver Bull against original assay data provided by ALS. A total of 37,100 assays were checked against the digital database, which represents about 23% of the total assay population. While some discrepancies were observed, most of the errors were considered not material and most were easily explained. A few samples that did not agree with the assay certificates were not used for the resource estimate."

Mr. Barry has been direct e-mail copied of results from ALS-Chemex (now ALS-Global) with the assays and has had the opportunity to verify the assays against the loaded data. In addition, in 2011 IoGlobal Pty Ltd (based in Australia) provided data verification services to Silver Bull Resources.

For the B series 2012 holes and the T-series 2012 holes used for twinning of old holes and underground exploration.

The Qualified Person considers the database fit-for-purpose and is suitable for use in the estimation of Mineral Resources and was collected in line with industry best practice.

#### **1.8 METALLURGICAL TESTING**

Metallurgical testing of the mineralization at Sierra Mojada in the early years of Metalline Mining Co. work focused on the oxidized zinc mineralization. Poor recoveries and low metal prices persuaded Silver Bull to consider other technologies. The SART Process and its application to Sierra Mojada Project mineralization was also examined. Improved recoveries and the ability to recover/reduce cyanide consumption suggest improved economics that need to be further evaluated.

# **1.9 MINERAL RESOURCES**

Classification has been done adhering to S-K 1300 Standards. A 10 m by 10 m by 10 m block model was created to encompass the deposit, grades were estimated into the block model in three passes using Ordinary Kriging (OK). Silver, copper, lead and zinc were estimated using uncapped composited 1.0m grades.



### **1.9.1 MINERAL RESOURCE**

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.

#### **1.9.2 MINERAL RESOURCE ESTIMATE**

The silver and zinc resource at Sierra Mojada has been classified as "Measured", "Indicated" and "Inferred" and has been confined within an optimize Whittle pit shell to demonstrate reasonable prospects of economic extraction. The pit shell was generated using a silver price of US\$18 per ounce and a zinc price of US\$1.20 per pound. Metal prices were chosen to reflect five year averages. Mining costs (ore and waste) of US\$1.50/tonne, processing costs of US\$12.00/tonne (including G&A) to provide an overall NSR cutoff grade of \$13.50 for the Global in-pit resource. An overall pit slope of 55° was used for the pit optimizations. Recoveries were assumed to be 75% for the silver and 41% for the zinc. Although reported, no value was assigned to the copper or lead. Historic mining voids were removed from the resource estimate. One small mineral license not under the control of Silver Bull is included within the open pit. The resource contained within this license is not reported.



#### The "Global Resource" is shown in Table 1

#### Table 1. Global Resource

CLASS	Tonnes (Mt)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	NSR (\$/t)	Ag (Mozs)	Cu (Mlbs)	Pb (MLbs)	Zn (Mlbs)
Measured	52.0	39.2	0.04%	0.3%	4.0%	\$44.3	65.5	45.9	379.1	4,589.3
Indicated	18.4	37.0	0.03%	0.2%	1.9%	\$27.3	21.9	10.8	87.0	764.6
Total M&I	70.4	38.6	0.04%	0.3%	3.4%	\$39.8	87.4	56.8	466.1	5,353.9
Inferred	0.1	8.8	0.02%	0.2%	6.4%	\$52.3	0.02	0.04	0.4	10.7

Notes:

- 1) S-K 1300 definitions were followed for the Mineral Resource.
- 2) The Mineral Resource is reported within a conceptual pit-shell using an NSR cut-off value of US\$13.50/tonne.
- 3) Mineral resources are not reserves and do not demonstrate economic viability.
- 4) Tonnages are reported to the nearest 100,000 tonne. Grades are rounded to the nearest decimal place for Ag, Zn, & Pb and the nearest 2 decimal places for Cu
- 5) Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade, and contained metal.
- 6) Tonnage and grade are in metric units; contained Zn, Cu, & Pb are in imperial pounds.
- 7) Tonnages and grades are as reported directly from block model; with mined out areas removed.

#### **1.9.3 ZINC AND SILVER ZONES WITHIN THE GLOBAL RESOURCE**

The Global Resource encompasses two high grade zones of mineralization; locally named the zinc zone, and the silver zone and represents an overall average grade for the silver and zinc mineralization across the entire deposit. This average grade does not accurately reflect discrete, high grade zoning of the silver and zinc mineralization that occurs within the global resource and which are better defined using zinc and silver cutoff grades. The "sub" tables using a silver and zinc cutoff grade are shown below:

Table 2	"Zinc Zone"	Pit-constrained	Mineral	Resource	Estimate	by Zinc	Cut-Off
---------	-------------	-----------------	---------	----------	----------	---------	---------

Category	Zn Cut-off (%)	Tonnes (Mt)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (Mozs)	Cu (Mlbs)	Pb (MLbs)	Zn (Mlbs)
	4	17.1	26.9	0.02%	0.4%	9.5%	14.8	8.6	162.3	3,578.5
	6	11.9	22.3	0.02%	0.4%	11.5%	8.5	4.7	106.4	3,019.7
	8	8.6	19.3	0.02%	0.4%	13.3%	5.3	2.9	69.9	2,505.1
MEASURED	10	6.2	15.8	0.02%	0.3%	15.0%	3.1	2.1	43.6	2,030.0
MEASURED	11	5.1	14.5	0.02%	0.3%	15.8%	2.4	1.7	34.0	1,794.8
	12	4.3	13.8	0.02%	0.3%	16.7%	1.9	1.4	27.6	1,586.5
	13	3.6	12.9	0.02%	0.3%	17.5%	1.5	1.2	21.2	1,381.2
	14	2.9	11.7	0.02%	0.2%	18.5%	1.1	1.0	15.3	1,170.8
INDICATED	4	2.5	22.2	0.03%	0.3%	7.7%	1.8	1.5	17.6	417.0
	6	1.6	20.4	0.03%	0.3%	9.2%	1.0	0.9	11.1	317.0
	8	0.8	18.7	0.02%	0.3%	11.4%	0.5	0.3	5.8	200.8
	10	0.4	19.2	0.02%	0.3%	13.7%	0.2	0.2	2.9	124.4
	11	0.3	19.5	0.02%	0.3%	15.0%	0.2	0.1	2.0	98.1
	12	0.2	19.6	0.02%	0.3%	15.9%	0.2	0.1	1.6	83.1
	13	0.2	19.8	0.02%	0.3%	16.4%	0.1	0.1	1.3	74.3
	14	0.2	21.9	0.02%	0.3%	16.9%	0.1	0.1	1.1	65.3
TOTAL M&I	6	13.5	22.0	0.02%	0.4%	11.2%	9.6	5.6	117.5	3,336.6
	4	0.05	5.9	0.01%	0.2%	8.5%	0.01	0.01	0.2	9.97
INFERRED	6	0.04	6.5	0.01%	0.2%	9.6%	0.01	0.01	0.2	8.60
	8	0.03	5.7	0.01%	0.2%	11.0%	0.00	0.01	0.1	6.34

<b>0</b> .1	Ag Cut-off	<b>T</b>	A ( ( )	<b>c</b> (a)	DL (0()	7. (0/)	Ag	Cu	Pb	Zn
Category	(%)	ionnes (ivit)	Ag (g/t)	Cu (%)	PD (%)	Zn (%)	(Mozs)	(Mlbs)	(MLbs))	(Mlbs)
	25	21.0	83.6	0.08%	0.5%	2.6%	56.5	37.4	245.8	1,222.25
	35	15.9	101.2	0.10%	0.6%	2.5%	51.6	34.4	201.6	869.2
	45	12.5	117.7	0.11%	0.6%	2.5%	47.3	31.7	168.3	679.2
	50	11.2	126.6	0.12%	0.6%	2.5%	45.3	30.3	155.0	611.2
MEASURED	55	10.1	134.2	0.13%	0.6%	2.5%	43.4	29.1	141.5	548.4
	60	9.1	142.3	0.14%	0.6%	2.5%	41.7	28.0	129.8	493.2
	65	8.3	149.7	0.15%	0.7%	2.5%	40.1	26.9	120.0	452.3
	70	7.5	158.4	0.15%	0.7%	2.5%	38.4	25.6	110.6	409.9
	75	6.9	166.5	0.16%	0.7%	2.4%	36.9	24.6	101.7	370.9
	25	10.4	54.9	0.03%	0.2%	1.3%	18.4	7.9	53.2	288.1
	35	7.3	65.4	0.04%	0.2%	1.3%	15.4	6.6	40.0	208.2
	45	5.0	77.6	0.05%	0.3%	1.3%	12.4	5.2	27.4	142.4
	50	4.1	84.0	0.05%	0.3%	1.3%	11.1	4.4	23.2	119.5
INDICATED	55	3.4	90.7	0.05%	0.3%	1.3%	9.9	3.6	19.8	98.1
	60	2.9	96.8	0.05%	0.3%	1.3%	8.9	2.9	17.0	83.0
	65	2.4	102.9	0.05%	0.3%	1.3%	8.0	2.5	14.0	68.8
	70	2.0	109.5	0.05%	0.3%	1.3%	7.2	2.2	11.8	56.6
	75	1.8	115.7	0.05%	0.3%	1.3%	6.5	1.8	10.0	49.8
TOTAL M&I	50	15.2	114.9	0.10%	0.5%	2.2%	56.3	34.7	178.2	730.7
	25	0.01	28.8	0.07%	0.3%	1.6%	0.01	0.02	0.06	0.35
INFERRED	35	0.00	0.0	0.00%	0.0%	0.0%	0.00	0.00	0.00	0.00
	45	0.00	0.0	0.00%	0.0%	0.0%	0.00	0.00	0.00	0.00

Table 3. "Silver Zone" Pit-constrained Mineral Resource Estimate by Silver Cut-Off

The Global Mineral Resources were estimated by Matthew Dumala P.Eng. of Archer Cathro Ltd. by Ordinary Kriging (OK) using Geovia GEMS<sup>TM</sup> software in three passes using 10m x 10m x 10m blocks as the SMU size. The classification methodology used was that blocks meeting the criteria of Pass 1 would be flagged as Measured; Pass 2 – Indicated; and Pass 3 – Inferred. Silver, copper, lead and zinc were estimated using Ordinary Kriging (OK) on uncapped composited 1.0m grades.

NSR values were assigned to blocks within the Mineral Resource and confined to a pit shell generated in Whittle. A \$US13.50 NSR cutoff was selected for the global Mineral Resource. The Whittle pit and NSR calculations assumed a silver price of US\$18.00/Troy ounce and a zinc price of US1.20/pound; recoveries of 75% and 41% respectively; pit slope angles of 55<sup>o</sup> overall; mining costs of US\$1.50/tonne; and Ag & Zn processing costs of US\$12.00/tonne.

The sub table breakdowns from the global resource was equated using a 50g/t cutoff grade for silver and 6% for Zinc.

### 1.10 INTERPRETATIONS, CONCLUSIONS AND RECOMMENDATIONS

For the next phase of work specifically on the oxide resource the authors recommend that Silver Bull Resources:

- · Complete additional metallurgical test work on both the silver and the zinc to confirm recovery parameters.
- · Consider a pilot-plant program to prove the viability of the selected process
- The next phase work program should include geotechnical drilling to confirm appropriate slope angles for future open pit design work.
- · Continue underground diamond drill work for improved interpretation and modeling of domains.
- · Detail power and water sources, requirements, and begin all permitting processes.
- Examine the potential of the silver and zinc zones as stand-alone minable resources.
- · Conduct a Preliminary Economic Assessment (PEA).
- · Continue to explore the property with an emphasis on targeting potential sulphide targets.

The authors estimate that the total cost for the next phase of work on the oxide resource is approximately US\$2M.

# 1.11 OTHER RELEVANT DATA AND INFORMATION

Since September 30, 2019, the project has been under an illegal blockade and unable to access the project, by a mining co-operative called Minera Nortenos. The co-operative is demanding payment of a production royalty, even though no mine is in production. Despite favorable court rulings in Silver Bull's favor, the Mexican government has refused to do anything about the blockade, despite its illegal nature. Talks are on going with the co-operative, but to date no reasonable settlement has reached.

The illegal blockade, and the inability to access the project was directly responsible for South32 terminating its option agreement with the company on the Sierra Mojada project. A full summary is provided in Section 21 of this report.

# **2 INTRODUCTION**

#### **2.1 TERMS OF REFERENCE**

This Technical Report dated January 24, 2023, was prepared by Archer, Cathro & Associates (1981) Limited ("AC") and Silver Bull Resources Inc ("SVB"). The contributing authors were Matthew Dumala from AC and Timothy Barry from SVB.

Mr. Barry is a Geologist and Chartered Professional of the Australasian Institute of Mining and Metallurgy (MAusIMM(CP) and has worked as the VP Exploration and now as President and CEO for Silver Bull on the Sierra Mojada project since the merger of Metalline Mining Inc. and Dome Ventures Inc. in 2010. He is responsible for Sections 1-8, 10, and 20-21.

Mr. Dumala, is a Professional Engineer, registered in British Columbia and works as a resource modeller for Archer, Cathro & Associates (1981) Limited ("Archer Cathro"). Archer Cathro is responsible for Sections 9 and 11.

The authors jointly shared responsibility for Sections 1-3 and 22. Sections 12-19 are not relevant to this report.

This Technical Report was prepared in compliance with the requirements of the Securities Exchange Commission S-K 1300 guidelines.

#### 2.2 SCOPE OF WORK

The mineral resource estimate presented in this report replaces the NI43-101 mineral resource estimate from Mr. Dumala and Mr. Barry from October 24, 2018.

#### **2.3 STATEMENT OF INDEPENDENCE**

Mr Dumala is a qualified person for the purposes of a S-K 1300 and does not have any beneficial interest in the outcome of this technical assessment of the Sierra Mojada Deposit. His fee for completing this Report is based on his normal professional rates plus reimbursement of incidental expenses. The payment of that professional fee is not contingent upon the outcome of the Report.

Mr Barry is a qualified person for the purposes of a S-K 1300 and works as the President and CEO of Silver Bull is not independent of Silver Bull. He is an acceptable co-author this report based on section 5.3 of the S-K 1300 regulations outlining the requirements for an independent Technical Report.

#### 2.4 SITE VISIT

Mr. Barry MAusIMM(CP) is a qualified person under the terms of S-K 1300, has spent a considerable amount of time at the Sierra Mojada site leading and managing all aspects, including, but not limited to, the planning and overseeing of drill campaigns, QA/QC implementation and collection, sites tours for visitors of the project between 2011 to present. His last visit to site was between 1 – 8 September 2019.

Mr Dumala oversaw the 2019 drill campaign at Sierra Mojada and was last at the site in August 2019.

#### 2.5 UNITS AND CURRENCY

Unless otherwise stated all units used in this report are metric. Assay values are reported in grams per metric tonne (g/t) unless some other unit is specifically stated. The US\$ is used throughout this report.

#### 2.6 SOURCES OF INFORMATION

This report is based, in part, on internal Company technical reports, and maps, published government reports, Company letters and memoranda, and public information as listed in the References Section 24.0 at the conclusion of this Technical Report.

The Sierra Mojada Project has been the subject of a Preliminary Economic Assessment completed by JDS Energy and Mining Inc. (JDS) in December 2013 and five previous NI43-101 compliant technical reports completed by Tuun & AFK in May 2015, JDS in April 2013, SRK Consulting Inc. (SRK) in November 2011 and an update in July 2012, John Nilsson in April 2011 (authored by Ronald Simpson and John Nilsson), and Pincock Allen & Holt (PAH) I, January 2010.

The Authors have relied upon some of the previously disclosed reports along with newly collected information provided by Silver Bull Resources.

The Authors have not conducted detailed land status evaluations, and have relied upon previous qualified reports, public documents and statements by the Company regarding Property status and legal title to the Sierra Mojada Project.

### 2.7 UNITS OF MEASURE, CALCULATIONS & ABBREVIATIONS

A list of the main units, abbreviations and acronyms used throughout this report is presented in the tables below.

μm	Micron (micrometre)
Amp	Ampere
cm	Centimetre
g/t	Gram per tonne
hr	Hour
ha	Hectare
hp	Horsepower
kg	Kilogram
km	Kilometre
km²	Square kilometer
КРа	Kilopascal
kt	Thousand tonnes
Kw	Kilowatt
KWh	Kilowatt hour
L	Litre
lb or lbs	Pound(s)
m	Metre
М	Million
m²	Square metre
m³	Cubic metre
min	Minute
mm	Millimetre
Мра	Mega Pascal
mph	Miles per hour
Mtpa	Million tonnes per annum
Mt	Million tonnes
°C	Degree Celsius
OZ	Troy ounce
ppb	Parts per billion
ppm	Parts per million
S	Second
t	Metric tonne
tpd	Tonnes per day
tph	Tonnes per hour
V	Volt
W	Watt
wmt	Wet metric tonne

#### Abbreviations & Acronyms

% or pct	Percent
AAS	Atomic absorption spectrometer
Ag	Silver
Amsl	Above mean sea level
As	Arsenic
Au	Gold
С	Carbon
CAPEX	Capital Costs
CFE	Comision Federal de Electricidad
CIL	Carbon-in-leach
CIM	Canadian Institute of Mining
Elev	Elevation above sea level
GPS	Global positioning system
HG	High Grade
H:V	Horizontal to vertical
JDS	JDS Energy & Mining Inc.
LG	Low Grade
Ma	Million years ago
MMC	Metalline Mining Company
MXP	Mexican pesos
N,S,E,W	North, South, East, West
NPV	Net Present Value
NSR	Net Smelter Return
S-K 1300	National Instrument 43-101
OPEX	Operating costs
PA	Preliminary Assessment
PAX	Potassium Amyl Qanthate
Pb	Lead
PEA	Preliminary Economic Assessment
PFS	Prefeasibility Study
QA/QC	Quality Assurance/Quality Control
QMS	Quality Management System
RC	Reverse circulation
S	Sulfur
SEMARNAT	Secretaria de medio ambiente y recursos naturales
S.G.	Specific gravity
SBR	Silver Bull Resources Inc.
SRK	SRK Consulting Inc.
US\$	US dollars
Whittle	Gemcom Whittle- Strategic Mine Planning TM
X,Y,Z	Cartesian Coordinates, also Easting, Northing and Elevation
Zn	Zinc

#### 2.8 RELIANCE ON OTHER EXPERTS

Independent metallurgical consultant Mr. William J. Pennstrom Jr., M.A.; QPMMSA of Pennstrom Consulting Inc. was contracted by Silver Bull in 2013 and 2014 to review the metallurgical testing programs conducted. Mr. Pennstrom's work was provided to the Authors by Silver Bull and forms the basis of Section 13 – Mineral Processing and Metallurgical Testing. Responsibility for his work has been undertaken by Mr Timothy Barry, MAusIMM(CP), a Qualified Person. No additional metallurgical work has been conducted by Silver Bull since this time.

Although copies of the tenure documents, operating licenses, permits, and work contracts were reviewed, an independent verification of land title and tenure was not performed. The Authors have not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties but has relied on Silver Bull's solicitor to have conducted the proper legal due diligence. Information on tenure and permits was obtained from Silver Bull.

Based on Silver Bull's legal opinion the current mining law in Mexico allows for the concession to be issued for 50 years. This law was made effective April 29, 2005 and concessions issued prior to this change in mining law will have the expiration date of the concession amended to reflect the 50-year period. The Authors have relied on representations and legal opinions provided by Silver Bull regarding the legal disposition of mining concessions.

The Authors have relied completely on Silver Bull regarding all information related to the environmental, political and tax information about the project.

# 3.1 LOCATION

The Sierra Mojada project is located in the northwestern part of Coahuila State, Mexico, close to the border with Chihuahua State (Figure 1). Access is by paved Highway from the city of Torreon about 250km southwest of the project. The project site is situated about one km south of the village of Esmeralda.

The Sierra Mojada Project abuts a major escarpment that forms the northern margin of the Sierra Mojada range. The average elevation at the site is 1,500masl and is at latitude 27°24' North and longitude 103°43' West. Silver Bull Resources employs the NAD 27 Zone 13 survey coordinate system on the project.



Figure 1. Property Location Map

#### **3.2 MINERAL CONCESSIONS**

Silver Bull operates in México through a wholly owned Mexican subsidiary; Minera Metalin S.A. de C.V. All minerals in Mexico are owned by the federal government and mineral rights are granted by soliciting mining concessions, which by law have priority over surface land use, but in practice the concessions owner must have an agreement with the surface owner. See Figures below for the location of the regional and deposit scale concessions.



Figure 2. Sierra Mojada Mining Concession Map (provided by Silver Bull)



Figure 3. Mining Concessions in the immediate Sierra Mojada Project Resource Area (Provided by Silver Bull)

The mining concessions held by Silver Bull cover all the mineralized zones with the exception of one licence 10.47ha in size and as shown in Figure 3. Both the mineralization and Whittle Pit used to estimate this resource extend onto this licence, however none of the resource that falls on within this licence is included in this resource estimation.

The only mining operation currently active within the area is a small low tonnage dolomite quarry operated by Peñoles near Esmeralda. The quarry is to the south east of the Silver Bull mining concessions.

The table below shows the mining concessions currently held by Silver Bull. Total area for these licences excluding the "claim filed" concessions is 9,530.4 ha.

The "registered" concessions are 100% owned by a Silver Bull's wholly owned Mexican subsidiary; Minera Metalin S.A. de C.V. (Minera Metalin). In the concessions with the "purchase option" status, Minera Metalin has a 100% interest, and the "claim filed" concessions will be 100% owned once granted by the Mexican authorities.

#### Table 4. List of Mining Concessions held by Silver Bull, 2022

CONCESSION NAME		STATUS	TITLE NUMBER	Expiration Date (dd/mm/yyy)	AREA (Ha)
1	SIERRA MOJADA	Registered	235371	29/11/2043	4,818.49
2	SIERRA MOJADA Fraccion I	Registered	235372	29/11/2043	0.05
3	SIERRA MOJADA Fraccion II	Registered	235373	29/11/2043	0.01
4	SIERRA MOJADA Fraccion III	Registered	235374	29/11/2043	0.33
5	SIERRA MOJADA Fraccion IV	Registered	235375	29/11/2043	1.18
6	ESMERALDA	Registered	212169	21/09/2050	117.50
7	ESMERALDA I	Registered	238678	30/03/2050	95.53
8	ESMERALDA   Fraccion	Registered	238679	30/03/2050	0.74
9	ESMERALDA   Fraccion II	Registered	238680	30/03/2050	0.03
10	LA BLANCA	Registered	220569	27/08/2053	33.50
11	FORTUNA	Registered	160461	20/08/2024	13.96
12	VULCANO	Registered	236714	24/08/2060	4.60
13	UNIFICACION MINEROS NORTEÑOS	Registered	169343	10/11/2031	336.79
14	LOS RAMONES	Registered	223093	14/10/2054	8.60
15	VOLCAN DOLORES	Registered	224873	15/06/2055	10.49
16	DORMIDOS	Registered	229323	9/04/2057	2,326.10
17	VETA RICA o LA INGLESA	Registered	236837	6/09/2060	10.99
18	OLYMPIA	Registered	195811	20/09/2042	8.97
19	COLA SOLA	Registered	238255	22/08/2061	1,735.00
20	ALOTE Fracc. VI	Claim Filed	239512	13/12/2061	7.54
		•			9,530.4 Ha

# **3.3 SURFACE AND PRIVATE PROPERTY RIGHTS**

Approximately 70% of the area of interest is covered by surface rights that Silver Bull either has title to, or title is pending. Silver Bull is in discussions to acquire the surfaces rights for the remaining area. Under Mexican Law if mining right are held, these supersede surface rights, and a "Temporary Occupation" of ground can be obtained which guarantees access to ground to commence mining activity. All of Silver Bull's fixed assets, including offices and buildings are located on land owned by Silver Bull.



#### **3.4 ROYALTIES**

The mining concession is subject to royalty payments amounting to 2% of the mine's NSR capped at an amount of US\$6.875M.

#### **3.5 SECURITY**

There is currently an illegal blockade on the project stopping access, In the interests of safety, Silver Bull has shut down all operations until a reasonable settlement has been reached with the group blocking the project.

There have been no drug, cartel or gang related security issues on the Sierra Mojada property. The project lies at the end of the pavement of Carretera Estatal 91 going north from Torreón in the western most part of Coahuila state. There are no local connections to the international border, which is 190 km straight-line distance to the closest point at Big Bend, Texas.

# **3.6 SIGNIFICANT ISSUES**

There is currently an illegal blockade, stopping access to the project. Silver Bull

Surface rights at the eastern end of the deposit are not currently under Silver Bull's control. In order for the project to proceed Silver Bull will have to secure the surface property rights or acquire a Temporary Occupation to these areas.

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# **4** ACCESSIBILTY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The climate is arid and warm. Rainfall is scarce but more prominent in summer, while temperatures are very hot by day and cool at night. The average annual temperature is  $14 \degree C$  to  $16 \degree C$ , with rainfall of 400 to 500mm per year.

The highest daily temperatures are generally recorded in May, with maximum temperatures being moderated somewhat by rainfall during June through October. Freezing occurs from time to time during the winter – particularly in January and February - although this occurs less than 20 days out of the year in most years. Occasionally there is snow as can be seen in Figure 5.

Winds are highly variable, but strong southerly winds coming down from the mountains are common. Streams are ephemeral and wells with acceptable water quality are tens to hundreds of meters deep. (Tuun & AFK 2015)



Figure 5. December 2006 - Snow at Sierra Mojada



Figure 6. Typical Landscape of Sierra Mojada Project

The project is located west of Sierra Madre Oriental on the Mexican Plateau. The terrain is generally flat, with prominent relief formations of up to 1,500m along the southern boundary of the project site as shown in the Figure 6.

The majority of the mineral concessions are located in areas at the base of the cliffs where there is moderate relief with numerous stream forming gullies that erode the surface alluvium. The area is high desert covered by scrub vegetation; comparable to the Basin and Range in Nevada. Mining operations are viable throughout the year (Tuun & AFK 2015).

# **4.1 LOCAL RESOURCES**

While most of the area peripheral to the project site is used for cattle ranching, the village of La Esmeralda and the town of Sierra Mojada (about 4km west of the project camp) can provide local workforce and minor supplies. Both communities offer basic services and for the project and are linked by paved road.

Mina Dolomita, the Peñoles dolomite extraction and crushing facility is located at the southeastern boundary of the project. The mine contains waste piles and a 1km long conveyor belt that transports crushed dolomitic carbonate aggregate of specific magnesium carbonate grade to their railroad spur for bi-weekly transportation to the Peñoles Quimica Del Rey plant in Laguna Del Rey.



#### **4.2 INFRASTRUCTURE**

A rail line utilized by Peñoles to transport material to its chemical plant extends west to La Esmeralda. The remains of an older railroad section extend further to the west and would be easily accessible to old workings and a loading facility located south of La Mesa Blanca right in the center of the Sierra Mojada Camp (Figure 7). The spur line connects the main national line which connects Escalon and Monclova. Rail traffic to the east is through Frontera to the United States, via Eagle Pass, Texas, southward to Monterrey, or via the seaport at Altamira/Tampico. Service to the west is also available, as well as to the western USA via El Paso, or to points south connected through Torreón.

Although power levels are sufficient for current operations and exploration, any development of the project would potentially require additional power supplies to be sourced. The Comisión Federal de Electricidad (English: Federal Electricity Commission) is the Mexican state-owned electricity monopoly, widely known as CFE, which provides service to the area. High voltage (13,400 v) power is available to the vicinity of the head frames of the San Salvador shaft (500 KVA), the Encantada shaft (300 KVA), and the METALIN shop area (112.5 KVA). (JDS 2013).

The project has 5 registered water wells with Con-Agua, the Mexican Authority which controls water rights and distribution and allows for the company to take up 2.5 million cubic meters of water per annum for mining operations. There is a paved state highway to site, and a gas line 35km from the project at Quimica Del Rey.



Figure 7. Local Infrastructure at Sierra Mojada (Silver Bull 2022)

The following historical summary has been extracted from previous technical reports and information provided by Silver Bull.

Silver and lead were first discovered by a foraging party in 1879, and mining to 1886 consisted of native silver, silver chloride, and lead carbonate ores. After 1886, silver-lead-zinc-copper sulphate ores within limestone and sandstone units were produced. No accurate production history has been found for historical mining during this period.



Figure 8. Historic Mining at Sierra Mojada

Approximately 90 years ago, zinc silicate and zinc carbonate minerals ("Zinc Manto Zone") were discovered underlying the silver-lead mineralized horizon. The Zinc Manto Zone is predominantly zinc dominated, but with subordinate Lead – rich manto and is principally situated in the footwall rocks of the Sierra Mojada Fault System. Since discovery and up to 1990; zinc, silver, and lead ores were mined from various mines along the strike of the deposit including from the Sierra


Mojada property. Ores mined from within these areas were hand sorted and the concentrate shipped mostly to smelters in the United States.

Activity during the period of 1956 to 1990 consisted of operations by the Mineros Norteños Cooperativa and operations by individual owners and operators of pre-existing mines. The Mineros Norteños operated the San Salvador, Encantada, Fronteriza, Esmeralda, and Parrena mines, and shipped oxide zinc ore to Zinc National's smelter in Monterrey, while copper and silver ore were shipped to smelters in Mexico and the United States.

The principal mines operated by individuals and lessors were the Veta Rica, Deonea, Juárez, Volcán I and II, Once, San Antonio, San José, San Buena, Monterrey, Vasquez III, Tiro K, El Indio and Poder de Dios. The individual operators were mainly local residents, such as the Farias, Espinoza, and Valdez families.

In the early 1990's, Kennecott Copper Corporation ("Kennecott") had a joint venture agreement involving USMX's Sierra Mojada concessions. Kennecott terminated the joint venture in approximately 1995.

Metalline entered into a Joint Exploration and Development Agreement with USMX in July 1996 involving USMX's Sierra Mojada concessions. In 1998, Metalline purchased the Sierra Mojada and the USMX concessions and the Joint Exploration and Development Agreement was terminated. Metalline also purchased the Esmeralda, Esmeralda I, Unificación Mineros Norteños, Volcán, La Blanca and Fortuna concessions, and conducted exploration for copper and silver mineralization from 1997 through 1999. During this period, exploration consisted of reverse circulation ("RC") drilling which intersected significant zinc mineralization.

In October of 1999, Metalline entered into a joint venture with North Limited of Melbourne, Australia (now Rio Tinto). Exploration by North Limited consisted of underground channel samples in addition to surface RC and diamond drilling. North Limited withdrew from the joint venture in October 2000.

A joint venture agreement was made with Peñoles in November 2001. The agreement allowed Peñoles to acquire 60% of the project by completing a bankable Feasibility Study and making annual payments to Metalline.

During 2002, Peñoles conducted an underground exploration program consisting of driving raises through the oxide Zinc Manto, diamond drilling, continuation of the percussion drilling, and channel sampling of the oxide zinc workings (stopes and drifts) previously started by Metalline in 1999 and continued by North in 2000 and Metalline during 2001.

The workings operated by the Norteños Cooperativa in the Zinc Manto allow access to the entire Zinc Manto in the San Salvador, Encantada, and Fronteriza mine operations. The objective of Peñoles's 2002 program, in addition to evaluating the Zinc Manto mineralization, was to compare the quality and consistency of sampling methods. Peñoles developed diamond drill sites in the San

Salvador and Encantada mines. It also developed raises through the vertical extent of the Zinc Manto. Bulk samples of raise muck and channel samples of the raise walls were collected at one meter intervals. Percussion and diamond drill holes were drilled parallel to the raises and also sampled at one meter intervals.

The Peñoles 2003 program continued the underground channel sampling and included percussion and diamond drilling from the surface. In addition to drilling the manto along its extent in the three mines, Peñoles conducted step out drilling to the east and west. Peñoles drilled holes on fences spaced 200 m apart east of the Fronteriza mine toward the Oriental mine, a distance of nearly 2 km. The holes were spaced 50 to 100 m in a north-south direction along the fences. To the west Peñoles followed up the North Limited drilling in the vicinity of the San Antonio mine, 2 km west, which confirmed and extended the mineralization.

In December 2003, the joint venture was terminated by mutual consent between Peñoles and Metalline. Peñoles had other projects it preferred to fund and Metalline was interested in reacquiring a 100% interest in the project. From 2003 to April 2010, Metalline continued sampling numerous underground workings through channel and grab samples as well as completing underground and surface drill holes exploring the zinc-silver mineralization.

Subsequent to the merger with Dome Ventures in April 2010 underground exploration of the Zinc Zone was terminated. Focus was switched to a surface diamond drill program exploring near surface low grade bulk tonnage silver-zinc mineralization or the same style of mineralization above and up-dip from the hemimorphite zinc mineralization. (JDS 2013)

### 5.1 PAST PRODUCTION

To date Silver Bull has estimated that over 150km of underground workings have been surveyed on the project. This represents approximately 4 million tonnes of development and 10 million short tons of silver, zinc, lead, and copper ores.

From 1897 to about 1905, small quantities of lead ore were smelted on site, and remnants of the smelter are still visible near the core logging facility (see Figure 9). At various times historically, zinc oxides ores were shipped to fertilizer plants in the U.S. and Mexico.

Estimates from 1931 put production along the mineralized trend, of which the Sierra Mojada property is a subset, at approximately 5 million short tons (all of the following will be short tons). That compares with Shaw, who in his 1922 AIME paper estimated that production to 1920 was 3 to 3.5 million tons of lead-silver ores; and 1.5 to 2 million tons of Ag and Cu-Ag ores. Based on fragmented records, anecdotal evidence and stope volumes, perhaps 900,000 tons of additional oxide zinc may have been mined from Red Zinc and White Zinc areas on the Sierra Mojada property. Significant production occurred between 1920 and 1950 from the district with the involvement of major international mining companies operating small daily tonnage mines during that period. (JDS 2013)

Mineros Norteños mined in both the red and white zinc zones until the late 1990's. Much of the material was converted to ZnO through the use of two on-site kilns (Figure 9). Estimates indicate that ~120 tonnes per day from each kiln was produced and shipped to Mexican plants such as Zinc Nacionale. The mining rate from the three active shafts was estimated at ~250t/d at a cutoff of 25% Zn. (pers comm Juan Manuel Lopez Ramirez 2018).



Figure 9. Sierra Mojada Historical Lead Smelting Kilns – September 2010. These were removed in 2013.

Most of the workings are accessed through vertical shafts although there are a few adits and open stopes also present. For safety reasons, shafts have been barricaded and locations surveyed. The head frames at San Salvador, Fronteriza and Centenario have been maintained and are used regularly.



Figure 10. Known Historic Mine Shafts

### **5.2 HISTORICAL RESOURCE ESTIMATES**

While the area has hosted prolonged but small scale mining activity for over 100 years there is no existing reliable historical resource estimate for the various manto deposits.

Prior S-K 1300 compliant mineral resources have been prepared for the property; namely a mineral resource prepared by PAH in January 2010 covering the Shallow Silver Zone and the Zinc Manto Zone and a mineral resource estimate prepared by Simpson and Nilsson in April 2011 covering the Shallow Silver Zone only (Table 5). These estimates are documented in technical reports listed in the Reference section of this report and available on SEDAR. The estimates are reliable and relevant to the property. The Zinc Manto has been partially re-estimated by SRK, as such the PAH estimate for the Zinc Manto is no longer considered current and should not be relied upon. (JDS 2013)

### Table 5. Summary of Previous Resource Estimates

Author	Zone	Class	Cut- off	Tonnes	Ag (g/t)	Zn (%)
PAH – 2010	Shallow Ag	Inferred	60 (g/t Ag)	28,422,000	149	2.67
PAH – 2010	Zn Manto	Inferred	6% Zn	20,405,000	23	10.59
Nilsson – 2011	Shallow Ag	Indicated	20 (g/t Ag)	9,235,000	56	ND
		Inferred	20 (g/t Ag)	15,258,000	50	ND
SRK – 2011	Shallow Ag	Indicated	15 (g/t Ag)	28,564,000	50	0.95
		Inferred	15 (g/t Ag)	9,248,000	44	0.42
SRK – 2012	Shallow Ag	Measured	15 (g/t Ag)	3,688,000	57	4.06
		Indicated	15 (g/t Ag)	45,175,000	45	0.67
		Inferred	15 (g/t Ag)	8,162,000	40	0.6
JDS – 2013	Shallow Ag	Indicated	25 (g/t Ag)	72,900,000	69.5	1.5
JDS – 2013 (PEA)	Shallow Ag	Indicated	25 (g/t Ag)	71,100,000	71.1	1.34
Tuun & AFK – 2015	Shallow Ag & Zinc	Measured	\$13.50 NSR	36,500,000	48.5	4.6
		Indicated		22,200,000	51.6	2
		Inferred		500,000	44.7	4.7

The resources stated in the reports described in Table 5 are superseded by this report.

The Chapters 6.1 through 6.3 have information modified from Stockhausen (2012), King (2012), Gryger (2010), Hodder (2010), Thorson (2010), and McKee (1990) with the original references cited within; as well as internal investigations conducted by Silver Bull Resources. Chapters 6.4 through 6.5 have information taken or modified from Stockhausen (2012), Megaw (1988, 1996, 2007), SRK (2012) and PAH (2010), Underwood (2013 & 2014) and Israel (2013 & 2014); as well as internal investigations conducted by Silver Bull Resources.

# 6.1 REGIONAL GEOLOGY

The Sierra Mojada Project is located in the Eastern Zone, one of the three principal geologic zones of Mexico defined by age, tectonics, and lithologies. The other two zones are the Western Zone and the Trans Mexican Volcanic belt. The Eastern Zone represents a passive plate margin relative to the Western Zone which documents a convergent plate margin, and is composed of three major lithostratigraphic terrains; the Coahuila, Maya, and Sierra Madre. The boundary between the Eastern and Western terrains is in Chihuahua just west of the Sierra Mojada project area. Within the Eastern Zone, the project is located in the Coahuila terrain.

# 6.1.1Coahuila Terrain

Basement rocks in the portion of the Coahuila terrain containing the Sierra Mojada district are Late Paleozoic in age. The Coahuila basement block is composed of moderately metamorphosed flysch and unmetamorphosed andesitic volcanic rocks, cut by granite and granodiorite intrusive rocks of Permian to Triassic age The Coahuila block is bounded to the northeast by the San Marcos fault system and to the south by the Torreón-Monterrey lineament, parallel to the Sonora-Mojave megashear (Figure 11).



Figure 11. Major Tectonic Elements of Northeastern Mexico

Note: The Sierra Mojada project area is outlined in red, the San Marcos Fault Zone (SMF) in green. Major tectonic elements of northeastern Mexico show the regional sinistral shear couple between the San Marcos (SMF) and the Rio Bravo-La Babia (LBF) transcurrent fault zones; major components of the Mohave-Sonora megashear MSM). Also shown is the Coahuila block (CB), the La Mula Island (LMI), the Coahuila-Texas craton (CCT) and the Ouachita-Marathon Orogenic Belt (OMOB) which marks the boundary between the Western and Eastern litho-tectonic provinces in Mexico (Gryger 2010).

The basement rocks of the Coahuila block were cut by Permian to Triassic aged granitic and granodioritic intrusions. These intrusive units represent the roots of an island arc system produced south of the Ouachita-Marathon orogenic belt. Permian-Triassic intrusive rocks of similar composition to those found within the Coahuila block occur within the Sabinas basin along the La Mula and Monclava uplifts. The intrusive units likely acted as basement high within the basin during the Jurassic and Cretaceous. The Coahuila block was the source of siliciclastic detritus deposited along the Jurassic and Early Cretaceous in the Sabinas Basin following regional deformation along the San Marcos fault system (Figure 12).



Figure 12. Cross Sections through the Sabina Basin

Note: Figure is showing Laramide folding and the position of the basin bounding faults; the San Marcos and La Babia systems (Gryger, 2010).

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## 6.1.2 Sabinas Basin

The Sabinas basin formed during the Jurassic opening of the Gulf of Mexico and contains over 6,000 m of Jurassic to Cretaceous continental redbeds, evaporites, and carbonate rocks. The basin formed between the Coahuila block to the south and the Coahuila-Texas craton to the northeast. A post-rifting marine transgression resulted in deposition of extensive Middle Jurassic to Late Cretaceous carbonate rocks throughout the region. Although the orientations of sedimentary basins in northeastern Mexico were structurally controlled, basin-bounding structures were likely inactive during the time of carbonate deposition.

The Sabinas Basin is prolific in its production and potential of hydrocarbon, primarily natural gas, coal, and coal-bed methane. It is also the source of metal-bearing brines linked to lead-zinc, coppersilver, barite, strontium, and fluorine mineralization in SEDEX related mineral deposits; in skarn related mineral deposits and Laramide age intrusive rocks; and in CRD type replacement deposits. The potential for sulfur and potash remains speculative.

### 6.1.3 Regional Structure

The Coahuila region contains three major northwest-trending structures as presented in Figures 11 and 12:

- Mojave-Sonora megashear
- Torreón-Monterrey lineament
- San Marcos-Rio Bravo (Babia) shear couple

The Mojave-Sonora megashear was proposed by Silver and Anderson (1974) to explain an 800 km sinistral offset between basement rocks in northern Mexico and southern California. This shear zone is interpreted to have formed from a series of intracontinental transform faults that were active during the Late Triassic to Middle Jurassic.

The Torreón-Monterrey lineament is a west-northwest-trending structure that forms the southern boundary of the Coahuila basement block and is the southeastern extension of the Mojave-Sonora megashear. It displays regional scale left-lateral displacement of up to 400 km Movement along the Torreón-Monterrey lineament appears to have occurred primarily between the Middle Triassic and Late Jurassic.

The north-northwest striking San Marcos-Rio Bravo sinistral shear couple was active during the Jurassic, Early Cretaceous, and Tertiary and has a surface trace length of at least 1000km according to Flotte, et al 2008. This shear couple is responsible for a distinct system of conjugate normal faults in the region which strike north-south to north 70 degrees east.

The San Marcos fault component of this system exhibits a minimum of four recorded movements and begins with an early normal movement with later left-lateral strike-slip reverse movements beginning in the early Tertiary. Initial movement along the San Marcos fault has been attributed to deformation along the Torreón-Monterrey lineament and the Mojave-Sonora megashear together with subsequent isostatic adjustment due to crustal thickening during the Jurassic. The thrust component of the San Marcos fault is locally referred to as the Sierra Mojada thrust and the corresponding thrust movement on the Rio Bravo fault to the north is referred to as the Babia thrust zone. The San Marcos fault is northeast dipping and is believed to cut the entire crust while documented off sets are about 100m in the Sierra Mojada district, but variable region wide.

Movement along the San Marcos fault system resulted in the deposition of Cretaceous age continental redbed and carbonate units north of the fault. The redbed units include the San Marcos Formation and the Upper Conglomerate units. The carbonate units include the La Pena and Aurora Formation, all in the Sierra Mojada district. Reactivation of the San Marcos fault occurred during the Early Pliocene and resulted in a series of secondary faults with east-west to north-south orientations in western Coahuila and southeastern Chihuahua.

The deep seated San Marcos fault zone has also been the structural guide to Laramide – Pleistocene age igneous activity along its length including the Carmago volcanic field 100 km to the northwest of the Sierra Mojada district, the Quatro Cienegas thermal area 150 km to the southeast of the Sierra Mojada, as well as the igneous intrusions believed to be the source of the mineralization in the Sierra Mojada district.

The Seveir-Laramide orogeny marks a period of major mountain building along a northwest trending front throughout the North American continent. The timing of the Laramide orogeny varies across North America, but it is broadly attributed to the late Cretaceous to early Paleocene. In northeastern Mexico, the Laramide orogeny resulted in the reactivations of Early Mesozoic rift-related basement faults. Cretaceous strata situated on the Coahuila block experienced low intensity deformation forming a broad, southeast-plunging anticlinal dome. Laramide deformation also formed the Sierra Madre Oriental fold and thrust belt to the south of the Coahuila block and the Coahuila fold belt to the north of the Coahuila block in the Sabinas Basin

# 6.2.1 Sierra Mojada Stratigraphy

The rocks at Sierra Mojada record an Early Cretaceous transgression beginning with subaerial redbeds and near shore beach sandstones followed by carbonate rocks deposited in shoal, lagoonal, shelf, and platform environments. At Sierra Mojada, Lower Cretaceous rocks are overlain by younger redbed and breccia units as shown by Gryger in Figure 13, which separates the regional stratigraphy into the allochthonous and autochthonous blocks.



Figure 13. Time Correlation Diagram of the Sabinas Basin Stratigraphy



Stockhausen (2012) refined the local stratigraphy as employed on the Sierra Mojada Project in Figure 14 and renamed a distinct and local portion of what was historically called the Cretaceous San Marcos formation, as the Tertiary Upper Conglomerate.



Note: The stratigraphy as employed on the Sierra Mojada project by Stockhausen (2012) who conducted an independent investigation of the Upper Conglomerate unit. As noted in text, the Upper Aurora formation is often known as the Georgetown formation of the gulf coast, but the name has lost its usage in Mexico. The Upper Aurora is a diagenetic dolomite unit mined by Peñoles at Sierra Mojada for its magnesium content, and is locally referred to as the Peñoles dolomite and Mina Dolomita.

# 6.2.2 Allochthonous Stratigraphy

### 6.2.2.1 San Marcos Formation

The San Marcos Formation has been described throughout Coahuila and has been the focus of several investigations in the Sierra Mojada district as noted by Stockhausen (2012). Regionally within the Coahuila terrain, the San Marcos Formation is up to 1,000m thick with the thickest sections present north of the San Marcos fault which indicates that this fault was active during deposition of the unit. In the Sierra Mojada district, the San Marcos Formation has a thickness of approximately 70m in drill core. The unit consists of Lower Cretaceous alluvial strata composed of conglomerates containing andesitic volcanic pebbles within a siliceous matrix and several meter thick siltstone units (Figure 14).

# 6.2.2.2 La Mula Formation

The La Mula Formation occurs throughout northeastern Mexico and forms an unconformable surface above the San Marcos Formation. The La Mula is believed to represent a change from an alluvial depositional environment to a near shore beach environment. In the Sierra Mojada district the La Mula Formation is known as the Sierra Mojada Sandstone (Figure 14). It crops out within an overturned sequence south of the town of Sierra Mojada and consists of fine- to medium-grained, subrounded to rounded, well sorted quartz sandstone up to 25m in thickness. The siliciclastic rocks of the La Mula and San Marcos Formations have been historically targeted for sediment-hosted stratiform copper deposits by several companies.

### 6.2.2.3 Cupido Formation

The Cupido Formation is the lowest stratigraphic carbonate unit of Mesozoic age throughout much of northeastern Mexico. In the Sierra Mojada district the contact between the La Mula Formation and the overlying Cupido Formation is gradational and is approximately 90m thick. The basal portion of the unit contains medium grey colored skeletal grainstone and wackestone with local mudstones that display a moderate degree of bioturbation. These strata are thought to have been deposited in restricted lagoonal and peritidal environments. The upper portion of the Cupido Formation at Sierra Mojada contains brown-grey packstones and grainstones with some oolitic lenses suggestive of deposition in a high energy shoal depositional environment.

Note: Sabinas Basin stratigraphy with descriptions, separated into allochthonous and autochthonous blocks. Not all units are documented at Sierra Mojada (Gryger 2010).

### 6.2.2.4 Upper Conglomerate

The Tertiary age Upper Conglomerate unit is arguably the most controversial lithology in the district (Figure 14). Various companies and authors have referred to the unit as the Menchaca formation, Upper San Marcos formation, ferruginous breccia, limonite breccia, residual breccia, Ralph and "X". On the project, the Upper Conglomerate is defined and logged separately from the generic ferruginous breccia (Fbx) which is described as an alteration facies under Figure 14. The unit is significant in that it is a major host rock to high grade silver-copper mineralization in the Sierra Mojada district, (Figure 15).





Figure 15. Ferruginous Breccia

Note: Ferruginous breccia above limestone and below San Marcos formation conglomerate (purple) from the Norteña area near the Encantada shaft (Thorson 2010).

Stockhausen (2012) and Thorson (2010) refer to the Upper Conglomerate as an unconformable surface and interpret the unit to be a local scale, surface karst feature. Observations underground though, show a consistent association with low angle faulting.

An alternative and most likely interpretation is that the Upper Conglomerate is in fact the San Marcos Formation that has been thrust over the top of the younger limestone sequence by low-angle thrust faults and has locally been mixed with younger sediments in stream beds and outwash plains.

### 6.2.2.5 Limestone Megabreccia

The Limestone Megabreccia is the youngest stratigraphic unit observed at Sierra Mojada (Figure 14). The unit is a clast-supported breccia composed of variably weathered, angular to subrounded, pebble to boulder sized clasts of Aurora Formation and Upper Aurora Formation limestone in a matrix of calcite with lesser quartz. The Limestone Megabreccia differs from the Cretaceous carbonate units in displaying highly variable orientations of the limestone clasts and abundant joints, but does not appear to be cut by faults. Unlike Quaternary alluvium in the district, the Limestone Megabreccia contains only limestone blocks, lacks well-rounded clasts, contains minor to no shale to silt matrix material, and has a much higher resistance to weathering. It is separated from the Upper Conglomerate by a detachment or low angle fault.

## 6.2.3 Autocthonous Stratigraphy

### 6.2.3.1 Coahuila Basement Complex

Within the Coahuila basement complex at Sierra Mojada, the project lies at the juxtaposition of three important litho-tectonic elements; the Permian-Triassic Coahuila basement block, the Cretaceous Sabinas Basin, and the San Marcos-Rio Bravo Triassic-Tertiary transcurrent fault zone and associated conjugate structures. The Rio Bravo fault zone is also known as the La Babia fault zone.

### 6.2.3.2 La Casita Formation

The La Casita formation is not known in the Sierra Mojada district, but is well-known in the regional stratigraphy.

### 6.2.3.3 Cupido Formation

The Cupido formation in the autochthonous block is the same lagoonal-peritidal facies as in the allochthonous block

### 6.2.3.4 La Peña Formation

The La Peña Formation overlies the Cupido Formation throughout northern Mexico. In the Sierra Mojada district the formation consists of a series of coarsening-upward cyclical limestone units. The base of each cycle is typically a dark grey to black colored carbonaceous mudstone. Tops of individual cycles generally are brownish grey packstone or wackstone with coarser-grained strata and often contain large fossils. The upper portion of the La Peña Formation is less fossiliferous and consists of thick beds of light grey packstone and wackestone. The total thickness of the La Peña Formation at Sierra Mojada is approximately 60m. The cyclical nature and relative abundance of argillaceous material in the La Peña Formation carbonate rocks at Sierra Mojada suggest that they were deposited in a lagoonal environment.

### 6.2.3.5 Aurora Formation

The overlying Aurora Formation is the principal host rock for the sulfide and oxide mineral deposits at Sierra Mojada (Figure 14). The Aurora Formation crops out along the cliffs at the southern boundary of the Sierra Mojada valley. Structural deformation of the Aurora Formation at Sierra Mojada has made it difficult to determine the total thickness of the unit and it is thermally metamorphosed in thin section throughout the district. However geological mapping and drill sections suggest it has a thickness of approximately 500m. The basal portion of the Aurora Formation grades upwards to distinctly more fossiliferous, medium grey wackestone and grainstone with discontinuous intervals containing lobate chert nodules and minor mudstone. The Aurora Formation sequence is typical of open marine platform to shallow slope environments.

The Aurora Formation at Sierra Mojada is overlain by the Upper Aurora Formation. This unit contains fossiliferous grainstone and wackestone similar to much of the limestone in the Aurora Formation. The unit has previously been termed the Georgetown Formation in some reports (Hodder, 2001, internal report.). However, the Georgetown Formation is the stratigraphic equivalent to the Upper Aurora Formation along the Texas Gulf coast and this nomenclature is general not utilized in northeastern Mexico. The Upper Aurora is regionally a diagenetic dolomite and is locally referred to as the Peñoles Dolomite due to the local open pit magnesia mine operated by Peñoles known as Mina Dolomita. There is no metallic mineralization know to be associated with this unit besides the magnesium.

### 6.3 SIERRA MOJADA STRUCTURE

The Sierra Mojada district is dominated by three sets of structures, each with a unique influence on the geology and mineralization of the project. These structures are related to the San Marcos-La Babia shear couple regionally and later basin-and-range extension (Figure 16) and locally present a structurally "dense" architecture which has had a profound influence in the amount and styles of mineralization present.

### 6.3.1 San Marcos Fault

The San Marcos fault zone is the oldest fault present in the district. The San Marcos, regionally, records at least four separate movements from the Jurassic to the early Tertiary. From Jurassic through early Cretaceous time, the San Marcos recorded three separate periods of normal movement, down-dip and stepping basin-ward towards the north. In the Sierra Mojada district, the San Marcos faults strike N78 West and dips at 65 degrees to the North. The northern most, and most recent step records a 100m down-drop.

During the Laramide Orogeny the San Marcos reactivated as a reverse fault, with left lateral-oblique slip movement from the northeast. Locally, this reverse movement is referred to as the Sierra Mojada thrust fault, due to the prominent exposures underground. Some observers have suggested that the low-angle structures represent a detachment surface. In the Sierra Mojada district, the reverse movement surface varies from 0 to 60 degrees to the north and "roles" in several locations, along with back thrusts dipping to the south. Offsets are from 6 to 45 meters. The early normal faults related to the San Marcos system are thus over-ridden by the later reverse movements. This period of reverse movement was noted on the La Babia fault zone on the north side of the Sabinas Basin.

### 6.3.2 North East Structures

Cutting the San Marcos structures are a series of northeast trending structures exemplified by the Callavasas, Parreña, and Veta Rica faults, which are believed to be conjugate structures related to the San Marcos-La Babia shear couple. Throughout northern Mexico, northeast structures are associated with mineralization from depth and at Sierra Mojada these northeast structures are believed to be the original sources of hydrothermal mineralization in the district. The northeast structures a typically normal and high angle, dipping 90 to 65 degrees and downdropped to the southeast. Off sets are not well documented due to later structural off sets and mineralization.

### 6.3.3 North-South Structures

The youngest structures in the district are normal high angle structures varying from 0 to 20 degrees strike, 90 to 55 degrees dip and are downdropped to the east and west, forming a series of horst and graben structures across the district. These structures are believed to be related to basin-and-range movements and typically show offsets of 5 to 25 meters. The North-South structures are important at Sierra Mojada as they are a major inheritor of remobilized supergene and oxide mineralization and many of the historic workings trace these structures.

Figures 16 to 22 include a new and revised geologic map of the district (after Israel 2013 & 2014) with representative cross sections and long section through each of the three main portions of the mineralization.





Q unconsolidated colluvium, gravel, caliche

### **Upper Conglomerate**

Tc

pebble to block (up to 10's of metres) sized fragments of Cretaceous carbonate stratigraphy; some mixing of lower and upper conglomerate at contact

### CRETACEOUS

**Georgetown Formation** 



fine to very, fine-grained micritic limestone; grey to light grey weathered, grey to beige fresh surface; occasional bioclastic layer composed of bivalve and gastropod shells; locally bioturbated; thinly bedded and laminated; locally developed dolomitic layers

fine to medium-grained, micrite to packstone limestone with chert nodules and horizons; light to dark grey weathered and fresh surface; chert varies from white to pinkish weathered and light grey to white fresh surface; amount of chert is variable from very abundant to locally almost absent; chert horizons up to 10 cm thick and laterally continuous for up to several metres; locally developed dolomitic layers; locally developed vugs ranging from less than 1cm up to 5 cm filled with coarse white quartz crystals



light to dark grey to brownish weathered and fresh, grainstone, packstone and boundstone; bedded with beds ranging from 5 cm up to 30 cm; locally

#### dolomitic Penoles dolomite

dark grey to brown weathered and fresh, bedded to massive dolomite; medium to coarse-grained with vugs of variable size; distinctive 1-2 metre thick vuggy, re-crystallized bioclastic layers KPd

light to dark grey weathered and fresh fossiliferous limestone composed almost entirely of Rudist bivalves; outcrops have a hummocky appearance; bedding is rare or absent in most cases; bivalves range in size from less than 1cm to 30 cm KAr



light to dark grey weathered, grey to beige fresh surface, very fine-grained to fine-grained micritic limestone; massive to thinly bedded with wispy laminations; occasional bioclastic layer composed mainly of bivalve fragments; locally developed dolomitic layers. KAm2

### La Pena Formation

KAm1



### JURASSIC TO CRETACEOUS

San Marcos Formation



rounded to sub-angular, pebble to boulder sized clasts of andesite, monzonite, syenite, feldspar porphyry and amphibolite within a red to maroon, fine to medium-grained arkosic matrix; ranges from clast to matrix supported

JKSs orange to beige to maroon weathered, medium to coarse-grained arkosic sandstone and grey weathered coarse-grained lithic sandstone; cross-bedded to cross-laminated; pebble sized volcanic and plutonic rocks common:

### Figure 16. Local Geology (Israel 2013-2014)





Figure 18. Cross Section 632250E through the Fronteriza Zone at Sierra Mojada looking East.



Figure 19. Cross Section 631500E through the Centenario Zone at Sierra Mojada looking East



Figure 20. Cross Section 630300E through the West Zone at Sierra Mojada looking east.



Figure 21. Long Section 3016750N through the Fronteriza Zone at Sierra Mojada looking south.



Figure 22. Long Section 3017500N through the West Zone at Sierra Mojada looking south.

### 6.4 HYDROTHERMAL & SUPERGENE ALTERATION

Diagenetic dolomite is well documented in the petroleum literature of northeastern Mexico, particularly in the Cretaceous section, and is of interest to petroleum and metals resource explorers due to the fact that the dolomitization process can increase the porosity of the unit by 15-20%. Against this backdrop, mineralization at Sierra Mojada is directly associated with extensive, hydrothermal dolomitization and moderate to strong silicification, both of which occurred prior to and during primary hypogene sulfide mineralization. The hydrothermal alteration observed at Sierra Mojada is typical of many high-temperature, carbonate-hosted Ag-Pb-Zn-(Cu) deposits in northern Mexico (Megaw et al., 1988). Stockhausen (2012) documents distinct zones of intense sericite alteration associated with sulfide mineralization. This has been interpreted to represent the distal expression of felsite intrusive activity.

### 6.4.1 Diagentic Dolomite

To the east of the Sierra Mojada district the carbonate section has been pervasively dolomitized, apparently along northeast-trending faults. This area is the site of the active Peñoles dolomite quarry. The Aurora Formation is also pervasively dolomitized in the western portion of the district, in the area of overturned section near the Sierra Mojada village. Diagenetic dolomitization represents the introduction of brines from adjacent evaporite-rich basins and is not known to carry base or precious metal mineralization but is believed to be part of the host rock preparation stage for later metals mineralization.

### 6.4.2 Epigenetic Dolomite

Irregular pods of completely hydrothermally altered dolomitized limestone surrounded by zones of partially diaigenetic dolomitized limestone occur in outcrop throughout the Sierra Mojada district. These dolomitized zones may be up to tens of meters thick and occur both along northeast trending faults and along the upper contact of the carbonate section with overlying Upper Conglomerate. The Sierra Mojada sulfide bodies occur primarily but not exclusively within dolomitized horizons. Hydrothermal dolomite represents the influx of higher temperature hydrothermal fluids prior to and during hypogene sulfide mineralization. At Sierra Mojada, hydrothermal dolomitization is expressed by a distinct tan to pink colored, fracture controlled alteration throughout the district.

### 6.4.3 Silicification

Two phases of silicification are noted at Sierra Mojada, an early pre-sulfide mineral phase, and a late syn- to post-sulfide mineral phase. The early phase affects carbonate rocks throughout the Sierra Mojada district, especially those within or adjacent to fault zones, and display varying degrees of silicification and jasperoid development. Limestone clasts in tectonic, dolomite, and karst breccias are frequently pervasively replaced by very fine-grained, light grey to dark blue, anhedral quartz, something noted in all petrographic work conducted on the project.

Early fine-grained silicified limestone is locally cut by later medium- to coarse-grained, subhedral quartz veins that occur along faults and at the contact with the Upper Conglomerate. This coarsegrained quartz is commonly associated with lead, zinc, silver, copper, and iron sulfide and oxide minerals and is spatially associated with zones containing iron- and magnesium-rich replacive carbonate minerals and sulfides or their oxidized products. Typically there is a decrease in silica content moving outward from the structures, something noted in the district dating back to 1901 (Chisholm 1901)

Silicification is not common within high-temperature, carbonate-hosted Ag-Pb-Zn-(Cu) deposits in northern Mexico and is only noted at the Charcas, Santa Eulalia, La Encantada, and Sierra Mojada deposits (Megaw et al., 1988).

### 6.4.4 Sericitization

Sericite is commonly present in the ferruginous breccia and within the Upper Conglomerate. Areas containing abundant sericite occur above northeast-trending faults near the historic Veta Rica workings and in the deeper working below the San Salvador and Fronteriza shaft areas. The formation of sericitized zones well-up into the Upper Conglomerate indicates that this alteration clearly post-dates the major period of sulfide mineralization at Sierra Mojada. Sericitization of the Upper Conglomerate and ferruginous breccia may represent continued movement of hydrothermal fluids, or a second phase of hydrothermal alteration, along and above major structural pathways.

Sericitization is relatively uncommon in the Mexican high-temperature, carbonate-hosted Ag-PbZn-(Cu) deposits. One of the few deposits with significant sericitization is Santa Eulalia where igneous rocks along mineralized faults are altered to massive sericite with arsenopyrite.

### 6.4.5 Carbonate Alteration

Two phases of carbonate alteration are noted at Sierra Mojada, and early pre-and syn-mineral phase and a late phase associated with ongoing supergene processes. The hydrothermal dolomite found throughout the district is cut by a later assemblage of ferroan to magnesian-rich replacement carbonate minerals, which occur along northeast-trending faults and at the upper contact of the carbonate section. This assemblage of ankerite, siderite, and magnesite locally cuts and replaces diagenetic dolomite and previously undolomitized limestone.

The carbonate minerals are fine-grained and are relatively similar in grain size to earlier diagenetic dolomite. They display pink to red colors at surface but have a pale grey color where unoxidized. These carbonate minerals also may be enriched in lead and strontium and commonly display abundant very fine-grained dendritic manganese oxide minerals. The iron- and magnesium-rich carbonate minerals are intergrown with iron and base metal sulfides and barite indicating they were precipitated during the initial mineralization event (Renaud and Pietrzak, 2010,). The red and pink carbonate minerals are commonly intergrown with iron-oxide and zinc-oxide minerals.

Late calcite veinlets occur throughout the Sierra Mojada district, but are most prevalent along the Sierra Mojada fault zone. The calcite veinlets are typically 1-20cm wide and cut carbonate rocks, the ferruginous breccia, and the Upper Conglomerate. The calcite in these veinlets is finegrained, anhedral, and commonly intergrown with zinc-, lead-, and iron oxide minerals and acanthite; it may contain inclusions of barite (Renaud and Pietrzak, 2011). Coarse-grained calcite with normal to zincian compositions also locally replaces limestone, silicified limestone, dolomite, and iron- and magnesium-rich replacive carbonate rocks, as well as the matrix of the ferruginous breccia adjacent to zones containing late calcite veinlets. Calcite veinlets crosscut sericitized Upper Conglomerate rocks indicating that this alteration event occurred after sericitization. These calcite veinlets and replacive calcite zones were just recently formed and are interpreted to be ongoing supergene processes.

### 6.4.6 Argillic Alteration

Argillic alteration zones are found throughout the Sierra Mojada district at the contact between Cretaceous carbonate rocks and the Upper Conglomerate. These light grey and tan to tan-brown zones are clay-rich. Based on x-ray diffraction (XRD) analyses these zones are composed of kaolinite, illite, and halloysite in addition to fine-grained quartz, limonite, hematite, and calcite. Tan-brown intervals contain more abundant clay relative to the light grey colored, fine-grained quartz-rich material. The ferruginous breccia contains varying abundances of interstitial kaolinite and illite with minor halloysite surrounding quartz and carbonate rock clasts, however the timing of formation of the ferruginous breccia and clay is unclear (Renaud and Pietrzak, 2010).

### 6.4.7 Ferruginous Breccia

The Ferruginous Breccia is treated here as a distinct alteration facies even though in core logging it is treated as a separate lithology, due to its direct association with mineralization. The unit may actually be comprised of a mixture of Upper Conglomerate, Aurora Formation dolomite and limestone, karst breccia, and limonite breccia. Clasts of medium- to coarse-grained, sub-rounded limonite after sulfide contain elevated concentrations of silver and zinc. Clast shape suggests that they are detrital rather than representing in-situ sulfide precipitation. The presence of both sulfiderich and oxide-rich clasts indicates that the ferruginous breccia formed after both the hydrothermal event responsible for sulfide precipitation and supergene weathering of portions of the sulfide replacement bodies.

The base of the ferruginous breccia is commonly highly irregular. Ferruginous breccia also fills fractures extending downward approximately 7m into the carbonate sequence. These fractures may contain large, angular, cobble-sized limestone and replacive carbonate mineral clasts. Additionally, the ferruginous breccia contains silicified carbonate clasts indicating that this finegrained silicification event took place prior to karstification. The ferruginous breccia also occurs beneath fine-grained travertine in karst cavities within the limestone sequence. Thus, the ferruginous breccia appears to represent both a surficial deposit formed by chemical and mechanical weathering of carbonate rocks and karst-fill material (Thorson, 2010).

The ferruginous breccia is commonly overlain by the Upper Conglomerate. In some areas lenses of ferruginous breccia are interlayered with lenses of Upper Conglomerate suggesting these units formed synchronously. The ferruginous breccia has not been identified outside of the Sierra Mojada district.

The ferruginous breccia at Sierra Mojada is interpreted to represent surficial oxidation of exposed sulfide replacement bodies in the carbonate sequence as well as infill of karst cavities formed by both normal weathering and acid generated during sulfide oxidation.



Figure 23. Ferruginous Breccia

Note: Ferruginous breccia above limestone and below San Marcos formation conglomerate (purple) from the Norteña area near the Encantada shaft (Thorson 2010).

### 6.5 MINERALIZATION

Sierra Mojada consists of two important and diverse mineralizing models, accentuated by a locally dense structural architecture and are detailed in Chapter 8.0, Deposit Type:

- Development of a major Carbonate Replacement Deposit (CRD) of lead-zinc-silver (copper), distal to the source intrusion.
- The oxidation, supergene enrichment, and second oxidation of the original sulfide deposit leading to the mineralization of current interest and resource development.



There are essentially two overlapping mineralized sections to the Sierra Mojada district:

- The Silver Zone also known as the Shallow Silver Zone (SSZ), also known as the Polymetallic manto of historic reference.
- The Zinc Zone also known as the Base Metal Manto (BMM). The BMM is subdivided into three further zones for descriptive purpose; the Pb Manto (Carbonate Manto of historic reference), the Red Zinc Manto (Iron Oxide Manto of historic reference), and the White Zinc Manto.

### 6.5.1 Shallow Silver Zone (Silver Zone)

The Shallow Silver Zone (SSZ), outcrops on the surface on the west end of the district and dips under colluvial cover towards the east at about 10 degrees. The zone is ~3.3km in length, up to 1km in width, and 100 to 300m thick. The SSZ is hosted in breccias of the Tertiary Upper Conglomerate unit, the ferruginous breccia, and in reactive dolomite and limestone of the Cretaceous Aurora Formation. Significantly, mineralization is also controlled by the dense array of structures in the district. Due to these structural and lithologic controls, mineralization develops in four configurations:

- Stratiform mantos, primarily in reactive dolomite horizons and associated karst breccia features.
- High-grade (>100g/t) veins, primarily faults and chimneys related to the mixed structural architecture of low angle and high angle faults.
- Unconformity controlled breccia mineralization related to the Cretaceous-Tertiary weathering surface, although the unconformity demonstrates low-angle movement in many localities.
- Disseminated replacement mineralization between the mantos and structures.

### 6.5.2 Base Metal Mineralization (Zinc Zone)

Mineralization within the BMM begins with the Lead zone in the highest stratigraphic position, followed by the Red Zinc zone, and the White Zinc zone. BMM mineralization is primarily in manto configurations and each zone contains subordinate amounts of mineralization related to the other mantos described. All of the manto mineralization dips towards the east at 10 degrees and are controlled by dolomite and subordinate limestone host rocks within the middle Aurora Formation. The manto mineralization developed first from pyrite-sphalerite-galena semi-to massive sulfide mineralization followed by oxidation and supergene enrichment by the processes detailed by Megaw (2009), Borg (2009), and Reichert (2009).

### 6.5.2.1 Lead Zone

Discussion of the Lead zone is included to complete the geology and mineralization, as well as history of the project. Little of the Lead zone is included in the current resource calculation, but is considered a future underground exploration target for silver. Most supergene mineralization originated in the hypogene mineralization of the Lead zone mantos.

The Lead zone was the original mineral discovery in the Sierra Mojada district and sustained mining in the district for the first 20 years until its exhaustion in 1905. The manto was in what was historically known as the "Snake", "Manto", and "Scraggly" beds (Haywood and Tripplet, 1931) of the now defined middle Aurora Formation, and located stratigraphically above the Red Zinc zone. The Lead zone was mined continuously for 4km of strike length, 30 meters of width and up to 6m in height. The lead zone graded 15% lead, 12 ounces per ton of silver, and produced 3.5 million tons of ore (Shaw, 1922) from cerrusite-anglesite, chlorargyrite and native silver. Mineralization was centered on the northeast striking Parreña structure and was accessed through the Parreña tunnel located near the current core shack.

### 6.5.2.2 Red Zinc Zone

The Red Zinc zone is a continuous manto some 2,500m along strike, up to 200m wide, and up to 160 m thick. It averages about 80 m in thickness and about 130m in width. The mineralization follows reactive dolomite host rocks and karst fill breccia historically known as the "Santa Getrudia, Hallazgo, and North Encantada" (Haywood and Triplett, 1931) horizons in the middle Aurora Formation. The manto dips to the east at about 10 degrees following the dip of the local stratigraphy and is located in the footwall of the Sierra Mojada fault.

Mineralization consists of massive hemimorphite  $(Zn_4Si_2)O_7(OH)_2 H_2O)$ , with subordinate amounts of smithsonite  $(ZnCO_3)$  and minor hydrozincite  $(Zn_5(CO_3)_2(OH)_6)$ . The Red Zinc manto is admixed with strong iron-oxide with minor manganese oxide imparting a red color to the zone. Massive red zinc manto mineralization is surrounded by a halo of fault and fracture controlled red zinc a result of supergene processes, primarily but not restricted to the footwall.

The mineralization is vuggy and shows replacement of zebra textures as well as laminated cavefloor and soft-sediment deformation. Relic pyrite, galena, and sphalerite have been noted although the overall level of oxidation is strongly pervasive. The lead oxide platternite ( $PbO_2$ ) is common. Massive Red Zinc zone mineralization typically grades approximately 20 to 30% Zn and approximately 55g/t Ag. Typical examples of the Red Zinc are shown in Figure 24.

The full extent of the Red Zinc zone remains to be completely delineated. Multiple Red Zinc zones are noted in the district and one, the Yolanda, is currently being exploited on a small scale by a local mining cooperative.



Photographs of A. Hemimorphite and calcite on laminated Fe-oxides. Sample SS11-2DS. B. Smithsonite ore intermixed with late calcite in fracture-fills. Sample SS8 (oriented). C. Hematitic Fe-oxides with white hemimorphite and calcite crystals. Sample EN1-3. D. Pore-filling hemimorphite and calcite cement in goethitic Fe-oxides. Sample SS4-4.

Figure 24. Typical Specimens of Red Zinc showing Composition Variation

Note: Historically, the Red Zinc Manto was known as the Iron oxide Manto. From Hye In Ahn, 2010

### 6.5.2.3 White Zinc Zone

The White Zinc zone (smithsonite manto) lies underneath the Red Zinc zone and forms a series of mantos, chimneys, and filled structures. The zone consists of two bodies approximately 100-200 meters across each and up to 70m in thickness. The two bodies of mineralization are separated by the Campamento fault which has down-thrown the east body relative to the west body. The thickest section of the Red Zinc zone directly overlies the White Zinc zone at about the 631700E section where total zinc mineralization is in excess of 200m thick.

The mineralization follows reactive limestone and dolomite host rocks and karst fill breccia historically known as the "Trinidad" horizon (Haywood and Triplett, 1931) in the lower Aurora Formation. Mineralization shows classic karst cave-floor accumulation and soft sediment deformation. Mineralization also shows a very strong structural component occupying steeply dipping faults in the zone and the full extent of the White Zinc manto remains to be determined.

Mineralization in the White Zinc zone consists primarily of smithsonite with very minor overprinting hemimorphite, and is slightly higher in zinc grade than the Red Zinc zone. There is very little iron oxide and low levels of lead. Massive White Zinc zone mineralization grades approximately 25 to 40% Zn and grades approximately 3g/t Ag. Typical examples of the White Zinc are shown in Figure 25.





D.





A. Botryoidal smithsonite and hemimorphite in vuggy cave fill. Sample SM08-22. B. Fragments and layers of Zn clay (pink to pale brown colors) cemented by Zn-bearing minerals and calcite. Sample SM08-28. C. Laminated Zn minerals and pendulant smithsonite at the bottom. Sample SM08-24. D. Vertically banded smithsonite ore consisting of pale brown Zn clays and pore-filling scalenohedral smithsonite followed by calcite cement. Sample SM08-02.

### Figure 25. Typical Specimens of White Zinc showing Textural Variation.

Note: Historically, the White Zinc Manto was known as the Smithsonite Manto. From Hye In Ahn, 2010
#### 6.6 DEPOSIT TYPE

Data and information are taken from Megaw (1988, 1996, and 2009), Sillitoe (2009), Reichert (2009), Borg 2009, Sanchez et al (2009).

The Sierra Mojada deposit lies on within three known mineral provinces:

- The eastern edge of what is termed the Mexican silver belt.
- The western edge of the MVT Province of NE Mexico and SW U.S.
- The middle of the northern Mexico CRD (Carbonate Replacement Deposits) belt.

The currently accepted model for hypogene mineralization in the Sierra Mojada district is a CRD relatively distal from an intrusive source as diagramed in the district schematic showing Figure 26.



Figure 26. Schematic Drawing through the Western Portion of the Sierra Mojada Mining District.

Note: Schematic drawing through the western portion of the Sierra Mojada mining district showing critical elements of the CRD model as applied to exploration and development in the district.



## 6.7 SIERRA MOJADA POLYMETALLIC PB-ZN-AG-CU DISTRICT

Megaw (1988) classified Sierra Mojada as a CRD type of deposit and, following his classification system of CRD deposits in 1996, Sierra Mojada would be considered as a Type III CRD with no direct connection to an intrusive source. However, Megaw (1996) indicates that the major polymetallic Pb-Zn-Ag-Cu districts in northern Mexico show metal sourcing to be a mixture of basin brines and magmatic sources, and suggests that basin dewatering was a magmatic thermal driven event, as opposed to a strictly compressional event. Indeed, Sanchez, et al (2009) make a strong argument that Sierra Mojada is part of the NE Mexico MVT province.

Abundant direct and circumstantial evidence exists at Sierra Mojada, based on 2011 and 2012 exploration drilling, that intrusive rocks are present and were likely the thermal drivers of basin brine sourced mineralization into a district wide metal zonation. This evidence includes:

- The drill hole B12074 collared at the top of Mesa Blanca intersected 58m, from 432 to 490m depth, of felsite sills interleaved with metamorphosed dolomite, intense massive and stockwork silicification, and disseminated base metal sulfides.
- Breccia float in a zone 450m distance from the above drill site with angular chalcopyrite fragments, jasperoid, and mimetite (Pb<sub>5</sub>(AsO<sub>4</sub>)<sub>3</sub>Cl) more indicative of a hydrothermal breccia pipe than the local mapped Upper Conglomerate unit. The pipe is located along the main strand of the San Marcos fault.
- Chargeability highs in a zone trending east from Mesa Blanca to the historic and west towards the Volcan mine area, a distance of 2km.
- A distinct zone of sulfide mineralization surrounding and extending north from the historic Veta Rica mine which includes chalcopyrite, tennantite, argentiferous galena, arsenopyrite, and sphalerite; implying a formation temperature >300°C.
- A center of strong sericite alteration coincident with the chargeability highs and sulfide mineralization around the Veta Rica-San Jose-Deonea historic mine areas. Additional strong sericite alteration is noted with chalcopyrite in the deepest portions of the San Salvador, Encantada, and Fronteriza workings along the strike of the San Marcos fault.

#### 6.8 SULFIDE MINERALIZATION

Megaw (2009) describes the typical distal sulfide mineralization in CRD districts, and that observation is directly applicable to Sierra Mojada. The original sulfide mineralization at Sierra Mojada consisted of pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, and tennantite; in a gangue of quartz, carbonates, barite, and likely some fluorite with minor celestine. It is believed that up to 30% of the original mineralization was gangue minerals at Sierra Mojada.

The hypogene sulfide mineralization was fed into reactive dolomite horizons and karst features in the Upper Conglomerate and Aurora Formations by the San Marcos and Northeast fault systems. On a district zoning scale, likely based on an intrusive thermal driver located in the Veta Rica-Mesa Blanca area, the lead manto was deposited furthest from the center, followed by the zinc mantos, with district copper mineralization centered in veins and mantos around the historic Veta Rica mine.

Silver zonation tends to begin in the copper zone and extent outward into the lead zones. The original hypogene silver mineralization was likely dominated by argentian varieties of galena, sphalerite, chalcocite, and tennantite; as well as acanthite-argentite. These minerals have all been documented by Renaud and Pietrzak (2011a and 2011b).

This style of district zoning has been noted CRD districts in Utah, Colorado, New Mexico, and Chihuahua and around numerous cordilleran porphyry districts. Due to the extreme oxidation of the Sierra Mojada sulfide mineralization, only minor remnants of galena, sphalerite, and pyrite have been noted in the zinc mantos, and geochemically immobile cerussite and anglesite are all that remain in the galena mineralization in the lead mantos. Silver sulfide minerals are still present when they have not oxidized to halides Figure 27.



Figure 27. Iron-lead Silicate Mineral Crosscut by fracture filling silver.

Note: Iron-lead silicate mineral crosscut by anastomosing fractures filled with argentite (bright fractures) and enclosing fragments of zinc silicate. Renaud and Pietrzak (2011b).

#### **6.9 OXIDE MINERALIZATION**

Reichert (2009) describes the oxidation-supergene enrichment sequence on the sulfide-nonsulfide zinc deposits at Mehdi-Abad and Koladahrvazeh in Iran. The non-sulfide zinc mineralization in the Sierra Mojada district is directly analogous to the Iranian deposits, while the oxidation of the silver mineralization at Sierra Mojada requires a separate discussion. Figure 28 shows the oxidation and supergene enrichment (after Reichert 2009) as it pertains to Sierra Mojada.



Figure 28. Development of the Red Zinc and White Zinc Zones.

Note: Development of the Red Zinc and White Zinc zones as a result of oxidation and supergene enrichment at Sierra Mojada. (Modified from Reichert, 2009).

Hypogene Pb-Zn-Ag-Cu sulfide mineral mineralization in the Sierra Mojada district underwent intense oxidation, followed by supergene enrichment, followed by a second oxidation event. The Late Tertiary to Quaternary events were accelerated by the intense structural development during a period of rapid climate change as the region went from a savanna climate in the Pliocene to the cool-wet climates of the Pleistocene to the hyperaridity of the Present. The non-sulfide zinc mineralization at Sierra Mojada would classify as about 70% direct replacement and 30% wallrock replacement, primarily in structures; according to Hitzman (2003).

Under oxidizing conditions in limestone-dolomite host rocks Sphalerite (ZnS) readily oxidizes to its carbonate equivalent, Smithsonite (ZnCO<sub>3</sub>) under high partial pressure of CO<sub>2</sub>. Upon relaxation of the partial pressures of CO<sub>2</sub>, Smithsonite alters to hydrozincite ( $Zn_5(CO_3)_2(OH)_6$  prior to the addition of silica leading to the formation of hemimorphite ( $Zn_4Si_2O_7(OH)_2 \cdot H_2O$ ), the most stable form of nonsulfide zinc. Note that as sphalerite (64% Zn) converts to smithsonite (52% Zn) and finally to hemimorphite (54% Zn) and that the true supergene enrichment is in the conversion of smithsonite to hemimorphite. The abundance of iron in the sphalerite and the presence of iron-sulfur bacteria accelerate the process tremendously.

As detailed by Sillitoe (2007) supergene enrichment of silver sulfides is a relatively rare phenomenon. Instead, the silver sulfides of argentiteacanthite (Ag<sub>2</sub>S) readily oxidize to silver halides (AgCl and AgBr) and native silver. Argentite-acanthite (87% Ag) converts to clorargyrite (75% Ag) and bromargyrite (57% Ag) leading to an "enrichment" by generating more grains of silver halide minerals, with the excess Ag taken up by the native form (Figure 29).



Figure 29. Late Stage Calcite Veins.

Note: Late stage calcite veins are remobilizing Ag-Br-Cl and is the transporting mechanism for late stage remobilization of silver-bearing phases into adjacent dolomite-rich areas. Renaud and Pietrzak (2011b).



# 7 EXPLORATION AND DRILLING

# 7.1 HISTORICAL

The mineralization in the Sierra Mojada area was discovered in 1879, and early exploration was conducted by prospecting the outcropping ore. By the 1920's, diamond drilling was widely used in the district and the subsurface exploration and development included workings and drifting on structures. Underground diamond core and long hole percussion drilling using relatively short, small diameter "B" size holes, was widely used beginning in the 1930s through the 1990's.

Modern exploration of the Sierra Mojada district began with the Kennecott efforts in the early 1990s which included stratigraphic tests by surface diamond drilling and geophysical techniques. Kennecott conducted extensive regional Controlled Source Audio Frequency Magneto Telluric (CSAMT) and Resistivity-Induced Polarization (IP) surveys to the north of the Sierra Mojada Range from Palomas Negras to El Oro in the east. These surveys were performed by Zonge Engineering of Tucson.

The Mexican government has flown aeromagnetic and radiometric surveys for much of northern Mexico, but the data yields only regional structure information and a few obvious intrusions. There is not an abundance of igneous rocks, other than deep crystalline (Jurassic to Triassic) basement, known in the area, but subtle signatures of younger diorite to felsite rocks can be detected, including the various mineralized types, that are expected to have high magnetic or radiometric susceptibility.

Beginning in 1996, Metalline Mining began to collect and compile the historic mine maps, drill core assays to develop new surface and underground mine maps and samples. Channel samples were extensively used to identify areas of interest, followed by long hole percussion drilling to extend samples away from old workings, and finally, underground and surface core drilling to extend the sampling further. Surface trenching of bulk metallurgical samples was undertaken in 2010.

## 7.2 NATURAL CONDITIONS

Bedrock exposures in the area are poor to excellent depending on slope and in areas that have been previously mined. As a result, geochemical methods have had mixed success as an exploration tool. High percent range background values for zinc and lead are common local to zinc-lead deposits, but gradients and vectors that lead to mineral concentrations are just now being recognized. Geochemical rock sampling of targeted stratigraphy in conjunction with structural analysis is the most important exploration and evaluation tool.

The hyperaridity of the area leads to mass physical dispersion rather than chemical dispersion of metals. Soil development is poor with little or no organic material and conventional soils and low level trace element geochemical surveys are not useful in the area. The amount of carbonate and iron-manganese inhibits migration of metallic ions in this environment.

## 7.3 SILVER BULL EXPLORATION 2011-2017

Silver Bull's exploration program can be broken into two areas:

- A Regional exploration effort on existing licenses and prospects.
- · A near mine underground channel sampling to highlight areas of immediate potential resource expansion.

# 7.3.1 Regional and Prospect Evaluation

Silver Bull Resources has integrated an abundance of information, both public and private, in its' district and regional exploration efforts in Mexico. From the public side, the Mexican government's regional geophysical surveys in conjunction with its regional 1:250,000 scale stream sediment and geologic mapping surveys provide a usable base for prospect evaluation when used with targeted stratigraphy and structural analysis. In addition, Silver Bull has employed SRTM (Shuttle Radar Topography Mission) and Landsat ASTER images compiled by Sandra Perry of Perry Remote Sensing, Denver, Colorado, to develop remote sensed hydrothermal alteration models of select target areas. Silver Bull also flew a regional airborne EM (ZTEM) survey in 2011 to act as a base for regional license exploration.

In addition, Silver Bull engaged in a program of detailed structural analysis of the Sierra Mojada district as well as a detailed time, lithologic, and biostratigraphic compilation of the project area during 2014. Extensive use of petrography has aided considerably in the interpretation and paragenetic sequencing of mineralization. The use of outside specialists in this regard has been particularly useful in all aspects of the program. Table 7 outlines the prospects of interest to Silver Bull while Figures 32 shows the locations of the Sierra Mojada license with the associated license and prospect areas outlined in Table 7.

#### 7.4 SOUTH32 JOINT VENTURE 2018-2019

ON June 4, 2018 announced it had signed a deal with South32 Limited granting it a 4-year option to form a 70/30 joint venture. Under the option, South32 had to contribute a minimum exploration funding of US\$10 million ("Initial Funding") during a 4-year option period with minimum aggregate exploration funding of US\$3 million, US\$6 million and US\$8 million to be made by the end of years 1, 2 and 3 of the option periods respectively. If South32 exercised its option to subscribe for 70% of the shares of Mexican subsidiary Minera Metalin S.A. De C.V. ("Metalin"), South32 would contribute an additional \$US100 million to Metalin for Project funding

From June 2019 to September 2019 mapping, sampling, and then drilling where conducted exploring the wider area outside of the main deposit at Sierra Mojada. A total of 6,500m was drilled on prospects outside of the main deposit at Sierra Mojada. Although some narrow mineralized intercepts were hit, it was not deemed significant. A summary of the results from this drilling is shown in the table below. Locations of the drillholes are shown in Figures 30 & 31.

Hole_ID	Area	Hole Length (m)	From	To	Interval (m)	Ag G/T	Zn (%)	Pb (%)	Cu (%)	Comments	
B19003	East End	620.85					Nosigni	icant Re	sults		
010004	Palomas Negros	440.5	28.5	34.25	5.75	·	2.05			Sulphide	
B15004		110.6	46.43	47.1	0.87	30	7.78	1.8		Sulphide	
B19005	22.5.61 221		52.1	53.7	1.6		4.26			Sulphide	
	Palomas Negros	185.7	75.75	89	13.25	16	8.9	2.58		Sulphide - including 5.85m @ 11.7% Zn, 2.98% Pb, 24g/t Ag	
B19006	Palomas Negros	518.7	129.85	130.7	0.85	195	7.25	1.2	0.13	Sulphide	
B19007	Palomas Negros	242.5	5 32		(k	а I	Nosignif	icant Re	sults	2	
819008	Palomas Negros	437.5	124.35	215.35	91	6.24	0.15			91 meter wide zone of anomalous mineralization - interpreted as a potental halo around a feeder structure	
B19009	Palomas Negros	344.5	31.65	32.15	0.5	36.3	0.27	0.12	0.11	Oxide	
			33.45	35.1	1.65	36.6	0.41	0.16	0.15	Oxide	
B19010	El Coyote	251.8					Nosigni	ficant re	sults		
B19011	El Coyote	318					Nosignì	ficant re	sults		
B19012	El Coyote	315				2	Nosigni	ficant re	sults		
B19013	Palomas Negros	413.8	137.8	143	5.2	149.4	4.67		0.87	Sulphide - including 1m @ 565g/t Ag, 2.14% Cu, 1.78% Zn	
B19014	Palomas Negros	376.3	271.8	272.4	0.6	24.4	5.52	1.45		Oxide	
B19015	San Francisco	743.2				j	Nosigni	ficant re	sults		
B19016	San Francisco	491.6	No significant results								
B19017	W est End	356.6	Unassayed due to blockade								
B19018	West End	407.6	Unassayed due to blockade								



Figure 30. Drilling 950m east of the main deposit, testing mineralization at depth.



Figure 31. Regional exploration drilling locations and results along the Sierra Mojada trend.

On 1 September 2022, South32 terminated the option agreement with Silver Bull citing an inability to access the property due to an ongoing illegal blockade that started on 30 September 2019 by a group of locals demanding early payment of a production royalty. On one of the licences in that make up the licence package at Sierra Mojada. The illegal blockade remains in place at the time of writing this report.

#### Table 7. Summary of the main Regional Prospects at Sierra Mojada

Descreat	Linonco	Logation	Description	Matala	Tangat	Data ta Data	Domontra
Prospect	License	Location	Description	wietais	Target	Data to Date	Remarks
Sierra Mojada Ext. East	Sierra Mojada	Adjoining resource to the NW and SE for 30 km	Extensions along SM thrust NW and SE for 30 km	Ag-Zn-Pb	CRD- Skarn	18 surface dump/ outcrop samples	Anomalous (>10ppm) Ag w/ As+Mn+Zn+ , Ba pathfinder geochemistry.
Sierra Mojada Ext. West	Sierra Mojada	Direct extension of resource	Massive sulphide target down-dip from existing CRD mineralization	Ag-Zn-Pb-	CRD- Skarn	Two drill intercepts, historic production records	Surface IP completed, u/g exploration and sampling in progress.
Parreña	Sierra Mojada	Direct extension of resource	Manto target adjoining resource on south	Ag-Zn-Pb	CRD	U/g evaluation started,11	Needs additional u/g surveying, model development. Exploration on hold. Low priority target.
Dormidos	Sierra Mojada	8 km NW Esmeralda	Located along same NE structure as San Francisco	Ag-Zn-Pb	CRD- Skarn	113 dump/ oc/ ug samples	Anomalous Ag-Zn-Pb w/ pathfinder geochemistry. Exploration onhold at this time due to market conditions.
Cola Sola	Sierra Mojada	29 km WNW Esmeralda	Along NW extension SM fault	Ag-Au	CRD- Skarn	Mapping/sampling in- progress	Drill plan submitted, further exploration on hold at this time due to market conditions
San Francisco	Sierra Mojada	9 km WNW Esmeralda	Strong Cu porphyry indications	Ag-Zn-Pb-	CRD- Skarn	Mapped/sampled, drill tested 2011	Further exploration not planned at this time
Palomas Negras	Sierra Mojada	13 km WNW Esmeralda	Setting similar to Sierra Mojada	Ag-Zn-Pb- Au	CRD- Skarn	Mapped/sampled extensively	Exploration on hold at this time due to market conditions



Figure 32. Regional Exploration Prospects in the immediate Sierra Mojada area.

## 7.4.1 Underground Channel Samples

Channel sampling has been a significant part of the underground exploration effort at Sierra Mojada. Channel samples are collected from the walls ("ribs") of underground workings by a supervising geologist who has selected the channel sample location, painted the position of the sample on the mine wall, and wrote the sample number on a sample sack that was suspended from a nail at the sample point. The sampler marks the approximate sample location on a mine map and reports the sample number of each sample on a daily sampling report. At the sample location, sampling crews spread a drop cloth, clean the face, and cut a sample about 2 cm deep and 10 to 20 cm wide. The sample was transferred to a large plastic sample sack and about 5 to 6 kilograms of sample are transported from the mine to the sample preparation area. Samples are typically 1-2 meters in length. Sample location, length and orientation are subsequently determined by the surveyor using tape and compass surveying tied to nearby pads located by first order surveying. After sampling, the sample locations are surveyed and entered into the database. To the best extent possible, a representative and proportionate volume of material is collected in each sample of the composite vein, fault, breccia and wallrock material.

Sample density for channels is considerably greater than for diamond core at 2 to 20 m spacing. There are approximately 13,000 channel samples in the site-wide sample database covering an area of 180 hectares. 9027 channel samples were used in modeling the resource.

Approximately 90% of all channel samples were collected prior to Silver Bull's involvement in the project and about five percent of the samples have been re-sampled for verification and approximately 70% of the locations have been verified. There are now 9027 usable channel samples in the database with associated QA/QC and surveyed locations. These have been useful in mapping out extensions to the main deposit.

# 7.5 EXPLORATION CONCLUSIONS

Silver Bull Resources has integrated an abundance of information at the deposit scale and district scale for its exploration efforts in Mexico. The Mexican government's regional geophysical surveys in conjunction with its regional 1:250,000 scale stream sediment and geologic mapping surveys provide a usable base for prospect evaluation when combined with targeted stratigraphy and structural analysis. A summary of the findings to date include:

• Petrography has aided considerably in the interpretation and paragenetic sequencing of mineralization.

- A detailed structural analysis of the Sierra Mojada district has shown the likely "plumbing system" for the mineralization in the area and delineated other areas with similar potential.
- Magnetic and Electro-magnetic geophysical surveys have aided greatly in helping delineate areas of high interest.
- Geological mapping and sampling in areas with historical workings show there is a favourable rock unit to host mineralization and also put constraints on the timing of mineralization.
- Alteration mapping coupled with the style of mineralization seen in the area suggests yet to be found buried intrusive rocks are the likely genesis of the mineralization.

#### 7.6 DRILLING

Drilling is updated from SRK (2012), JDS (2013) and Tuun & AFK (2015). Throughout its history, the Sierra Mojada deposit has been drilled extensively by surface diamond core, underground diamond core, surface reverse circulation and underground long hole percussion drilling. There are now 5,382 drill holes in the database of which only 3,823 are suitable for resource calculations. Tables 8 and 9 document the extensive history of the drilling programs to the present. No new drilling results have been included since the JDS 2013 report for this resource estimation. The following text is taken from Tuun & AFK (2015).

#### 7.7 HISTORIC DRILLING PRE-1999

Numerous drill holes exist in the Sierra Mojada project area for which locations and or assays are missing and for which few records exist. One drill hole though, B6, completed in 1900, is a 150 meter surface drill hole which has consistently been included in resource calculations. Kennecott Exploration drilled nine core holes in the area in 1995 (SM1–SM9), for 3403.85 m. Only 2 of the holes are within the district and those did not carry significant assays. The local Norteños drilled 873 long holes between 1930 and 1950 for 22,435 m. These holes were drilled from numerous underground stations in radiating fan patterns. The drilling was concentrated on four separate areas along the trend of silver mineralization. Within these four areas, underground stations are typically spaced 20 m apart with average hole depths 25 m resulting in very dense drilling. Areal coverage of these long holes is approximately 9 hectares, and none of these drill holes is suitable for resource calculations. Many long-hole locations are recorded, with assays, but verification is not possible.

## 7.8 METALLINE MINING CORPORATION (MMC)

MMC purchased all of the available historic data from Peñoles in 2000, much of which is still in usable condition. This included early 1900s underground maps, drill hole folio dating from 1930 to 1950 and a few late 1980s reports. The drill hole folio included the 873 long holes.

## 7.8.1 MMC Drilling Campaign of 1999

Metalline drilled twenty-four holes from surface (R991 – R999) using reverse circulation for a total of 6,628 m. This drilling covers 28 hectares and intercepts the Red Zinc and Shallow Silver Zones. Approximately half of the holes were drilled vertically and the remaining holes were angled with inclinations ranging from vertical to 54°. These drill holes have been used in resource calculations since 2011.

# 7.8.2 MMC and North Limited Campaign of 2000

MMC entered a joint venture with North Limited of Australia in 2000. North drilled a string of 26 reverse circulation holes (NSM1 – NSM27) over a linear distance of approximately 3.5 km down the long axis of the known Red Zinc Manto for 6,783 m. All holes were drilled vertically. These drill holes have been used since 2011 in project resource calculations.

# 7.8.3 MMC Underground Drilling Campaign of 2001

MMC drilled 73 underground long holes for 1,068 meters in 2001 (L632500S45- L631855NE15). These holes were drilled from several underground stations in radiating fan patterns. This drilling is located at the western extent of the Red Zinc Manto. For reasons related to sample quality, these holes were not used for resource calculations until verification in 2012 by Silver Bull Resources.

#### Table 8. Drill Hole History Sierra Mojada Project 1900-2009

				Surface/U.G.		Resource				
Drilling Campaign	Hole Series	# of Holes	Туре		Meters	JDS	SRK	Nilsson	PAH	Remarks
						2013	2012	2011	2010	
1900	B36	1	Surface		150	No	Yes	No	No	
Historic 1930-1950	Historic Long holes	873	Norteños	U.G	22,435	No	No	No	No	
	SMW1 - SMW6	6	Rotary	Surface	1572.25	No	No	No	No	May have been Water wells
Kennecott 1995	SM1 - SM9	9	HQ/NQ	Surface	3403.85	No	No	No	No	License wide, two holes near SM
MMC 1999	R991 - R999	24	RC	Surface	6,628	Yes	Yes	Yes	No	
North Ltd 2000	NSM1 - NSM27	26	RC	Surface	6,783	Yes	Yes	Yes	No	
MMC 2001	L631500S45 - L631855NE15	73	Long holes	U.G	1,067.60	Yes*	No	No	No	35 holes used in resource
	1500-1700N/S	32	Long holes			Yes*	No	No	No	32 holes used in resource
Peñoles/MMC	E900 - E1200, OT6,	39	Core	Surface	11,830	No	No	No	Yes	
2002-2003	W060704, KCC8									
	A0 - M6	37	Core	U.G.	2,557	No	No	No	Yes	
	E100-600,W400-	685(?)	Long hole	U.G.	10,729	Yes*	No	No	No	PAH noted 685 LH, only 618 valid
	W600, 0, 0-0 series					Yes	No	No	No	documented, 116 in-resource
Metalline (MMC)	D1080729 -	90	Core-HQ/NQ	Surface	13,060.75	Yes	Yes	Yes	Yes	
2004-2009	D9090818									
	B09001 - B09013	13	Core-HQ/NQ	Surface	2,171.15	Yes	Yes	Yes	No	
	D01040124 -	650	Core	U.G	65,052	Yes	Yes	Yes	Yes	
	D9080807									
	R060707 - R060926	8	RC	Surface	2,938	Yes	Yes	Yes	No	Water well and condemnation
	L040228136 -	2253	Long hole	U.G.	31,272	Yes	Yes	Yes	No	
	L406092503, L1-25									
	L209									

#### Table 9. Drill Hole History Sierra Mojada Project 2010-2013

	Hole Series	Holo	Туре	Surface/ U.G.	Meters	Resource				
Drilling Campaign		#				JDS	SRK	Nilsson	PAH	Remarks
		"				2013	2012	2011	2010	
MMC 2010	B10001 - 10099	101	Core-HQ/NQ	Surface	12,512	Yes	Yes*	Yes	No	B10001-B10071
	R0001 - R0048	48	RC	Surface	6,879	Yes	Yes*	Yes		R10001- R10034
Silver Bull 2010	R10001 - R10034	33	RC/HQ	Surface	5927.85	Yes	Yes	Yes	No	
2011	SF11001 - SF11013	10	Core-HQ/NQ	Surface	1,662.77	No	No	NA	NA	San Francisco Canyon
2011	B11001 - B11185	186	Core-HQ/NQ	Surface	33,221.90	Yes	Yes		NA	
2012	B12001 - B12083	80	Core-HQ/NQ	Surface	19,125.20	Yes	Yes	NA	NA	
2012	P12001 - P12012	13	Core-HQ/NQ	U.G.	4055	No	No	No	NA	Parreña Tunnel
2012	Termite T12001 - 12105	101	BQ Core	U.G.	3670.75	Yes	NA	Na	Na	Silver twin holes and/or exploratory holes
2012	Termite T12106 - T12207	105	BQ Core	U.G.	3467.46	Yes	NA	Na	Na	Zinc twin holes and/or exploratory holes

#### 7.9 MMC AND PEÑOLES JOINT VENTURE 2002-2003

A joint venture agreement was made with Peñoles in November of 2001. Two different exploration teams from Peñoles spearheaded the drilling activities. One team focused on the eastern end of the deposit targeting the Red Zinc Manto in 2002 and 2003. This consisted of both diamond core and long hole drilling from underground and diamond core drilling from surface. The second team drilled core holes from surface targeting SSZ on at the western end of the property. The joint venture dissolved in late 2003.

#### 7.9.1 Surface Diamond Core

The joint venture completed thirty-nine diamond core holes drilled from the surface for 11,830 m total. On the eastern end of the property 34 diamond core holes, generally labeled the E900 to E1200 series, were drilled on fences spaced 200 m apart east of the Fronteriza mine toward the Oriental mine, a distance of 1 km. The holes were spaced 50 to 100 m in a north-south direction along the fences.

The Peñoles program at the western end of the property followed up the North Limited drilling in the vicinity of the San Antonio mine, 2 km west, which confirmed and extended the silver mineralization. Five core holes were drilled from surface for about 1,300 m. The drill hole locations are irregularly spaced, and cover an area of approximately 7 hectares. The drill hole series are believed to be the W200 to W300 series, not to be confused with underground long holes with similar numbers.

#### 7.9.2 Underground Diamond Core

Thirty-seven diamond core holes were drilled from underground for 2,557 m. These holes were drilled from several underground drilling stations in radiating fan patterns and are of the A0 to M6 series. Drilling stations are typically spaced 50 to 100 m apart in an irregular pattern. This drilling covered approximately 7 hectares, mostly over the Red Zinc mineralization.

## 7.9.3 Underground Long Hole

Primarily in 2002, 685 underground long holes were drilled for 10,729 m. These are generally labeled the E100 to E600 and W400 to W600 series. Typically, these holes are drilled from several underground stations in radiating fan patterns. Spacing of the underground stations is typically less than 20 m and hole lengths average 13 m resulting in very dense drilling. These holes intercept much of the Red Zinc Manto and SSZ mineralization east of Easting 630,700. The Silver Bull 2012-2013 twinning program has verified the reliability of the majority of these drill holes and the data was included in the JDS 2013 resource calculation.

#### 7.10 MMC CAMPAIGN OF 2004 TO 2009

Upon the termination of the Peñoles joint venture, Metalline resumed district exploration with a very aggressive program of surface and underground core, underground long hole, and surface RC drilling primarily targeting the zinc resource.

# 7.10.1 Surface Diamond Core

MMC drilled 103 "N" size diamond drill holes from surface for 15,231 m from 2006 – 2009 (D1080729 – D9090818 and B09001 – B09013). The surface drilling was completed along fences oriented north-south with 100 m spacing and drill hole spacing varying from 50 m to 200 m. The main concentration of drilling covers approximately 20 hectares intercepting the SSZ just west of the Red Zinc Manto. Vertical dip is commonly used, however, and due to location restrictions, some holes are angled, drilled with dips up to 60 degrees.

MMC updated the surface drilling practices employed during the MMC and Peñoles drilling campaign of 2002 to 2003 and largely mitigated the core and sample recovery issues by employing sophisticated mud and bit selection, and employing a well-known contractor, Major Drilling de Mexico.

## 7.10.2 Underground Diamond Core

MMC drilled 650 underground diamond drill holes for 65,052 m (D01040124 – D9080807) in the 2004 – 2008 periods. These holes were drilled from several underground drilling stations in radiating fan patterns. Drilling stations are typically spaced 50 to 100 m apart in an irregular pattern. This drilling covers approximately 52 hectares intercepting most of the known Red Zinc Manto and Shallow Silver Zone mineralization east of Easting 631,200.

# 7.10.3 Surface Reverse Circulation

MMC drilled eight reverse circulation holes (R060707 – R060926) from the surface for 2,938 meters in 2006. These were water well and condemnation holes drilled in an irregular and widely spaced pattern testing areas east and north of the underground workings. Of these eight holes, only R060926 intercepted the known silver mineralization. For reasons related to sample quality, these holes were not used for grade interpolation.

# 7.10.4 Underground Long Hole

Twenty-two hundred fifty three underground long holes were drilled by Metalline Mining in 2004-2009 for 31,272 m. The drill hole series are variously numbered, typically prefixed with an "L". These holes were typically drilled from several underground stations in radiating fan patterns. Spacing of the underground stations was less than 50 meters and hole lengths average 17 meters, resulting in very dense drilling. The drill holes intercept much of the Red Zinc manto and Shallow Silver mineralization east of Easting 630,700.

# 7.11 MMC CAMPAIGN OF 2010

# 7.11.1 Surface Diamond Core

In 2010, MMC completed 101 surface HQ/NQ drill holes (B10001 – B10099) for 12,512 m property wide. Drilling was undertaken using three Metalline-owned diamond drill rigs and three drill rigs operated by drilling contractors. Contract drilling was performed by two companies. Baja Drilling S.A. de C.V. used a skid- mounted Longyear 48 machine to complete three holes. However, most contract drilling was performed by Landdrill International México S.A. de C.V. with a skid-mounted HTM 225 machine.

The drilling was completed along fences oriented North-South with drill hole spacing of 40 to 200 m. The principal concentration of drilling covers an area of approximately 40 ha, and intercepts the SSZ just west of the Red Zinc Manto. Vertical inclinations were used in the majority of holes with some holes angled up to 60°.

## 7.11.2 Surface Reverse Circulation

In 2010, MMC also drilled 48 reverse circulation holes (R0001 –R0048) for 6,879 m. These were principally in-fill holes between core locations. Forty-eight RC pre- collar holes were drilled. Thirty-one of these holes were completed by core drilling. In areas of deep quaternary cover RC pre- collar holes were drilled either close to the base of QAL contact or close to the Upper Conglomerate lower contact. RC drilling was performed using a Th-100 Tandem truck mounted 7.15.4 Sampling Security during Core Cutting drill used by contractor Layne de Mexico S.A. de C.V. and a smaller truck mounted CDR drill, owned and operated by Metalline.

## 7.12 SILVER BULL CORE DRILLING CAMPAIGNS OF 2011-2013

Procedures described for Silver Bull are modified and updated from Nilsson 2011. Beginning in April of 2011, Silver Bull Resources assumed full control of the Si7.15.4 Sampling Security during Core Cutting erra Mojada project and revamped all drilling, core handling, logging, and assay procedures. Drilling included surface and two underground campaigns. As part of their due diligence review of the Sierra Mojada project, Silver Bull drilled 33 RC/Core holes (R100001 – R10034) for 5,927.85 m.

#### 7.12.1 Surface Diamond Core

Major Drilling de Mexico was the contractor employed to complete 186 HQ/NQ surface core holes in 2011 (B1101 – B11185) and 80 holes in early 2012 (B120001 – B12083) for a total of 52,347.1 m. Major employed a UDR 650 drill rig with a reversible head and compressor, which allowed RC drilling to pre-determined depths, switching to HQ core when entering mineralized stratigraphy.

## 7.12.2 Underground Diamond Core

In early 2012, Silver Bull turned its attention toward underground drilling in the district and completed two underground drilling campaigns by year's end. The first was in early 2012 when Silver Bull completed 13 drill holes in the Parreña Tunnel for 4,055 m of core. The program provided significant information regarding local structures and stratigraphy but did not materially add to the resource. The Parreña Tunnel remains a significant exploration target but will require a significant amount of rehabilitation of the underground workings.

The second underground drilling program of 2012 was the long hole twinning program recommended by SRK in their 2012 resource statement. This program commenced in July 2012 and terminated on the Christmas break in mid-December 2012. The program targeted 105 drill holes for twinning and exploratory for 3,670.75 m of drilling in the Shallow Silver Zone, and 88 drill holes for 3,467.46 m in the Red and White Zinc mantos of the Base Metal Manto zone. The layout of the program is shown in Figure 33. Note that multiple holes were drilled from one setup or drill station.

A total of 207 termite holes were drilled; one (T12008) was not included in the resource estimation due to very poor recovery. The termite drill program is summarized in Table 10.

#### Table 10. Termite Drill Program

Type of Hele		Total		Silver	Zinc		
	Count	Meters	Count	Meters	Count	Meters	
Twin Holes	122	3,445.45	53	1,590.95	69	1,854.50	
Exploration Holes	84	3,202.58	46	1,834.98	38	1,367.60	



Figure 33. Layout of the 2012-2013 Drilling Program

The drilling was accomplished by Silver Bull Resources owned "termite" drills, which are small, hydraulic-electric core drills that are easily manoeuvred underground. The drill produces a "BQ" size drill hole and is capable of up-hole drilling. The maximum length of a drill hole is about 70 m, depending on ground conditions. Core recovery for the entire program was excellent considering the structural complexity of the deposit. Figure 34 demonstrates a typical underground drill station set-up.



Figure 34. Typical Set-Up of the Termite Drill during the Long Hole Twin Program, 2012-2013

# 7.13 SULPHIDE DRILLING 2017

An underground geological mapping and continuous underground channel sampling program in July and August 2017 identified a series of eastwest trending high angle structure hosting sulphide mineralization below the oxide zone of mineralization. A 2,000 meter underground drill campaign targeted this area with considerable success. However due to the very different metallurgical process required to beneficiate the sulphide ore, none of this drilling from this campaign is included in the estimation of the oxide resource outlined in this report.

#### 7.14 SILVER BULL CORE DRILLING AND SAMPLING PROCEDURES

Silver Bull Resources employs state of the art exploration procedures in all of its work at Sierra Mojada. All data is managed in Microsoft Excel or Access, with the Excel files imported directly into Geovia Software's  $GEM's^{\circ}$  for 3D modeling. Data is also transformed to a visual format in MapInfo.

All survey data is imported into AutoCAD, and the information required for the resource estimation is transferred to GEMS. The following procedures apply equally to the surface core drilling programs as well as the underground core drilling programs.

#### 7.14.1 Collar and Downhole Surveys

Drill holes were laid out on an approximate 100 m x 50 m grid. Drillhole locations were marked in the field by the company surveyor or geologist. Drill pads were then prepared and final collar locations were marked by the surveyor.

When collar locations were located on gravel sites a concrete pad with iron-rod attachment points were constructed. For pads on bedrock, jacklegs were used to create anchor points for the drill rigs. Drill pads varied in size from 5 m x 5 m in size to 10 m x 20 m in dimension, depending on the type and number of holes planned from that site.

After drill holes were completed, steel pipes were inserted to mark the locations and concrete pads with drill hole numbers were poured to hold the pipes in place. The final drill hole locations were surveyed by the company surveyor using a total station survey instrument. Geologists approved the final collar surveys prior to entry into the database.

All drill holes were down hole surveyed using Reflex survey instruments. Surveys were done using an EZ-Shot single survey instrument. Some holes were surveyed with a Reflex EZ-Trac instrument. All Reflex results were recorded at the time of the survey. Surveys were performed by the driller, with a company representative present, either a geologist or drill supervisor.

## 7.15 Core Drilling, Handling, and Transportation

All coring by contractor was done with HQ or HQ3 core size, unless reduced to NQ size for operational reasons. Some holes with quaternary cover were predrilled using a tricone bit, drilling down to a level close to the base of the cover or solid ground, this varied from 3 – 30 m.

Core was removed from wire line core barrels at the drill rig and placed into waxed fiberboard core boxes. Core boxes were 60 cm in length with 4, 5 or 6 divisions depending on core size. The driller's recorded end of run depth, drilled interval and core recovery on blocks placed in core boxes. Where possible drillers also inserted an additional block indicating where the "no recovery zones" were located' and if the "no recovery zones" were due to a void (old working or open space). Hole numbers and core box numbers were written on the core boxes and lids. Core boxes were then tied up and at the end of the shift core boxes were transported by truck to the core logging facility. Core transportation from drill rig to the core logging facility was the responsibility of the driller.

## 7.15.1 Core Logging Procedures

When the core boxes were received at the core logging facility, the core was placed on logging tables where the core was cleaned to remove drilling muds and additives. A minimal amount of cleaning was performed on clay rich and poorly consolidated intervals. The core was reconstructed to ensure that the core was placed in the boxes correctly and so that there was structural continuity for logging and sampling.

After reconstruction, the cut line for core cutting/splitting was marked on the core. As far as possible, this line was placed perpendicular to the main structural orientation – as indicated by responsible logging geologist. Core was also marked with dashed lines on the non-sample side to indicate that it should remain in the box.

All core was photographed after cleaning and orientation, generally before the recovery and geotechnical logging. Core was photographed using an indoor, special lighting and fixed camera. All photographs included hole name, box number, box start and end depths and a scale bar. Photographs were downloaded onto a computer at the logging facility for review by geologist before sampling. This was done to ensure photos were of good quality with no errors. Digital core photos were renumbered by hole and box number and placed into drill hole specific folders.

Recovery and geotechnical logging, including RQD was then performed by trained personnel. Any doubts or questions on recovery and core orientation were reviewed by the responsible core logging geologist with all recoveries being compared to those indicated by the driller. In rare cases of discrepancy or core box errors that could not be corrected by the geologist, the responsible driller(s) were required to correct the problem. To assist with logging, down-hole depths were marked every meter.

Recovery and geotechnical information was recorded on a run-by-run (block-to-block) basis. Information was entered into a spreadsheet. Recovery was variable with "no recovery intervals" resulting from a variety of causes. Limestone rocks at Sierra Mojada contain many natural openings such as cavities and karst features, and in most areas of the Shallow Silver Zone, old workings are a common feature and these were represented by "no recovery intervals" as well as zones with backfill, which are harder to distinguish; and in clay, poorly consolidated karst breccia or rubble zones. In addition, the drill core has Niton<sup>TM</sup> thermal XRF measurements taken approximately every 20 cm as a guide to the beginning and ending of silver mineralization, which can be difficult to discern with the naked eye.

After inspection, mark-up, geotechnical logging, and photography, geological core-logging was performed. Core logging formats evolved considerably when Silver Bull assumed control of the project. Silver Bull employs a combination of initial manual graphic logging followed by digital logging and subsequent data entry. Lithology types, alteration, mineralization and structural features were recorded on a 1:100 scale.

# 7.15.2 Core Sampling

Core was marked for sampling by the geologist as part of the core logging procedure. Sample limits were marked on the core as well as the side of the core box. Sample intervals were also noted on cut sheets. Intervals and sample recoveries were entered directly into a spreadsheet, with cut sheets subsequently printed for core sawing. Samples were assigned a sample numbers based on hole number and a three or five digit sequential number; "no sample intervals" were also assigned a sample number and were included on the cut sheets.

Quality control samples consisting of blanks, core duplicates, and pulp standards were inserted in the sequential sample number sequence. Each sample number had the appropriate sample interval or control sample indicated on the cut sheet as well as the sample action to be taken for intervals of no recovery or contaminated material.

In addition to marking of samples for assay intervals, bulk density samples were selected during the logging process. The density samples were approximately 10 cm in length with density measurements taken before the core is split with the core cutter. Initially total of 3440 bulk density sample measurements were compiled by Silver Bull incorporating samples measured on site by the pycnometer method and verified by ALS, and by the Archimedes method and verified by SGS in Durango, Mexico. An additional 1,895 pycnometer density samples were taken in 2013 and 2014.

After logging and sample marking of the hole was completed, the core was split in half using a core cutter. Once the core was cut in half, specially trained samplers were used to sample the core. Based on the marking procedures, core was systematically sampled from the same side of the core, which has helped to reduce the possibility of sample bias. The samples were placed in numbered sample bags, in which flagging tape with the sample number was also placed in the bag and barcoded. Bagged samples were placed in numbered sacks with the content of each sack recorded for shipment to the external laboratory. Sample sacks were placed in a locked storage area prior to shipment. Sample storage and shipments were controlled by Silver Bull's QA/QC manager.

# 7.12.3 Data Entry

All logging and sampling data are entered into spreadsheets. Density, recovery, and geotechnical data were entered into master spreadsheets, from which individual drill hole data could be extracted. Data are entered by the logging geologists and then rechecked by a data verifier. This procedure was implemented to allow geologists to concentrate more time on geologic logging and sampling. Sample data were also entered into drill hole based spreadsheets. These were used to prepare cut- sheets for sampling. This data was prepared by the logging geologist.

Geological data were entered into the drill hole based spreadsheets. These data were prepared by the core logging geologist. Manual core logging with subsequent data entry into the Excel spreadsheet was implemented, with each of the logging geologists responsible for entering the data and passing the database to the database manager who reviewed the entries for errors and database coding compatibility. Once the data had been checked, the data were entered into the master database controlled by the database manager.

# 7.15.4 Sampling Security during Core Cutting

Once the samples were taken from the core, they were bagged, organized and labeled by one specific person, signed off, and then kept under lock and key until shipped for assaying to ensure no tampering had taken place.

After logging and sampling, the core boxes containing the split core were transported to the core storage facility, a locked, fenced, roofed structure. The core boxes were stored on commercially purchased core racks, with location identified on layout plans. The storage facilities were part of the security watchman's responsibilities, who are present 24 hours on site. The company has four secure core storage facilities on site.

All core and samples are retained on Silver Bull's property, except for samples sent to external laboratories for assaying. Access to the property is restricted by company security personnel and chain gated entries to the property. The core logging area always has company personnel present, in the form of core shed workers or company security personnel.

Coarse reject samples are stored in covered 200-litre steel drums in an outdoor storage area adjacent to the core shed. Sample pulps, grouped into boxes containing between 50 and 100 envelopes, are stored in the locked storage areas.

# **8 SAMPLE PREPARATION, ANALYSES, AND SECURITY**

The Authors note that no new data is being added to the resource estimation since the resource report by Tuun and AFK (2015) and there have been no changes to the sample preparation, analyses and security procedures utilized at the Sierra Mojada project, all of which have been described in detail in previous technical reports. That information is reproduced in the following sections.

# 8.1 SAMPLE PREPARATION

Prior to November 2003, all samples were shipped directly to ALS Chemex (ALS) for sample preparation and assay. After November 2003, samples were prepared to the pulp stage on site by MMC personnel. In 2007, MMC updated its laboratory equipment and sample preparation procedures following recommendations made by ALS. In 2010, Silver Bull abandoned the on-site sample preparation and began shipping samples to ALS for preparation and assay. (SRK 2012)

JDS personnel were present for the April 2010 due diligence site (Dome Ventures-MMC merger) and noted that there was a significant backlog of unprocessed samples stored at the site. Part of this was due to the inefficiencies of the onsite lab, and part a lack of funding. JDS recommended that the onsite lab be closed to eliminate any potential concerns regarding the QA/QC and assay validity.

With the closure of the onsite lab, efforts were made to ship them to a reliable and ISO-certified off site lab. A total of about 7,000 samples were shipped between August 2011 and April 2012 to ALS-Chemex Chihuahua. Many of the assay results were incorporated into the Nilsson and SRK resource estimates.

JDS was present for the closure, cleanup, and chemicals disposal of the onsite lab. Since that time, all sample preparation has been standard core-cutting, tagging and bagging for shipment offsite to the ALS-Chemex facility in Chihuahua. From there, pulps were shipped to the ALS-Global lab in Hermosillo for assaying. JDS has received copies of the assay files direct from ALS-Global labs since the introduction of the change, along with copies of the shipping files from Silver Bull site staff. (JDS 2013)



#### 8.1.1 MMC-SILVER BULL SAMPLE PREPARATION PROCEDURES (2010-PRESENT)

Drill core is delivered by the drill contractor to the logging facility. The movement of the core, once delivered at the logging facility, is designed such that it is always in an easterly direction as it goes through each phase of the logging and sampling process, entering on the west side of the facility and leaving on the east side of the facility towards the sample storage area.

Initially, boxes are laid out in order on the logging tables by company staff. The meterage blocks inserted by the drill contractor are checked to ensure there are no errors. Drill core recovery between each of these blocks is calculated and recorded. Subsequently, the core is logged by a geologist who also marks the intervals to be sampled and prints out a "Sample Print Sheet", indicating sample numbers and the sample numbers for the QA/QC sample insertion. At this point, Niton<sup>®</sup> readings are taken in each sample interval and recorded.

Once logged, and with the sample intervals marked, the core boxes are then taken to the photograph, density, and bar coding room. Here, each core box is photographed in a staged facility that ensures identical lighting for each photograph. Density samples are taken (the samples to be taken are indicated by the geologist) and the bar codes for each sample are then printed.

Following the photography, the boxes are carried and stacked, ready for the core to be cut by a rock saw. Half core samples are taken according to the sample intervals marked by the geologist and, when required (as indicated by the QA/QC program), quarter core field duplicates are also cut.

Samples for assay are placed in thick plastic sample bags with the sample number written on them and a strip of flagging with the sample number written on it is inserted into the sample bag. The bags are then stapled firmly shut. The samples are then placed into rice sacks, eight samples per sack.

From the start of the year until June 30, 2011, samples were shipped two or three times a week once one tonne of sample material had accumulated. The shipment was done with company personnel and a company vehicle. As of July 1, 2011, sample shipment to the ALS preparation facility in Chihuahua has been subcontracted. The subcontractor is a company that Silver Bull has used for a number of years for other services and is regarded as trustworthy and reliable. Shipments are programmed weekly.

Once received by ALS, they check the shipment and confirm via e-mail whether the samples shipped coincide with what is registered on the shipment form and analysis submittal. (SRK 2012)

## 8.1.2 MMC SAMPLE PREPARATION PROCEDURES (2007-2010)

From 2007 to 2010, sample preparation was done at the Sierra Mojada property by MMC personnel. Samples were first dried in a clean drying pan. After the samples were thoroughly dried, the pan and samples were transferred to the on-site preparation facility. The samples passed through a Rhino crusher and then a secondary crusher resulting in material that has been crushed to greater than 70 % passing -10 mesh (-2 mm). The crushed samples were split in a Jones splitter multiple times to generate a 250 to 300 g crushed sub-samples. The crushed sub-samples were then transferred to a puck mill and milled for three minutes to attain a size specification of greater than 95 % passing a -150 mesh screen. The pulverized material was passed through a riffle splitter to generate two pulp sub-samples (one for analysis and one for reference). The pulp sub-samples were transferred to individual sample bags.

The methods utilised by MMC were standard and adequate for generating assay data for use in resource estimation. (SRK 2012)

# 8.1.3 MMC SAMPLE PREPARATION PROCEDURES (2003-2007)

All samples were weighed and their weight was recorded before processing. The entire samples were then crushed to nominal ¾-inch (in) sized samples using a Fraser & Chalmers jaw crusher. The crusher was cleaned after each sample using compressed air. Once first stage crushing was completed, the samples were then crushed to nominal ¾-in sized samples using a Roskamp rolls crusher. The rolls crusher was also cleaned with compressed air after each sample. All quality control was visual at both crushing stages and no testing for screen sizing was done at either stage. After the second crushing stage, the nominal ¾-in sample was split through a Jones type splitter to approximately 500 g, and placed in an aluminum pan, to be taken to the drying oven. Each pan was well labelled, with the contained sample number recorded on masking tape, attached to the pan.

Drying was conducted in a block building which has two propane space heaters, manufactured by Desa, Inc. The samples were placed upon drying racks, still in the aluminum pans, and a heater was activated. Once dry, the pans and contained samples were returned to the sample preparation area for pulverizing.

Pulverizing was conducted upon the ¼-in samples using one of four Bico disc pulverisers. The 500 g sample was pulverized to nominal 80 mesh, with visual and tactile inspection performed upon each sample after pulverizing to ensure that the nominal 80 mesh size was achieved. No screen size testing is done upon the pulverized samples on a regular basis. The pulverisers were cleaned with compressed air after each sample was processed. Once pulverising was completed, each 500 g sample was split into two sub-samples, with a maximum of 200 g kept for each sub sample. These two sub-samples were packaged in Kraft type envelopes; one 200 g sample was sent to the shipping area to be boxed and prepared for shipping to the ALS laboratory in Vancouver, BC, Canada. The remaining 200 g sample was stored in archive storage, as a reserve sample, should more analysis be required. All pulps were labelled with the sample number, which has all drill hole and interval data included, as well as the date the sample was drilled.

The sample preparation methods used from 2003 to 2007 are adequate for generating assay data for use in resource estimation. (SRK 2012)

Pincock, Allen Holt had reviewed the process and made several recommendations to improve reliability which ultimately led to their S-K 1300 compliant Technical Resource Report issued in January 2010. (JDS 2013)

## 8.1.4 MMC SAMPLE PREPARATION PROCEDURES (PRE-2003)

Prior to 2003, all sample preparations were carried out by ALS laboratory using the following procedures:

Coarse crushing of rock chip and drill samples to 70 % nominal -6 mm was used if the material received was too coarse for introduction into the pulverizing mill, and as a preliminary step before fine crushing of larger samples. Fine crushing of rock chip and drill samples to 70 % -2 mm or better. Samples were split sample using a riffle splitter. The split sample was pulverized using a "flying disk" or "ring and puck" style grinding mills. Unless otherwise indicated, all pulverizing material was at least 85 % pulverized to 75 micron (200 mesh) or better.

These sample preparation procedures are adequate for generating assay data to be used in resource estimation. (SRK 2012)

#### 8.2 ANALYSES

(After Tuun & AFK 2015, JDS 2013 & SRK 2012)

## 8.2.1 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

#### 8.2.1.1 Historical QA/QC Procedures

PAH reviewed the QA/QC procedures implemented throughout the life of the project and concluded that they were insufficient relative to current industry standards of practice. As a result of these inadequate procedures, PAH was not able to classify its January 2010 resource estimate for Sierra Mojada as anything higher than an inferred mineral resource.

To resolve this issue, MMC and PAH developed and executed a re-sampling and assaying program to estimate the type, frequency, and magnitude of assay sample errors in the historical drill hole database for the Sierra Mojada project. This plan was meant as a substitute of the QA/QC program that would resolve PAH's doubts about the validity of the Sierra Mojada assay data. Based on the execution of the program and a detailed review of the results, PAH concluded that the drill hole assay data for channel and core samples used in its January 2010 resource estimate were of sufficient quality to support measured and indicated resources. As a caveat, PAH notes that converting inferred resources to measured and indicated is contingent upon other factors not related to data quality (McMahon, 2010). SRK has reviewed the results of the additional sampling program carried out by PAH and concurs with their conclusions.

In 2010 a QA/QC program of certified standards, blanks and duplicates were instituted to monitor the integrity of all drilling assay results. Two sets of QA/QC procedures were used by Metalline since the time of a QA/QC review performed by PAH (McMahon, 2010) on pre-March 2008 drill hole assay data:

The first set of QAQC procedures was used for the submission of pulp samples for analysis by a certified laboratory. These pulps had previously been prepared and analyzed by the Metalline on-site laboratory facility as part of a pre-selection process. All samples for 2008 and 2009 drill campaigns and all 2010 drilled prior to August 2010 followed these procedures; and

The second set of QAQC procedures applies to samples sent directly to ALS for sample preparation and analysis. This procedure has been in place since August 2010 and includes drill holes submitted since this time. (SRK 2012)

## 8.2.1.2 Pulp Submissions QA/QC Procedures

After sample preparation all samples selected for certified laboratory analysis were located and placed in boxes ready for shipment. The same pulp envelope used for the original analysis was selected for submission to the external laboratory. Each sample box contained between 60 and 120 pulp samples, including control samples. The QA/QC control samples submitted in each box consisted of:

A minimum of three standard samples were submitted, normally at least one of each of the three certified standards prepared for Metalline Mining by CDN Laboratories;

At least one blank pulp sample and often two;

At least one, and generally two, field duplicate samples (% or % core samples) prepared but not analyzed by Metalline onsite during 2010. In general % core samples were submitted so as to leave witness core in the core box, however in broken zones the complete remaining half core was selected for submission; and

At least one and generally two pulp duplicate samples, with splits made from the original pulp sample to be selected within the same box. (SRK 2012)

## 8.2.1.3 Core Submissions QA/QC Procedures

Control samples were inserted approximately every 10 core samples. In addition, after every 25 core samples the following additional samples were inserted: a minimum of one certified standard is included; a minimum of one field duplicate sample is included; and normally one blank sample is included and occasionally blanks are preferentially inserted in a mineralized sequence outside of the normal 25 sample range.

In November 2010, the system was modified slightly to ensure that controls samples were inserted at a standard interval of every 10 sample numbers. (SRK 2012)

This procedure is still in place for any future drilling.

#### 8.2.1.4 Reference Standards

The Author (Reeves) noted that Metalline/Silver Bull staff inserted certified reference standards as a quality check on the laboratory accuracy. The reference standards were prepared by CDN Resource Laboratories Ltd. which specializes in preparing site specific certified standards. The three standards prepared are identified in the database as K10001, K10002 and K10003.

#### Reference Standard K10001

A total of 245 standards were inserted into the sample stream and only one was reported below the reference 2SDs. All samples were within three SDs of the reference mean (Figure 35). (JDS 2013)

#### Reference Standard K10002

A total of 223 samples of reference standard K10002 were used, with 9 samples outside of the standards report 2SD limits (Figure 36). Two that were just above 3SD will require follow-up checks by Silver Bull. The ALS-Chemex sample mean is also slightly higher than the reference mean by about 0.8 g/t Ag, but is not considered to have an impact on the resource estimation. (JDS 2013)

#### Reference Standard K10003

A total of 199 samples of reference standard K10003 inserted into the sample stream. It is clear from Figure 37 that the ALS-Chemex mean is about 3.5 g/t higher than the reference standard mean. Even with this offset, all but three samples fell within 3SD. Silver Bull Resources will need to follow up on the cause of the lab bias, which is quite consistent in this standard. (JDS 2013)



Figure 35. Graphical Performance of Standard K10001






Figure 37. Graphical Representation of Standard K10003

# 8.2.1.5 Blanks Controls

Blank samples were used to check for laboratory sample preparation issues and accuracy. These samples consisted of material that contained low but not below detection limits grades of elements to be analyzed. Four types of blank sample material were used by Metalline:

Pulverized blank material obtained from either rock samples or crushed material from the Peñoles Dolomita mining operation. Pulverized blank samples were prepared and analyzed at the Metalline laboratory to confirm their blank nature;

Blank core samples were either ¼ or ½ core samples of barren or low grade intervals selected from old drill core;

Blank crushed samples were typically prepared form RC samples or blank rock samples, coarse rejects are generally used for this purpose; and

Blank rock samples were prepared from rock samples, with part of the original sample analyzed by the Metalline laboratory when it was operating, to confirm the blank nature of the material.

Discrepancies with blank samples were resolved by re-assaying pulps or coarse rejects or both if material is available as well as selected samples in the nearby sample intervals.



Coarse blank material for the 2011 and 2012 drill holes were inserted at a rate of one in 40 samples. The "blank" sample came from drill core intercepts from previous drill campaigns with low level or null concentrations of silver, zinc, lead and copper. The problem with this methodology is that there is not a consistent grade range for the "blank" material selected.

There also is a lingering doubt as to just how inert some of the selected "blank" material is. Five samples returned values above 5 ppm silver. Of those, two were mislabeled standards. From the period of July 7 to July 20, 2011, fourteen blanks retuned values greater than 3 g/t including three samples that returned values above 5 g/t that appear to indicate a problem with the assay preparation laboratory.

As of drill hole B11099 onwards a different blank sample has been used and will be consistently used going forward. The sample BLANCO-DOL comes from a nearby dolomite mine. (SRK 2012)

The Author (Reeves) reviewed the blanks used in the drill program subsequent to the last resource report and found that 538 blanks had been inserted into the sample stream. Of these, only nine samples returned greater than 0.6 g/t with one reaching 1.8 g/t Ag. The vast majority were at the detection limit of 0.1 g/t Ag (Figure 38).



Figure 38. Blank Performance between July 2012 & December 2012

# 8.2.1.6 Duplicate Samples

Duplicates are used to check on sample homogeneity and laboratory precision. They were also used to detect issues associated with sample preparation. Silver Bull submitted both pulp and coarse duplicate samples. Duplicate samples were submitted with a different sample number to that used for the original sample. Discrepancies and inconsistencies with duplicate samples were resolved by re-assaying pulp, reject or both. (SRK 2012)

# 8.2.1.7 Pulp Duplicates

Pulp samples submitted to a second certified laboratory were also used as a test of precision and accuracy. Pulp duplicates were submitted with the pulp samples, previously analyzed by the Metalline laboratory. They were also submitted after results were been received from ALS as a check on laboratory precision. (SRK 2012)

No pulp duplicates were run since the last resource estimate.

# 8.2.1.8 Field Duplicates

(After JDS 2013) - Field duplicate samples are set at every 20<sup>th</sup> sample and are bracketed by either a blank or a standard.

Field duplicates are duplicate core samples taken from selected core. The initial ½ core was split into two ¼ core samples, one of which was submitted as the original sample and one of which was submitted as the duplicate sample.

A total of 928 field duplicate samples were taken as part of the QA/QC program for the 2012 drilling after the SRK 2012 Resource report. Of these, 124 samples assayed below detection limit of 0.2 g/t with another 490 reporting less than 5 g/t silver.

Silver and zinc results were analyzed for Relative Difference using the following formula:

% Diff = 
$$\left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

Of the remaining 314 samples assaying greater than 5 g/t, 99 samples displayed a relative difference greater than 20% (Figure 39).



The results of the duplicate samples are acceptable given that the silver mineralization is to some extent fracture controlled and nuggety in nature.

For zinc, of the 938 samples four samples were below detection limit in both instances., Out of the remaining nine hundred and thirty-four pairs, 232 samples showed a Relative Difference of >20%. The majority of those samples are below  $\sim$ 0.70% Zn (Figure 40).



In summary, Silver Bull has had a Standard, Blank, or Field Duplicate QA/QC insertion rate of about every one in nine samples. The Authors are of the opinion that the sample preparation, security and analysis meets industry standards and is adequate to support a mineral resource estimate as defined under S-K 1300.

# 8.3 TERMITE HOLE COMPARISION

### **8.3.1 INTRODUCTION**

In 2013 SRK was engaged by Silver Bull to carry out an analysis of the recently completed diamond drilling at the Sierra Mojada project. Specifically, SRK was asked to evaluate if the Termite drilling (TH) could better define and document the apparent bias that appears to exist between Long Holes (LH) and surface diamond drill holes (DH) on the property. The analysis was carried out on 206 TH and LH drilled in the same general area. The comparison was carried out by Dr. Gilles Arseneau and Mr. Michael Johnson of SRK. This section is taken from the summary memo provided by Silver Bull and previously reported by JDS (2013).

# 8.3.2 METHODOLOGY

The termite drill holes were all collared from underground platforms and are generally situated in areas with high concentration of LH. As was expected, comparing termite holes and long holes on an assay to assay basis was not very successful (Figure 41). While there was general agreement between the two types of drilling, significant differences existed at the one to two metre assay intervals.



Figure 41. Sectional Comparison of Termite Hole & LH Assays

Note: Grid is 5 m x 5 m.

For this reason, SRK decided to compare the average grade of TH and LH over larger volumes starting with 5x5x5 m blocks, representing the block size used in the latest resource estimate. For this comparison, the grade of all capped composites that were within a block volume from both types of drill holes were averaged and compared on quartile/quartile (QQ) plots. The QQ comparison for zinc appeared to indicate that in general the distribution of LH assays is very similar to the distribution of LH assays (Figure 42).



Figure 42. Comparison of Zinc for LH & TH

However, silver grades in the LH appeared to be generally higher than in the TH, by about 25% (Figure 43 on the following page).

SRK cautions that the comparison is based on a small number of blocks, less than 300, and that the differences noted between LH and TH could be an artifact of the data.

SRK also compared the LH and TH using different block sizes from 10x10x10 m to 20x20x10 m and 50x25x10 m. SRK noted that while the differences between LH and TH seemed to improve for silver the opposite was true for zinc. The apparent bias for silver dropped from 25% at a 5 m blocks to less than 10% for the 20x20x10 m blocks, however the zinc bias increased to about 30% for the 20x20x10 m blocks (Figure 44).



Figure 43. Comparison of Silver in LH versus TH in 5 m Blocks.



Because of the difficulties with well-informed block-to-block comparisons and because of the small number of blocks available for comparison, SRK decided to estimate block grades using LH, TH and DH data and then compare only those blocks that had been estimated by the three types of data.



The blocks were estimated from a minimum of five and a maximum of 18 composites. The search was set to 90 m along strike, 70 m across strike and 50 m down dip. The estimation resulted in over 10,000 blocks being estimated by the three data types. As presented in the previous study, the block estimated silver grades from LH assays on the QQ plot were on average twice the block estimated silver grades from DH assays (Figure 45).



However, the comparison of LH and TH estimated silver block grades showed a very good agreement for grades lower than 125 g/t Ag (Figure 46).

A comparison of estimated block grades for zinc from LH and TH assays showed a generally good agreement for grades lower than 6% (Figure 47).





To further evaluate the differences between LH and TH, SRK evaluated the two data types by individual rock codes. The results of the analyses indicate that the differences between LH and TH are not consistent over the entire Sierra Mojada mineralization. Silver in the TH seemed to be higher than in the LH for rock 50 (above 70 g/t) while the opposite is true for rock code 10. Correlations for silver were generally good for all rock types at lower grades (below 70 g/t).



Zinc in the TH correlates well with the LH for grades lower than 7% in rock codes 20 and 50 see Table 11.

Metal	Rock Code	Comments
	10	Good correlation up to 100 g/t, restricted grades > 125 g/t to 20 m
	20	Very low Ag values, TH higher than LH, no adjustments (could upgrade LH)
	40	not reviewed
Ag	50	Good correlation to 60 g/t, TH are higher than LH over 70 g/t, no restriction
	10	Good correlation up to 8%, restricted grades > 8% to 20 m
Zn	20	Good correlation up to 7% , restricted grades > 7% to 20 m
	40	Insufficient data for valid comparison, LH much greater than TH
	50	Good correlation to 5%, restricted grades > 5% to 20 m

#### Table 11. Summary of Correlation between LH & TH by Rock Codes

To evaluate the lateral extent of the high-grade zone explored by underground workings, SRK compared all LH and TH assays normalized to the drill collar (i.e., all assay data were averaged based on their distance from the collar at 2 m increments). Tables 12 and 13 show the LH and TH average grades at specified distance from the collar. As can be seen from the tables, LH silver grade drops by about 35% over the first 20 m of drilling and for the same distance TH silver grade drops by 60%. Similar decrease in grade is noted for zinc in rock code 20 (Table 12).

#### Table 12. Average Grade of all LH by Depth (Long Holes All Data)

Row Labels	Average of AGCAP	Average of ZNCAP	Count of AGCAP
0	43	3.81	1,770
2	41	3.30	1778
4	38	3.01	1,697
6	34	2.84	1,589
8	36	2.87	1,430
10	34	2.87	1,259
12	31	2.70	1,042
14	33	2.63	796
16	34	2.69	564
18	27	2.68	323
20	28	3.75	81
22	17	5.40	22
24	10	8.54	10
26	10	5.06	5
28	11	9.87	1
Grand Total	36.48	3.06	12,367

### Table 13. Average Grade of all TH by Depth (Termite All Data)

Row Labels	Average of AGCAP	Average of ZNCAP	Count of AGCAP
0	65	6.30	197
2	56	5.25	189
4	41	4.58	186
6	42	4.29	185
8	32	4.15	169
10	38	3.52	164
12	44	3.10	150
14	46	3.11	137
16	44	3.45	129
18	31	2.93	114
20	25	2.45	100
22	43	2.48	85
24	31	2.29	78
26	37	2.69	67
28	44	2.55	57
30	58	2.68	49
32	54	2.22	43
34	50	3.25	36
36	39	3.44	30
38	73	3.77	25
40	37	2.61	26
42	41	1.04	19
44	30	2.57	12
46	42	1.85	8
48	28	1.15	8
50	34	0.68	7
52	69	3.37	5
54	33	1.14	5
56	81	1.32	4
58	11	1.27	2
60	12	1.81	2
62	11	1.74	2
64	9	3.39	2
66	12	4.53	2
68	10	0.20	1
70	12	0.06	1
72	6	0.04	1
74	11	0.15	1
76	13	0.16	1
Grand Total	44	3.71	2,299

Table 14. Grade Variation for Zinc in LH for Rock Code 20

Row Labels	Average of AGCAP	Average of ZNCAP	Count of AGCAP
0	5	7.02	326
2	5	6.26	321
4	4	5.70	309
6	6	5.23	290
8	5	5.05	250
10	5	5.56	218
12	6	5.40	175
14	4	5.77	115
16	5	6.06	84
18	5	5.15	51
20	4	3.27	16
22	9	12.76	2
24	10	15.81	2
28	11	9.87	1
Grand Total	5.02	5.81	2,160

The grade appears to drop faster in the TH than in the LH, this could be an indication of down hole contamination for the LH assays (higher grades near the drill collars are being slightly smeared down the hole or being over sampled) (Figure 48).



Figure 48. Graphical Representation of Downhole Grade Variation for Ag in rock code 10

# **8.3.3 TWIN HOLE PROGRAM CONCLUSIONS**

Overall, the exercise indicates that the Long Hole silver assay data are somewhat biased on the high side for the higher grades when compared to assays from Termite holes. The bias seems to be restricted to grade above 70 g/t or 100 g/t depending on the domain or rock code compared. Zinc grades above 7% should be restricted to 20 m in rock codes 20 and 50.

SRK recommended that special care be taken when using LH data in resource estimation and that a restriction be placed on high grade in the long holes. Initial findings from the analysis of the variation of grade with depth of drilling indicate that the high grade drops relatively quickly within 20 m of collars. SRK recommended that estimates from the high grades in the underground long holes should be limited to roughly 20 m distance from underground workings.

# **9 DATA VERIFICATION**

In addition to the data verification carried out by as part of the previous technical reports for Sierra Mojada, the QP has carried out a review and validation of the existing drill database and data collection procedures. No new drill holes have been added to the Mineral Resource database since the June 2015 technical report. The verification consisted of:

- · Review of sampling and logging procedures
- · Validation of the database
- · Spot check assay certificate data with the database
- · Review of QA/QC procedures
- · Inspection of QA/QC results
- · Review of the geological model
- · Visual inspection of cross sections showing assay and lithological data overlaid onto the geological model

The QP considers the database fit-for-purpose and is suitable for use in the estimation of Mineral Resources and was collected in line with industry best practice.

# 9.1 DOWNHOLE SURVEYS

PAH's initial review of downhole survey information indicated several issues relating to improper interpretation and processing of the survey data. To mitigate these issues PAH and MMC compiled all available survey data. SRK reviewed the digital downhole data and noted some minor data entry errors with the Long Hole database. These errors are not considered to be material to the resource estimation because of the relative short length of the long holes, on average less than 15 m. (SRK 2012).

Prior to the 2015 Mineral Resource estimate, Silver Bull audited the database and any survey discrepancies were checked by the on-staff surveyor. The QP reviewed the existing downhole survey information and procedures.

# 9.2 ASSAY DATA

Original digital assay certificates were provided by Silver Bull and loaded into an SQL database by Archer Cathro. Individual assay results were compared to the assay results recorded in the drill database. No errors were detected that would impact the resource estimate.

# 9.3 CHANNEL SAMPLES, COLLARS & UNDERGROUND WORKINGS

There has been no additional survey work done on void delineation and this section summarizes the previous work. (Tuun & AFK 2015).

Three dimensional locations of channel samples ("CH"), underground drill holes and surveyed underground workings were supplied by Silver Bull. SRK imported these data into Gems<sup>®</sup> software, which has the capability of displaying such data in three dimensions.

The channel samples and underground drill hole collars were visually compared against the underground workings. A number of inconsistencies were noted. Namely, some channel samples and collars were located several meters away from the surveyed underground workings. This implies erroneous survey data for either the channel sample/collar location or the underground workings. These data were excluded from the dataset prior to estimation. In areas where channel samples had been collected but no underground workings seem to exists in the Silver Bull survey database, SRK generated wireframes to capture the additional mined out areas (Figure 59). (SRK, 2012)

The QP visually inspected the void solids provided by Silver Bull to ensure they adequately represent mined material. Channel samples and underground drill hole collars were compared to the void solids. The QP found no issues that would significantly impact the resource estimation process.

# 10 MINERAL PROCESSING AND METALLURGICAL TESTING

A summary of the metallurgical work conducted on the oxide mineralization by Silver Bull 2010 and 2013 is outlined below. Specifically, this chapter looks at the following:

- Summary and analysis of the program on the silver and zinc mineralization, and then the SART circuit at the back end.
- · Incorporation of all results into two preliminary process flow diagrams, one for silver and one for zinc.

# 10.1 ORE TYPES

The metallurgical program conducted by Silver Bull between 2010 and 2013 looked at the silver and zinc zones separately in order to obtain an understanding of the process parameters for each ore type. The process flow sheets were developed to handle all of the silver ore types in one flow sheet, with a second flow sheet being developed to handle all of the zinc ore types. The goal was to allow a situation wherebyone of the flow sheets may be converted to the other flow sheet if a mine plan can be developed for first mining the silver mineralization which sits spatially on top of the zinc mineralization.

The mineralization at Sierra Mojada can be broken into a silver zone located at surface at the west end of the deposit, before dipping underground at an angle of 6 to 7 degrees towards the east, and a zinc zone which sits underneath the silver mineralization at the eastern end of the deposit (Figure 49).





Figure 49. The location of the silver and zinc zones of mineralization

The silver zone can be broken down further into three distinct silver areas (see Figure 50).

- Shallow Silver Zone,
- Centenario Zone, and the
- Fronteriza Zone.



Figure 50. Silver metallurgical Sample Locations

The zinc zone can also be broken down into two distinct areas.

- Red Zinc zone and the
- White Zinc zone.

# 10.2 TEST WORK

Metallurgical test work at Sierra Mojada occurred over several phases between 2010 and the end of 2013 and was conducted at several mineral processing laboratories including: Mountain States Research and Development Intrernational Inc., and Kappes Cassidy & Associates Inc. for the silver mineralization, and Hazen Research Inc. and SGS Lakefield Ontario Inc. for the zinc mineralization. The test work on the SART process was conducted by BiotecQ Ltd. out of Vancouver and was performed on the pregnant solution recovered from the testwork completed at Hazen Research Inc.

# 10.2.1 MOUNTAIN STATES R&D – SILVER RECOVERY TESTS

The metallurgical test work related to the silver mineralization seen at Sierra Mojada mineralization in 2010 by Silver Bull at Mountain States Research and Development International, Inc. located southeast of Tucson, Arizona. Three samples were taken from a trench, which was excavated along the surface of the Shallow Silver deposit (see Figure 51).



Figure 51. Location of the Trench Metallurgical Sample Taken in Early 2010.

The geology and sample location from the trench are shown in Figure 51. Of the three metallurgical samples taken only samples Met Sample 1 and Met Sample 3 were tested, no cyanidation test work was performed on Met Sample 2 due to high plumbo-jarosite content. Met Sample 1 was later composited into 'Compo1' and Met Sample 3 was composited into 'Compo2'.

Mountain States performed two series of tests on the Compo1 and Compo2 samples. The first series looked at a standard cyanide leach bottle roll test and compared grind size to silver recovery. The second series of tests looked at increasing cyanide concentrations in the leach solution versus the silver recovery. The test parameters and the results are shown in Tables 15 and 16, respectively.

### Table 15. Mountain States Grind Size versus Silver Recovery Results.

Sample	Grind Size P80	Head Grade	Extracted Grade	Avg. Tails	Ag Extracted	Leach Time	Consumption NaCN	Addition Ca(OH) <sub>2</sub>
ID	(um)	(Ag g/t)	(Ag g/t)	(Ag g/t)	%	(hrs)	kg/MT	kg/MT
Compo 1	37	55.9	38.4	17.5	66.0	120	1.38	1.00
Compo 1	53	55.9	36.1	19.8	62.7	120	1.14	1.00
Compo 1	100	55.9	33.5	22.4	57.8	120	0.82	1.00
Compo 1	230	55.9	34.3	21.6	57.9	120	0.72	1.00
Compo 1	2000	55.9	30.9	25	53.3	120	1.24	1.00
Compo 2	37	66.6	47.3	19.3	68.4	120	2.38	1.00
Compo 2	53	66.6	48.5	18.1	72.5	120	2.46	1.00
Compo 2	100	66.6	44.3	22.3	65.0	120	2.32	1.00
Compo 2	230	66.6	41	25.6	62.3	120	2.28	1.00
Compo 2	2000	66.6	37.6	29	52.4	120	2.62	1.00

#### Table 16. Mountain States Leach Solution Cyanide Concentration versus Silver Recovery Results.

Sample	Cyanide Concentration	Grind Size P80	Head Grade	Extracted Grade	Ag Extracted	Leach Time	Consumption NaCN	Addition Ca(OH)2
ID	NaCN, kg/MT	(um)	(Ag g/t)	(Ag g/t)	%	(hrs)	kg/MT	kg/MT
Compo 1	2	53	55.9	36.72	65.7	96	1.19	2.30
Compo 1	4	53	55.9	36.72	65.7	96	2.73	0.86
Compo 1	8	53	55.9	37.39	66.9	96	2.34	0.72
Compo 2	2	53	66.6	47.95	72.0	96	2.20	2.30
Compo 2	4	53	66.6	48.48	72.8	96	2.84	1.01
Compo 2	8	53	66.6	49.55	74.4	96	3.56	0.72

Based off the results of this first test program, a more detailed test program using the silver ores from the Shallow Silver Zone, Fontariza, and Centennario zones was developed. Five samples were collected and composites of each area made. The work conducted by Mountain States on this next phase is shown in Table 17 below.

### Table 17. Silver Bull Silver Deposit KCA Metallurgical Test Program.

Sample Description	Test Conditions
Shallow Silver Zone (SSZ)	SB Sample 1
MASTER COMPO	Pre Roast Prior to Cyanide Leach
	1 sample x 2 roast conditions with 3 NaCN Concentrations
SSZ Sample Rejects	SB Sample 4
	4 Compos Tracking Pb
	P80 53 um, 1.0 gpl NaCN
	4 Compos Tracking Leach Time
	1.0 gpl &2.5 gpl NaCN, Lime to pH 10.5
	5 Diagnostic Leach Tests
	P80 53 um and 5.0 gpl NaCN, Lime to pH 10.5
Centenario	SB Sample 2
COMPO 4 & 9 of 10 COMPOS	Pre Roast Prior to Cyanide Leach
	2 samples x 2 roast conditions with 3 NaCN
	Concentrations
	2 grinds x 2 NoCN concentrations
MASTER COMPO	S grinds x 2 Nach concentrations
Fronteriza	SB Sample 3
	Test grade vs Ag rec on 5 different grade samples
	Each sample tested @ 3 grind sizes and 2 NaCN concentrations
	Diagnostic leach tests on 5 different grade samples
North Shallow Silver Zone	SB Sample 5
NSSZ	Test grade vs Ag rec on 5 different grade samples
	Each sample tested @ 3 grind sizes and 2 NaCN concentrations p80 53 um

Following a dispute over the timing and delivery of results and cost overruns, Silver Bull ended the working relationship with Mountain States and took the composite samples that had been prepared to Kappess Cassidy & Associates for additional test work on the Silver Mineralization.

# 10.2.2 KAPPES CASSIDY AND ASSOCIATES

# **10.2.2.1** Silver Recovery Tests

Further test work on the silver ore at Sierra Mojada was conducted by Kappes, Cassidy and Associates (KCA), Reno, Nevada in 2011. Work has focused on cyanide leach recovery of the silver using "Bottle Roll" tests to simulate an agitation leach system common on many mine sites. Samples were composed of the composite samples prepared by Mountain States and supplemented with additional samples taken separately from drill core, mineralized outcrop, and trenches from the "Centenario", "Fronteriza" and "Shallow Silver" Zones of the silver mineralization. These were crushed and mixed to create either a "composite" sample representative of each of the 3 zones, or a series of composite samples based on the silver grade for each of the three zones.

KCA began their test work by performing diagnostic leach test work on 5 composites from the Shallow Silver Zone and 5 composites on the Centenario Zone. Table 18 lists the results of this test work and Figure 52 shows the results graphically.

#### Table 18. Diagnostic Leach Test Work – Cumulative Silver Extraction.

							Diagnostic	Leach Test	Extractions -	- Extracted	gms Ag/MT				
KCA Head		Calc	Dire	ect	Acetic	Acid	Hydrochle	oric Acid	Nitric	Acid	Heated N	itric Acid	Roast	Overall	
Sample No.	Average, gms Ag/MT	Head Average, gms	NaCN Leach	CN Leach Ag % Rec	Acid W ash Solution	NaCN Leach	Acid Wash Solution	NaCN Leach	Acid W ash Solution	NaCN Leach	Acid Wash Solution	NaCN Leach	NaCN Leach	Cumulative Leach	Tails
64601	18.26	17.52	12.01	68.5%	0.91	1.49	0.00	1.51	0.64	0.52	0.00	0.29	0.11	18.15	0.05
64602	29.58	23.29	16.20	69.6%	2.04	0.82	0.00	1.53	0.63	1.46	0.35	0.07	0.09	23.88	0.10
64603	45.33	43.34	35.44	81.8%	1.76	0.87	0.00	2.18	0.63	1.54	0.50	0.19	0.12	44.04	0.12
64604	122.32	105.81	93.57	88.4%	2.06	1.19	0.11	2.64	1.14	3.80	0.18	0.51	0.26	106.34	0.35
64605	16.92	16.86	12.94	76.7%	0.54	0.78	0.10	0.33	0.55	0.32	0.63	0.61	0.02	17.58	0.05
64606	29.23	24.65	18.78	76.2%	0.65	1.59	0.10	1.53	0.42	0.39	0.80	0.25	0.04	25.30	0.11
64607	41.91	40.07	32.19	80.3%	0.52	2.46	0.11	2.23	0.78	0.32	1.32	0.07	0.03	40.82	0.06
64608	170.99	172.36	153.44	89.0%	3.62	5.97	0.25	4.25	0.86	1.36	2.19	0.07	0.09	173.00	0.24
64609	60.21	41.55	34.01	81.8%	1.03	2.03	0.25	1.69	0.55	0.70	0.71	0.07	0.22	42.06	0.31
64610	103.63	103.99	82.11	79.0%	2.37	4.31	0.15	5.92	0.72	6.47	1.44	0.33	0.05	104.65	0.12

Note: The extracted and tailings values from Roast Test were adjusted to reflect the original 500 gram feed weight





The results suggested silver mineralization is amenable to direct cyanide leaching.

The information from the diagnostic leach tests at various silver head grades also provided insight as to the relationship between silver recovery and silver head grade. Figure 53 shows a graphic display of this relationship.



Figure 53. Shallow Silver Zone Diagnostic Leach Tests Ag Recovery vs. Ag Head Grade

Additional test work on the three silver zones at Sierra Mojada at KCA in 2012 was completed with work focusing on leach solution cyanide strength, pH, lead nitrate addition, grind size, and increased oxygen concentrations.

A summary of all the cyanide leach test work is shown in Table 19 below.

Table 19. Summary of Cyanide Bottle Roll Leach Test Results, Ag Recovery.

Location of Sample in Silver Zone	Calculated p80 Size	Head Average	Calculated Head	Avg. Tails	Ag Extracted	Consumption NaCN	Addition Ca(OH) <sub>2</sub>
	micron	gms Ag/MT	gms Ag/MT	gms Ag/MT	% Recovery	kg/MT	kg/MT
Shallow Silver Zone - Avg		58.6	65.2	21.3	67.5	3.50	0.66
Shallow Silver Zone - Max	49	50.2	75.0	16.9	77.0	5.03	0.50
Centenario Zone - Avg		80.4	76.8	26.6	74.3	2.97	1.19
Centenario Zone - Max	35	171.0	172.4	18.9	89.0	NA	NA
Fronteriza Zone - Avg		167.0	180.3	54.1	58.8	10.86	0.50
Fronteriza Zone - Max	46	464.1	530.0	82.7	84.0	17.13	0.50
Average of All Zones		87.3	91.2	30.1	68.5	5.01	0.77

Preliminary observations from the silver testwork include:

- Silver recoveries generally show an increase with higher grade.
- Silver recovery is somewhat grind size sensitive with finer grinds giving higher recoveries.
- Varying levels of cyanide consumption (NaCN) are attributed to variable amounts of zinc and copper in the samples.
- Current target for grind size is 40 microns.
- Current target for NaCN concentration is 5.0gpl in the leach solution, maintained.

Average silver recovery is expected to approach 75% at a grind of 40 microns and a leach solution NaCN concentration of 5.0gpl

# 10.2.2.2 The SART circuit and Zinc Recoveries

In addition to the silver test work via cyanidation, work was completed in the first quarter of 2013 to confirm the Sulfidization, Acidification, Recycling and Thickening (SART) process and its application at the backend of the leaching circuit. The SART circuit allows for the recycling of the cyanide in the silver leaching circuit –lowering cyanide costs, as well as potentially recovering a portion of the zinc and copper observed in the Silver Acid Silver deposits.

The following two tables provide a summary of the zinc and copper recoveries observed in the cyanide leach tests from the mineralization at Sierra Mojada.

#### Table 20. Summary of Cyanide Bottle Roll Leach Test Results, Zn Recovery

Sample Description	Target	Calculated Head	Avg. Tails	Zn Extracted
	Naciv, Spr	Zn, mg/kg	Zn, mg/kg	%
Shallow Silver Zone, Core Composite	10	10,439	6,165	41
Centenario, Composite No. 4; >60 gms Ag/MT	10	2,717	2,150	21
Fronteriza, Composite No. 2; 50 to 100 gms Ag/MT	10	27,720	18,740	32

#### Table 21. Summary of Cyanide Bottle Roll Leach Test Results, Cu Recovery.

Sample Description	Target	Calculated Head	Avg. Tails	Cu Extracted
	Naciv, gpr	Cu, mg/kg	Cu, mg/kg	%
Shallow Silver Zone, Core Composite	10	321	240	25
Centenario, Composite No. 4; >60 gms Ag/MT	10	938	405	57
Fronteriza, Composite No. 2; 50 to 100 gms Ag/MT	10	37	24	35

The SART process would produce a zinc sulfide concentrate and potentially a copper sulfide concentrate that would be suitable for sale to smelters and providing by-product credits to the project. KCA produced 40 liters of barren leach solution (pregnant leach solution with the silver removed with zinc dust) for testing at BioteQ in BC, Canada. The SART test work results are summarized in Table 22. The test work results showed that the 100% of the zinc in the barren Merrill Crowe solution can be recovered and a saleable zinc concentrate produced.

#### Table 22. Summary of the SART test work results completed by Bioteq.

Test #	Stage	рН	ORP	Acid Dose		Sulphic	le Dose	Zn Recovery	
-	- (X of Y) -		mV	g/L	%	g/L	%	%	mg
1	1 of 1	4	-197	16.27	117%	2.57	88%	100%	2535
3	1 of 1	3.29	-115	14.12	102%	2.62	90%	100%	2535

# 10.2.3 HAZEN TEST WORK - TREATMENT OF HIGH GRADE ZINC

Hazen Research in Golden, CO, was tasked with looking at the potential for using a pyrometallurgical technique for treating the zinc ores. A process for producing ZnO from steel plants and other metal manufacturing facilities waste by-products, known as the Waelz Kiln process, was tested at Hazen in 2012.

Hazen received composite samples from both the Red Zinc and White Zinc deposits at Sierra Mojada. This material was tested in one of Hazen's higher temperature kilns at temperatures between 1,100°C and 1,300°C. The process involves mixing into the ore a reducing material, such as carbon or coal, heating the ore mixture to the required temperature, fuming off the Zn, passing the fumed Zn gas to an oxygen atmosphere and cooling the gas, forming a ZnO precipitate.

In the Hazen test facility zinc fuming worked very well with zinc fumed from the ore at greater than 90 percent. However, difficulty in recovering the ZnO as the precipitate was evident as metal accounting for the tests were very poor. Zinc was found to precipitate on the test apparatus wherever the temperature was cool enough for the zinc to precipitate. Table 23 provides a summary of the results from the Hazen test program.

The Waelz Kiln concept was proven to work on the zinc ores. However, difficulties experienced by Hazen to capture the ZnO and difficulties in maintaining the kiln caused the program to be halted.

### Table 23. Sierra Mojada Waelz Kiln Test Work Zinc Recovery and Accountability

Test #	Ore	Conditions	Feed Mass, g	Zn in Feed, g	Zn in Calcine, g	Zn in Product, g	Recovery (1- C/F), %	Recovery (P/F), %	Accountability ([C+P]/F), %
1	RZ	1100°C, 3:1 C:Zn	100	12.5	8.37	3.42	33.0	27.4	94.33
2	RZ	1200°C, 3:1 C:Zn	100	12.5	1.64	8.28	86.9	66.2	79.31
3	RZ	1300°C, 3:1 C:Zn	100	12.5	0.14	9.69	98.9	77.5	78.60
4	WΖ	1100°C, 3:1 C:Zn	1000	186	1.78	124.44	99.0	66.9	67.86
5	WΖ	1200°C, 3:1 C:Zn	1000	186	12.77	111.09	93.1	59.7	66.59
6A	RZ-S	1300°C, 3:1 C:Zn	1000	116	6.06	74.14	94.8	63.9	69.14
7	RZ	1200°C, 2:1 C:Zn	150	18.75	6.49	9.01	65.4	48.1	82.68
8	RZ	1200°C, 4:1 C:Zn	150	18.75	1.15	13.17	93.9	70.2	76.33
9	WΖ	650°C	1000	186	179.19	N/A	96.3	N/A	96.34
10	WΖ	950°C	1000	186	176.35	N/A	94.8	N/A	94.81
11	RZ	1300°C, 3:1 C:Zn	750	93.75			100.0	0.0	0.00
12	RZ	1200°C, 3:1 C:Zn	750	93.75	43.30	23.62	53.8	25.2	71.38
15	RZ-S	1300°C, 3:1 C:Zn	1000	116	17.81	63.82	84.6	55.0	70.37
16	RZ-S	1200°C, 3:1 C:Zn	750	87	9.87	64.49	88.7	74.1	85.47
17	RZ-S	1200°C, 2:1 C:Zn	750	87	24.39	20.05	72.0	23.0	51.09
18	RZ	1200°C, 2:1 C:Zn	750	93.75			100.0	0.0	0.00

# 10.2.4 SGS LAKEFIELD – SEPARATION OF RED & WHITE ZINC ORES

Mineral Services (SGS), in Lakefield, ON, was tasked with developing a physical separation scheme for the Red Zinc and White Zinc ores in 2012. Work focused on heavy media separation (HMS) and flotation recovery of the zinc minerals hemimorphite (Red Zinc) and smithsonite (White Zinc). Test work using bench scale heavy liquid separation and flotation tests were used to develop possible process parameters for a zinc HMS/flotation circuit. Samples had been taken from drill core and channel samples along the 1.5 kilometer strike length of the "Red Zinc Zone" and "White Zinc Zone" of the deposit. The samples were then crushed and mixed to form a composite sample representative of each of the material types present in the deposit.

The primary focus for the SGS test Work program were the zinc materials. They were also tasked with finding a method to produce a saleable zinc product from the Red Zinc and White Zinc materials. The SGS program was focused on using Heavy Media Separation and Flotation to produce a concentrate. The following tests and results have been obtained by SGS to date:

# 10.2.4.1 White Zinc Test work

- White Zinc (smithsonite) Heavy Media Separation and Flotation is effective and can obtain a 42% Zn Concentrate. The heavy media separation was very effective as roughly 53% of the zinc was recovered in the HMS alone into a concentrate that assayed over 45% Zn. Additional test work is needed to refine the heavy media and flotation recoveries.
- Flotation results for the White Zinc were also very good, with a best case 40% Zn concentrate being produced while recovering 96.5% of the zinc.
- Test Work Reagents and Results for the best case test on White Zinc Master Composite are shown below in Tables 23 and 24.
- Figure 54 shows the Zn recovery versus concentrate Zn grade for the White Zinc best case test.



	Objective	Sample			Rea			
Test No.			Grinding	Na Silicate (Metso)	Hexameta- phosphate	Collector Blend: Armac C/Pine Oil/Kerosene (5, 0.5 , 0.5 g)	Na2S	ΡΑΧ
Test 30	WZMC +38 um Fraction	WZMC COMPO	Stage Ground to -300 um	1050	250	700	5,244	300
Test 31	WZMC -38 um Fraction	WZMC COMPO	None, -38 um Fraction	1050	300	750	6,233	300

# Table 25. White Zinc Master Composite HLS/Flotation Test Work Results

SGS Test Number Objective	Weight	Assay	Recovery
SGS lest Number Objective	%	% Zn	% Zn
	15.8	50.1	45.1
	23.2	48.4	64.1
E20-21 WZMC Combined	24.8	47.4	66.9
rso-si wzwie combined	28.2	45.8	73.8
	32.2	44.5	81.9
	35.7	42.9	87.3



# 10.2.4.2 Red Zinc Test work

Red Zinc (hemimorphite) Heavy Media Separation and Flotation has been shown to be a bit more complicated due to slimes (< 38  $\mu$ m particle sizes) generation during grinding. Test work shows that the flotation of the + 38  $\mu$ m material is good with 72.5% of the zinc recovering to a 30% Zn concentrate.

Red Zinc has a propensity to slime as the natural grain size of the material is very fine. As received material has been observed to have greater than 20% -38 μm material. HMS of this material was somewhat effective as roughly 57% of the zinc was recovered to a concentrate that was above 22% zinc. More test work on HMS of the Red Zinc material should be performed to see if concentration ratios can be improved or if cleaning stages can improve concentrate grades.

The slimes performed poorly in flotation test work with only 55% of the zinc reporting to a 22% Zn concentrate. In the SGS test work roughly 45% of the Red Zinc ore ended up in the slimes making slimes mitigation a major concern in future test work. Options to consider include:

- Stage grinding with screening in between to reduce the amount of fines generation.
- Utilizing fine bubble flotation cell technology developed specifically for fines/slimes flotation.
- Sodium silicate addition as an aid in slimes flotation.
- Flash flotation in the grinding circuit to float material prior to fines generation.
- Test Work Reagents and Results for the best case test on the Red Zinc High Silver Composite are shown below in Tables 26 and 27.
- Figure 55 shows the Zn recovery versus concentrate Zn grade for the Red Zinc best case test.

### Table 26. Flotation Reagent Suite Red Zinc Master Composite

	Objective		Grinding					
Test No.		Sample		Na Silicate (Metso)	Hexameta- phosphate	Collector Blend: Armac C/Pine Oil/Kerosene (5, 0.5 , 0.5g)	Na2S	ΡΑΧ
Test 30	WZMC +38 um Fraction	WZMC COMPO	Stage Ground to -300 um	1050	250	700	5,244	300
Test 31	WZMC -38 um Fraction	WZMC COMPO	None, - 38 um Fraction	1050	300	750	6,233	300

Table 27. Red Zinc High Silver Composite HLS/Flotation Test Work Results

SGS Test Number Objective	Weight	Assay	Recovery
SGS lest Number Objective	%	% Zn	% Zn
	12.1	38.9	45.0
	17.6	34.6	58.0
	18.3	34.0	58.3
	19.0	33.8	59.1
	19.6	33.0	59.4
	20.0	32.8	59.7
EA2 A2 B74C Combined	20.7	32.5	59.9
F42-43 KZHC Combined	24.4	30.0	72.5
	30.7	27.7	81.1
	35.5	25.5	86.6
	38.0	24.4	88.4
	43.3	22.6	93.3
	45.4	21.8	94.2
	49.6	20.2	95.8



The next step will be to run additional tests using Dense Media Separation (DMS) at small scale to generate a pre-concentrate. It is anticipated these tests will replace the HLS test work previously performed to better simulate an actual production flow sheet. The DMS concentrate should have fewer negative effects on downstream flotation. This test work will then need to be followed by test work to find a way to reject Fe bearing materials, which appears to be the main impurity in the final DMS concentrate.

Test work to improve slimes flotation will also need be performed using a Jameson or similar cell which utilizes fine bubble generation. Concentration of the Red Zinc in particular is expected to perform better in a fine bubble floatation machine such as a Jameson Cell, which is specifically designed to mitigate the sliming problem.

Based on current test work results the following conclusions about the zinc flotation can be made:

- White Zinc performs very well in a standard flotation scheme. A zinc recovery of 87% at a concentrate grade of 43% zinc can be achieved.
- Red Zinc is more difficult to float than the White Zinc due to the sliming characteristics of the Hemimorphite mineral.
- Red Zinc test work to date can produce a 30% zinc concentrate at a zinc recovery of 72.5%.

# **10.3 ORE PROCESSING**

The Sierra Mojada Project will require two distinct flow sheets and process facilities for the silver ores and the zinc ores. The silver ores will utilize cyanide leach technology and the zinc ores will utilize Heavy Media Separation and Flotation. Some of the unit operations can be used in both facilities, such as crushing and grinding. A discussion on how the equipment can be utilized for both process scenarios will be discussed at the end of this section.

Since the silver and zinc ore processing facilities are somewhat distinct, they are discussed separately in this report.

# **10.3.1 SILVER ORE PROCESSING**

A simple flow diagram has been developed and is shown in the following Figure 56.

It is envisioned that the silver ores at Sierra Mojada will require a crushing and grinding circuit to produce a particle size P80 of 53 microns to maximize silver recovery and project economics. Following grinding, a cyanide leach and CCD circuit will be utilized with the pregnant leach solutions reporting to a Merrill Crowe silver recovery plant. Once the silver has been recovered, cyanide recovery, as well as, zinc and copper recovery will take place in a SART facility. Tailings from the leach circuit will be detoxified in a cyanide destruct circuit before reporting to a tailings storage facility.

Water will be reclaimed from the tailings storage facility for reuse.

Products produced will include silver doré, and a zinc sulfide precipitate.



Figure 56. Proposed Process Block Flow Diagram for the silver ore

### **10.3.2 ZINC ORE PROCESSING**

A simple flow diagram has been developed and is shown in the Figure 57.

It is envisioned that the zinc ores at Sierra Mojada will require a crushing circuit to produce a particle size P80 of 3.66mm to feed a dense media separation (DMS) unit with the +48 mesh sink fraction reporting to a rod mill for additional grinding prior to flotation. The final grind size is currently estimated at a P80 of 105 microns which should maximize zinc recovery, minimize slimes production, and maximize project economics. Following grinding, slimes separation will be performed with the slimes portion reporting to a fine bubble flotation cell, such as a Jameson cell. The coarser fraction will report to a standard flotation circuit. Both the slimes and coarse flotation circuits will incorporate one or more cleaning stages to improve the zinc content of the concentrate. Concentrates will be thickened, filtered, and dried followed by loading into train cars for bulk shipment to a zinc refinery. Tailings from the flotation circuit will be thickened before reporting to a tailings storage facility.
Water will be reclaimed from the tailings storage facility for reuse. The products produced will be a Hemimorphite and Smithsonite concentrate. A concentrate could then be further refined through kilning.



Figure 57. Proposed Zinc Process Block Flow Diagram, Sierra Mojada Project

# **11 MINERAL RESOURCE ESTIMATE**

# **11.1 INTRODUCTION**

The Mineral Resource Estimate has been prepared by Archer Cathro & Associates (1981) Limited ("Archer Cathro"). The following sections detail the method and strategies used to estimate the mineral resource. This resource estimation was completed by Matthew Dumala, P. Eng., an independent qualified persons as defined in S-K 1300. The effective date of the resource statement is October 1<sup>st</sup>, 2018. Work at the Property conducted after 2018 focussed on deeper sulphide mineralization and does not impact the Mineral Resource Estimate.

Geovia GEMS 6.7.2.1 software was used to model surfaces and solids that define the boundaries of the deposit. The software was also used for block modeling, grade estimation, and resource reporting. Snowden Supervisor v8.7 was used to determine basic statistics, geostatistics, and variography.

The current Mineral Resource estimate was completed using the same database as the previous Mineral Resource (June 8, 2018). It has been restated to reflect current metal prices and changes to Mineral Licences.

## **11.2 RESOURCE DATA BASE**

The Sierra Mojada Project drill data was provided to Archer Cathro as a Geovia<sup>TM</sup> GEMS database. The database used in the resource estimate was audited by Archer Cathro prior to estimation. The Author is of the opinion that the data is sufficiently reliable to interpret with confidence the boundaries of the deposit for the estimation of tonnes and grades of the four metals: zinc, copper, lead and silver.

The drill hole data base consists of 12,772 surface and underground diamond drill holes, reverse circulation drill holes, long holes, underground channel samples and a surface trench sample intended for a metallurgical bulk sample test. Of these 12,772 holes and channel samples, only 12,733 were used to estimate the Mineral Resource. These are listed in Table 28 below.

#### Table 28. Resource Database

Description	Number	Metres
Diamond Drill holes	1,336	153,265.4
Reverse Circulation holes	24	32,446.2
Underground long holes	2,346	14,693.5
Channel Samples	9,027	6,628.0
TOTAL	12,733	207,033.1

## **11.2.1 SURFACES AND SOLIDS**

Silver Bull Resources provided 3D surfaces and solids for the estimation work. These define geological surfaces, faults, topography, mineralization, and underground. These solids and surfaces are unchanged from the 2015 Mineral Resource estimate.

The underground workings are complex with numerous small adits, declines, drifts, cross-cuts, stopes and shafts as described earlier in this report. They had been surveyed in small segments over the years but never combined. The workings are shown in Figure 58 with the mining areas colour-coded by the main mining area:

- · Centenario/Fronteriza blue
- · Encantada green
- · Esmeralda teal
- · Parreña magenta
- · San Salvador red

Some workings were inaccessible due to collapse or unsafe conditions. Based on historical mining records it appears that, based on an average density (~2.7), only about 12-15% of property-wide mined workings have been surveyed. Some of the workings (e.g. Parreña) are clearly development in waste or in mineralized zones outside the current Mineral Resource area. The volume within the zone is not considered to be significant compared to the mineralized zone.



The volumes for the validated solids are summarized in Table 29.

#### Table 29. Underground Void Volumes

Mining Area	Volume
B06_09	32,658 m <sup>3</sup>
AB08_02	33,932 m <sup>3</sup>
B09_05	27,198 m <sup>3</sup>
B04_32	200,860 m <sup>3</sup>
B05_39	70,364 m <sup>3</sup>
F_09	40,834 m <sup>3</sup>
Total Volume	$401,663 \text{ m}^3$



Figure 58. Underground Workings

The "plunge" of the workings to the south-east (right) is apparent in Figure 58.

A single solid representing mineralization was constructed by Silver Bull staff from available information including assays, faults and interpreted geologic sections. Figure 59 is an example of the geologic interpretation along Section 631600E through the San Salvador - Centenario block, while Figure 66 shows the mineralized solid overlaid onto the same Section.



Figure 59. SBR Geologic Interpretation 631600E (+/- 50m window)



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The lower dashed line yellow area on Figure 59 is the white zinc (smithsonite) chimney zone.

While the wireframe has a jagged appearance in 3D (Figure 61), it does an acceptable job of capturing the complexity of the carbonate replacement deposit where deposition is assumed to have been via the main Sierra Mojada Fault system with leakage along northern and northwesterly faults. The wireframe intersection with the plane is magenta.



Figure 61. Three-dimensional view of the Mineral Zone wireframe

The surfaces and solids were then used to create rock, density and percentage block models. The percentage block models were for topography, mineral zone, and underground workings (voids). The rock codes used for modeling are shown in Table 30.

#### Table 30. Block Model Rock Codes

Rock Type	Rock Code	Bulk Density (g/cm <sup>3</sup> )
Air	998	0
Void	999	0
Alluvium (QAL)	9	2.61
Conglomerate (UC)	13	2.54
Limestone	31	2.60
Mineral Zone	555	modeled

# **11.2.2 DATA EVALUATION AND STATISTICAL ANALYSIS**

The Resource Database contains over 160,000 assay records. Solids provided by Silver Bull representing mineralized zones were used to code samples. Samples not within these mineralized solids do not impact the Mineral Resource estimate

The descriptive statistics for the sample data within the mineralized solid is shown in Table 31, while correlation coefficients are shown in Table 32.

#### Table 31. Basic Statistics of Assay Data

Variable	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
Number of samples	76,127	81,851	81,851	77,391
Minimum value	0.00	0.00	0.00	0.00
Maximum value	10,000.00	14.7	30.2	53.8
Mean	31.70	0.032	0.21	2.68
Median	7.90	0.100	0.03	0.35
Standard Deviation	139.56	0.171	0.898	6.027
Coefficient of variation	4.40	5.39	4.28	2.24
99.0 Percentile	383.0	0.53	3.49	28.20

#### Table 32. Assay Correlation Coefficients

	Ag	Cu	Pb	Zn
Ag	1.000	0.219	0.161	0.027
Cu	0.219	1.000	0.077	0.002
Pb	0.161	0.077	1.000	0.119
Zn	0.027	0.002	0.119	1.000

Figure 62 shows a histogram plot for silver within the mineralized solid. This plot shows that silver grade is relatively evenly distributed. There is a second population of lower grade mineralization. Some of these are believed to represent edge cases along the mineralized solid boundaries where low grade samples were included in the mineralized solid.



#### **11.2.3 CAPPING AND COMPOSITING**

One metre composite were chosen because the majority of samples are 1.0 m long. The mean length of samples within the mineralized solid is 1.10 m and median length is 1.00 m. Samples were composited down-hole honouring the mineralized solid. Composites less than 0.5 m were not calculated.

Composites exceeding the high-grade limit were limited to 20 m (2 blocks) in any direction. It is the Author's opinion that limiting the range of influence of composited high values is appropriate for this project since the area has a mining history that included legitimate high grade silver (Veta Rica) and high grade zinc mines (Frontireza, Esmeralda, Encatada etc). High-grade limits were set to approximately the 99<sup>th</sup> percentile for each element.

The compositing shows an improvement in the coefficient of variation but little changes in other basic statistics (Table 33) within the data set. There are no strong correlations between metals (Table 33) within the data set. There are no strong correlations between metals (Table 34).

#### Table 33. Declustered Composite Statistics

Variable	Ag	Cu	Pb	Zn
Number of samples	89,222	89,291	89,229	89,246
Minimum value	0.0	0.0	0.0	0.0
Maximum value	10,000.0	14.7	30.2	53.8
Mean	31.68	0.043	0.322	3.02
Median	8.00	0.010	0.040	0.36
Standard Deviation	91.70	0.14	1.00	6.70
Coefficient of variation	2.90	3.35	3.11	2.22
99.0 Percentile	398.0	0.69	5.38	33.93

#### Table 34. Composite Correlation Coefficients

	Ag	Cu	Pb	Zn
Ag	1.000	0.246	0.137	0.013
Cu	0. 246	1.000	0.061	-0.006
Pb	0. 137	0.061	1.000	0.112
Zn	0.013	0.006	0. 112	1.000

Examination of histograms and distribution curves for the composited data did not reveal any significant multiple populations (Figure 63 and Figure 64).





#### **11.2.4 BULK DENSITY ESTIMATION**

Density for waste rock is based on approximately 3,500 samples from various rock types. This data had not been tabulated with corresponding Hole-ID and "From-To" information so could not be used for Inverse Distance Squared (ID2) modeling. Instead, the average values had been used to populate the model. Background waste rocks from that work is summarized in Table 14-3 with the corresponding Block Model rock codes.

Using an average value in the mineralized zone fails to recognize variability due to very high zinc or lead grades. A total of 1,985 additional samples were taken and density measured by the use of a pycnometer loaned by the neighbouring Peñoles La Dolomita Mine. These samples were used to estimate the density of the mineralized zone by the use of the ID2 technique.

## **11.2.5 GEOSTATISTICAL ANALYSIS AND VARIOGRAPHY**

Variograms were calculated for silver, copper, lead and zinc composites within the mineralized solid to produce inputs for the estimate.

Horizontal continuity was modeled first using eighteen horizontal variograms at 20<sup>o</sup> increments. Continuity models were then created for the across strike and dip plane orientations. Once the direction of maximum continuity was selected, a down-hole linear semi-variogram was created to determine the nugget effect. Nested exponential models were fitted for all elements as summarized in Table 35. The anisotropy was assessed using Azimuth, Dip, and Azimuth (ADA) rotation.

#### Table 35. Semi-Variogram Parameters.

Metal	Azim	Dip	Azim	Со	C <sub>1</sub>	C2	X (m)	Y (m)	Z (m)
Ag	111.5	-3.5	18.0	0.16	0.48		47	34	29
						0.36	201	139	121
Cu	106.4	-6.3	13.5	0.25	0.55		29	19	16
						0.20	188	115	100
Pb	100.3	-3.4	9.7	0.24	0.26		34	22	18
						0.50	180	133	95
Zn	110	0	N/A	0.21	0.55		55	35	52
						0.24	205	144	157

While the deposit has a very strong east-west orientation sub-parallel to the Sierra Mojada Fault, continuity is disrupted by numerous north and north-westerly faults. Displacements within the mineralized zone are generally minor as has been noted during underground mine tours. These displacements have had a minor effect on anisotropy as an easterly plunge is apparent.

# **11.3 BLOCK MODEL DEFINITION**

The block model origin and orientation and size are the same as the previous Mineral Resource estimate. The block model is not rotated and parameters are summarized in Table 36.

	Easting	Northing	Elevation
Minimum	628800	3016100	1050
Maximum	633500	3018000	2000
Block Size	10	10	10
No. Blocks	470	190	95

#### Table 36. Block Model Parameters

A 10 m by 10 m by 10 m block size was used and is believed a reasonable approximation of a selective mining unit (SMU) for either a small truckexcavator mining fleet or an underground bulk mining operation. Supervisor was used to perform a Kriging Neighbourhood Analysis to validate the block size and estimation parameters.

## **11.3.1 GRADE INTERPOLATION**

Block model grades were estimated in three passes using Ordinary Kriging (OK) with the minimum and maximum samples and searches as summarized in Table 37. The classification methodology used was that blocks meeting the criteria of Pass 1 would be flagged as Measured; Pass 2 - Indicated; and Pass 3 - Inferred.



Silver, copper, lead and zinc were estimated using Ordinary Kriging (OK) on uncapped composited 1.0m grades.

Table 37. Grade Interpolation Search Parameter	s
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Metal	Pass	Or	ientation A	Angle		Search Size	1	# of Co	mposites	Max Samples per hole
		Az	Dip	Az	X (m)	Y(m)	Z(m)	Min	Max	
	1	111.5	-3.5	18	30	25	20	8	30	4
Ag	2	111.5	-3.5	18	75	75	70	4	30	3
	3	111.5	-3.5	18	150	125	120	3	30	2
	1	106.4	-6.3	13.5	25	20	15	8	30	4
Cu	2	106.4	-6.3	13.5	95	95	45	4	30	3
	3	106.4	-6.3	13.5	150	120	100	3	30	2
	·									
	1	100.3	-3.4	9.7	30	25	20	8	30	4
Pb	2	100.3	-3.4	9.7	100	95	45	4	30	3
	3	100.3	-3.4	9.7	150	125	85	3	30	2
Zn	1	110	0.0	n/a	40	35	40	8	30	4
	2	110	0.0	n/a	75	70	75	4	30	3
	3	110	0.0	n/a	150	140	150	3	30	2

## **11.3.2 MINERAL RESOURCE CLASSIFICATION**

According to the S-K 1300 regulations, to reflect geological confidence, Mineral Resources are subdivided into the following categories based on increased geological confidence: Inferred, Indicated, and Measured, which are defined under S-K 1300 as:

"Inferred Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. The level of geological uncertainty associated with an inferred mineral resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an inferred mineral resource has the lowest level of geological confidence of all mineral resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an inferred mineral resource may not be considered when assessing the economic viability of a mining project, and may not be converted to a mineral reserve."

"Indicated Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling. The level of geological certainty associated with an indicated mineral resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an indicated mineral resource has a lower level of confidence than the level of confidence of a measured mineral resource, an indicated mineral resource may only be converted to a probable mineral reserve."

"Measured Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling. The level of geological certainty associated with a measured mineral resource is sufficient to allow a qualified person to apply modifying factors, as defined in this section, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a measured mineral resource has a higher level of confidence than the level of confidence of either an indicated mineral resource or an inferred mineral resource, a measured mineral resource may be converted to a proven mineral reserve or to a probable mineral reserve."

The guideline commentary also clarifies that the phrase **"reasonable prospects for economic extraction"** implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable."

Blocks were classified as measured, indicated, and inferred based upon the OK pass they were estimated. Blocks estimated in the first pass are considered measured, while blocks that were estimated during the second pass were classified as an Indicated category. All other blocks estimated are considered Inferred. This method of classification is consistent with standard industry practices. Blocks estimated in the first pass are spatially closer to more sample locations and therefore can be considered to have a higher level of confidence than blocks estimated in later passes.

#### **11.3.3 BLOCK MODEL VALIDATION**

The block models were visually validated by comparing the blocks estimated with actual drill hole composite data on both section and in plan view. Figure 65 and Figure 66 are section and plan respectively. Composite grades are a good match to the estimated block grades.







In addition, nearest neighbor (NN) model and inverse distance squared (IDS) models were generated for comparison to the ordinary kriged (OK) model. Table 38 shows the zero cut-off totals and percentage differences of the estimates. The nearest neighbor model represents an unbiased estimate. The similarity of the three models further validates that OK is an appropriate method for the resource estimate.

#### Table 38. Mineral Resource Estimate Comparisons

Model	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
ID2	30.60	0.043	0.289	2.16
NN	30.88	0.044	0.291	2.13
ОК	29.53	0.042	0.281	2.05
% Diff: OK-IDS	-3.5%	-3.4%.	-2.8%	-5.4%
% Diff: OK-NN	-4.6%	-5.2%	-3.5%	-3.9%

Grade-tonnage curves for silver and zinc (Figure 67 and Figure 68) were also prepared.





## **11.4 MINERAL RESOURCE ESTIMATE**

To demonstrate "reasonable prospects for economic extraction", Archer Cathro generated a conceptual pit shell based on the parameters listed in Table 39 using Geovia Whittle 4.7.2. These parameters are derived from the JDS PEA Nov 2013 using silver and zinc processing considerations and summarized in Section 10. The silver ores will utilize cyanide leach technology and the zinc ores will be blended into the ore feed stream to allow for zinc recovery in the SART (Sulfidization, Acidification, Recycling and Thickening) process. Silver and zinc metal prices were chosen to be consistent with five year averages, which is believed to be sufficient long enough period to balance erratic price fluctuations in the past two years.

It is the QP's opinion that these prices are adequate for the determination of "reasonable prospects for economic extraction". The material factors that could cause actual results to differ materially from the conclusions, estimates, or designs in the following section include any significant differences from one or more of the material factors or assumptions that were set forth in this section including cut-off grade assumptions, and product pricing forecasts.

Results of the Sierra Mojada conceptual open pit Mineral Resource estimate are shown in Table 40 at a \$13.50 NSR cut-off. Net smelter return ("NSR") (US\$/tonne) values were calculated for each block for silver and zinc based on the parameters listed in Table 39 Below.

#### Table 39. Pit Optimization Parameters

Parameter	Unit	Value
Silver	US\$/oz	\$18.00
Zinc	US\$/lb	\$1.20
Processing + G&A Cost	US\$/t ore	\$12.00
Mining Cost – Open Pit	US\$/t mined	\$1.50
Pit Slopes	degrees (°)	55°
Throughput	Tonne per day	8,500
Silver Recovery	%	75%
Zinc Recovery to Solution	%	41%
Zinc Recovery SART	%	99%
Zinc Concentrate Grade	%	64%
Silver Payable	%	99.5%
Silver Transportation and Refining	US\$/oz	\$0.495
Zinc Payable	%	85%
Zinc Smelting and Transportation	US\$/tonne	\$232.00

#### Table 40. Pit-constrained Mineral Resource Estimate

CLASS	Tonnes (Mt)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	NSR (\$/t)	Ag (Mozs)	Cu (Mlbs)	Pb (MLbs)	Zn (Mlbs)
Measured	52.0	39.2	0.04%	0.3%	4.0%	\$44.3	65.5	45.9	379.1	4,589.3
Indicated	18.4	37.0	0.03%	0.2%	1.9%	\$27.3	21.9	10.8	87.0	764.6
Total M&I	70.4	38.6	0.04%	0.3%	3.4%	\$39.8	87.4	56.8	466.1	5,353.9
Inferred	0.1	8.8	0.02%	0.2%	6.4%	\$52.3	0.02	0.04	0.4	10.7

Notes:

1) S-K 1300 definitions were followed for the Mineral Resource.

2) The Mineral Resource is reported within a conceptual pit-shell using an NSR cut-off value of US\$13.50/tonne.

3) Mineral resources are not reserves and do not demonstrate economic viability.

4) Tonnages are reported to the nearest 100,000 tonne. Grades are rounded to the nearest decimal place for Ag, Zn, & Pb and the nearest 2 decimal places for Cu

5) Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade, and contained metal.

6) Tonnage and grade are in metric units; contained Zn, Cu, & Pb are in imperial pounds.

7) Tonnages and grades are as reported directly from block model; with mined out areas removed.

The open pit resources reported for variable silver and zinc cut-offs within the conceptual pit shell are shown in

#### Table 41. Pit-constrained Mineral Resource Estimate by Silver Cut-Off

Category	Ag Cut-off (%)	Tonnes (Mt)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (Mozs)	Cu (Mlbs)	Pb (MLbs))	Zn (Mlbs)
	25	21.0	83.6	0.08%	0.5%	2.6%	56.5	37.4	245.8	1,222.25
	35	15.9	101.2	0.10%	0.6%	2.5%	51.6	34.4	201.6	869.2
	45	12.5	117.7	0.11%	0.6%	2.5%	47.3	31.7	168.3	679.2
	50	11.2	126.6	0.12%	0.6%	2.5%	45.3	30.3	155.0	611.2
MEASURED	55	10.1	134.2	0.13%	0.6%	2.5%	43.4	29.1	141.5	548.4
	60	9.1	142.3	0.14%	0.6%	2.5%	41.7	28.0	129.8	493.2
	65	8.3	149.7	0.15%	0.7%	2.5%	40.1	26.9	120.0	452.3
	70	7.5	158.4	0.15%	0.7%	2.5%	38.4	25.6	110.6	409.9
	75	6.9	166.5	0.16%	0.7%	2.4%	36.9	24.6	101.7	370.9
	25	10.4	54.9	0.03%	0.2%	1.3%	18.4	7.9	53.2	288.1
	35	7.3	65.4	0.04%	0.2%	1.3%	15.4	6.6	40.0	208.2
	45	5.0	77.6	0.05%	0.3%	1.3%	12.4	5.2	27.4	142.4
	50	4.1	84.0	0.05%	0.3%	1.3%	11.1	4.4	23.2	119.5
INDICATED	55	3.4	90.7	0.05%	0.3%	1.3%	9.9	3.6	19.8	98.1
	60	2.9	96.8	0.05%	0.3%	1.3%	8.9	2.9	17.0	83.0
	65	2.4	102.9	0.05%	0.3%	1.3%	8.0	2.5	14.0	68.8
	70	2.0	109.5	0.05%	0.3%	1.3%	7.2	2.2	11.8	56.6
	75	1.8	115.7	0.05%	0.3%	1.3%	6.5	1.8	10.0	49.8
TOTAL M&I	50	15.2	114.9	0.10%	0.5%	2.2%	56.3	34.7	178.2	730.7
INFERRED	25	0.01	28.8	0.07%	0.3%	1.6%	0.01	0.02	0.06	0.35
	35	0.00	0.0	0.00%	0.0%	0.0%	0.00	0.00	0.00	0.00
	45	0.00	0.0	0.00%	0.0%	0.0%	0.00	0.00	0.00	0.00

NOTES as per Table 40.

#### Table 42. Pit-constrained Mineral Resource Estimate by Zinc Cut-Off

Category	Zn Cut-off (%)	Tonnes (Mt)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ag (Mozs)	Cu (Mlbs)	Pb (MLbs)	Zn (Mlbs)
	4	17.1	26.9	0.02%	0.4%	9.5%	14.8	8.6	162.3	3,578.5
	6	11.9	22.3	0.02%	0.4%	11.5%	8.5	4.7	106.4	3,019.7
	8	8.6	19.3	0.02%	0.4%	13.3%	5.3	2.9	69.9	2,505.1
MEASUDED	10	6.2	15.8	0.02%	0.3%	15.0%	3.1	2.1	43.6	2,030.0
MEASURED	11	5.1	14.5	0.02%	0.3%	15.8%	2.4	1.7	34.0	1,794.8
	12	4.3	13.8	0.02%	0.3%	16.7%	1.9	1.4	27.6	1,586.5
	13	3.6	12.9	0.02%	0.3%	17.5%	1.5	1.2	21.2	1,381.2
	14	2.9	11.7	0.02%	0.2%	18.5%	1.1	1.0	15.3	1,170.8
	4	2.5	22.2	0.03%	0.3%	7.7%	1.8	1.5	17.6	417.0
	6	1.6	20.4	0.03%	0.3%	9.2%	1.0	0.9	11.1	317.0
	8	0.8	18.7	0.02%	0.3%	11.4%	0.5	0.3	5.8	200.8
INDICATED	10	0.4	19.2	0.02%	0.3%	13.7%	0.2	0.2	2.9	124.4
INDICATED	11	0.3	19.5	0.02%	0.3%	15.0%	0.2	0.1	2.0	98.1
	12	0.2	19.6	0.02%	0.3%	15.9%	0.2	0.1	1.6	83.1
	13	0.2	19.8	0.02%	0.3%	16.4%	0.1	0.1	1.3	74.3
	14	0.2	21.9	0.02%	0.3%	16.9%	0.1	0.1	1.1	65.3
TOTAL M&I	6	13.5	22.0	0.02%	0.4%	11.2%	9.6	5.6	117.5	3,336.6
	4	0.05	5.9	0.01%	0.2%	8.5%	0.01	0.01	0.2	9.97
INFERRED	6	0.04	6.5	0.01%	0.2%	9.6%	0.01	0.01	0.2	8.60
	8	0.03	5.7	0.01%	0.2%	11.0%	0.00	0.01	0.1	6.34

NOTES as per Table 40.

## **11.4.1 FACTORS THAT MAY AFFECT THE ESTIMATE**

It is the QP's opinion that the Mineral Resource block model is representative of the informing data and that the data is of sufficient quality to support the Mineral Resource Estimate.

Risk factors that could potentially affect the Mineral Resources estimates include:

- Assumptions used to generate the conceptual data for consideration of reasonable prospects of economic extraction including:
  - · long-term commodity price assumptions
  - · changes in local interpretations of mineralization geometry and continuity of mineralization zones
  - · metal recovery assumptions
  - · concentrate grade and smelting/refining terms.
- The estimated tonnage of mineralization to be mined may vary as infill drilling provides more detailed information about characteristics, thickness and continuity of grade in the deposit.
- Delays or other issues in reaching agreements with local communities
- · Changes in permitting requirements

It is the QP's opinion that technical factors that are likely to influence the prospect of economic extraction, including geological interpretations and metallurgical recovery, can be resolved through additional testwork and drilling. Issues related to existing agreements and permitting requirements believed to be able to be resolved.



# **12 MINERAL RESERVE ESTIMATES**

# **13 MINING METHODS**

# **15 INFRASTRUCTURE**

# **16 MARKET STUDIES**

# 17 ENVIRONMENTAL STUDIES, PERMITTING AND PLANS, NEGOTIATIONS OR AGREEMENTS WITH INDIVIDUALS OR GROUPS

# **20 ADJACENT PROPERTIES**

All of Silver Bull's holdings cover all the mineralized zones, and while the Sierra Mojada District and the Sierra Mojada property has been the subject of past production, there are currently no adjacent properties or operators publicly reporting resources or reserves.

The only commercial mining operation active within the area is the adjacent dolomite quarrying operation of Peñoles. The quarry has a small staff (<25) that work a five-day week, 8 hour day shift only, to produce material for their plant at Laguna del Rey. Waste rock is stockpiled on land that they have surface rights.

No information from adjacent properties was used in the completion of this report.

# **21 OTHER RELEVANT DATA AND INFORMATION**

On September 30, 2019 Silver Bull halted all work on the Sierra Mojada project due to a blockade by a cooperative of local miners called Sociedad Cooperative de Exploración Minera Mineros Norteños, S.C.L. ("Mineros Norteños").

Silver Bull has an agreement with Mineros Norteños on Unification de Minera Nortenos and Vulcano mineral licences which cover the eastern part of the Sierra Mojada deposit. These licences are subject to a 2% production royalty capped at US\$6.875 million ("the Royalty"). Payment would go to Mineros Norteños should a mine go into production.

Since 2014, Silver Bull had been fighting a lawsuit by Mineros Norteños seeking payment of the Royalty, including interest at a rate of 6% per annum since August 30, 2004, even though no revenue has been produced from the applicable mining concessions. Mineros Norteños also sought payment of wages to the Mineros Norteños members since August 30, 2004 under this agreement, even though none of the individuals were hired or performed work for Silver Bull under this agreement and Silver Bull did not commit to hiring them. On October 4, 2017, the court ruled that Mineros Norteños was time barred from bringing the case. On October 19, 2017, Mineros Norteños appealed this ruling. On July 31, 2019, the Federal Appeal Court held the original ruling. This ruling was been subsequently challenged by Mineros Norteños.

On March 31, 2021 Silver Bull announced it had won the law suit against Minera Nortenos and the courts agreed Silver Bull did not owe Minera Nortneos any royalty payments until the mine goes into production.

In an attempt to force Silver Bull into making a settlement before the final court ruling is issued on March 31, 2022, Mineros Norteños undertook to illegally block access to the project. To ensure the safety of all involved, Silver Bull elected to halt all operations on the project until a resolution can be found.

Despite the court ruling in its favor, and the fact that Silver Bull has at all times proceeded in accordance with the law, the Sierra Mojada project remains under an illegal blockade. To date the Mexican authorities have refused to intervene despite the blockade clearly being in violation of the law.

Silver Bull continues to engage in good faith dialogue with selected members from Minera Norteños to try and find a solution that facilitates the resumption of work on the project.

# 22.1 INTERPRETATIONS AND CONCLUSIONS

The alteration-mineralizing events have generated two types of mineralization in the Sierra Mojada district; The Shallow Silver Zone (SSZ) and the Base Metal Manto Zone (BMM). Mineralization in the Shallow Silver Zone is dominated by acanthite, the silver halide solid solution of bromargyrite-chloragyrite, and tennantite. Silver occurs in early to late high grade structures, karst breccias, low-angle fault breccias, and mantos, and as disseminated replacements in porous hydrothermally altered dolomites.

The Base Metal mineralization is dominated by hemimorphite in the Red Zinc zone and smithsonite in the White Zinc zone. Mineralization primarily occurs as replacement of karst breccia and accessory faults which feed the breccia zones. Nonsulfide Base Metal mineralization is a result of oxidation and supergene enrichment of an original zone of semi-to massive pyritesphalerite-galena ore largely located in the Lead zone manto mineralization.

The result is a silver (copper) rich polymetallic zone of mineralization overlaying a large non-sulfide zinc-lead resource, both forming a linear zone of manto shaped mineralization cross cut by mineralized structures. (Tuun & AFK 2015).

It is the QP's opinion that the Mineral Resource block model is representative of the informing data and that the data is of sufficient quality to support the Mineral Resource Estimate. The estimated tonnage of mineralization to be mined may vary as infill drilling provides more detailed information about characteristics, thickness and continuity of grade in the deposit.

# 22.2 DEPOSIT MODEL CONCLUSIONS

Sierra Mojada is a polymetallic Pb-Zn-Ag-Cu district and it represents the distal expression of Carbonate Replacement Deposit (CRD) mineralization which is well documented in northern Mexico. The Sierra Mojada district demonstrates a well-known base metal zoning pattern overprinted by silver mineralization. (*Tuun & AFK 2015*)

Silver Bull recognizes the importance of cross-cutting structures for fluid-flow and the resultant "chimney" effects seen in parts of the white zinc and red zinc zones. A better understanding of the major structures (e.g. Calabassos) will help to delineate future targets such as the Parreña. (*Tuun & AFK 2015*)

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## 22.3 RESOURCE MODELING CONCLUSIONS

Silver Bull Resources continues to employ state of the art exploration techniques at Sierra Mojada. All data collected is managed in Microsoft Excel or Access, and then transformed to a visual format in MapInfo. AutoCAD is also used for tracking mineral leases, surface and claim boundaries and locating shafts and adits.

The current Mineral Resource utilizes a single wireframe that encompasses the carbonate replacement deposit. This eliminates "hard boundaries" and allows more samples to be available for estimation. Conceptual pit shells generated to demonstrate "reasonable prospects for economic extraction" were primarily driven by zinc resources. This further highlights the importance of the deeper zinc zones at Sierra Mojada.

# **23RECOMMENDATIONS**

The authors recommend the next phase work program for Silver Bull Resources to consider on the oxide mineralization should include:

- · Complete additional metallurgical test work on both the silver and the zinc to confirm recovery parameters.
- · Consider a pilot-plant program to prove the viability of the selected process
- The next phase work program should include geotechnical drilling to confirm appropriate slope angles for future open pit design work.
- · Continue underground diamond drill work for improved interpretation and modeling of domains.
- · Detail power and water sources, requirements, and begin all permitting processes.
- · Examine the potential of the silver and zinc zones as stand-alone minable resources.
- · Conduct a Preliminary Economic Assessment (PEA).
- Continue to explore the property with an emphasis on targeting potential sulphide targets.

The Authors estimates that the total cost of the next phase work program is approximately US\$2.0M.

#### Table 43. Estimated Cost of Recommended Work Programs

Item	Cost in US\$
Drilling of 5,000 meters (Exploration; geotechnical; metallurgical)	1,000,000
Geotechnical analysis (equipment rentals; collection; analysis)	500,000
Hydrological packer testing ( 8 @ ~\$2500 each)	20,000
Metallurgical testing –SART and Zinc process	200,000
Preliminary Economic Analysis study	300,000
Subtotal	\$2,020,000

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## **25 RELIANCE ON INFORMATION BY THE REGISTRANT**

This report was prepared as a S-K 1300 Technical Report for Silver Bull Resources Inc. The quality of information, conclusions and estimates contained herein is based on: (i) information available at the time of preparation; (ii) data supplied by outside sources, and (iii) the assumptions, conditions and qualifications set forth in this report.

The Authors have no reason to believe that Silver Bull have not acted in good faith providing this information, but the authors are not qualified to evaluate legal title matter. The property description presented in this report is not intended to represent a legal, or any other opinion as to title.

Silver Bull Resources Inc. is authorized to file this report as a Technical Report with the Securities Exchange Commission ("SEC") pursuant to securities legislation. Except for the purposes legislated under securities law, any other use of this report by any third party is at that party's sole risk.

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## **26 DATE AND SIGNATURE PAGE**

This report titled "S-K1300 SUMMARY TECHNICAL REPORT on the RESOURCES of the SILVER-ZINC SIERRA MOJADA PROJECT COAHUILA, MEXICO" with an effective date of January 24, 2023 was prepared and signed by:

Archer Cathro & Associates Ltd. (Sections 1,2,3, 9 & 11) ("signed and sealed) Archer Cathro & Associates Ltd.

And

Timothy Barry, Silver Bull Resources Inc. (Sections 1-8, 10, 20 and 21) ("signed and sealed) Silver Bull Resources Inc.

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