



**MANDALAY RESOURCES**

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**MANDALAY RESOURCES CORPORATION**

Annual Information Form

March 28, 2019

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SCHEDULE A

## 1. ABOUT THIS ANNUAL INFORMATION FORM

The information in this Annual Information Form is presented as at December 31, 2018, unless otherwise indicated, and except for information in documents incorporated by reference that has a different date. All dollar amounts in this Annual Information Form are in US dollars, unless indicated otherwise. In this Annual Information Form, references to the “Corporation” or “Mandalay” refer to Mandalay Resources Corporation and its subsidiaries, unless the context otherwise requires or indicates.

## 2. FORWARD-LOOKING STATEMENTS

Forward-looking statements look into the future and provide an opinion as to the effect of certain events and trends on the business. Forward-looking statements may include words such as “plans”, “intends”, “anticipates”, “should”, “estimates”, “expects”, “believes”, “indicates”, “targeting”, “suggests”, “continue”, “may”, “will” and similar expressions. Forward-looking statements include, but are not limited to: statements with respect to the future price of gold (“Au”), silver (“Ag”), antimony (“Sb”) and other metals as well as foreign exchange rates; the estimation of Mineral Reserves and Resources and the related results and timing of such estimates; the performance of Mineral Reserve estimates in predicting amount and quality of ore actually mined; the timing and amount of estimated future production, costs of production, capital expenditures; estimates of expected sales volumes and associated operating and capital costs for its silver and gold production; costs and timing for the development of new deposits; success of exploration activities; and environmental permitting timelines. This Annual Information Form contains forward-looking statements about the Corporation’s objectives, strategies, financial condition and results, as well as statements with respect to management’s beliefs, expectations, anticipations, estimates and intentions. These forward-looking statements are based on current expectations and various factors and assumptions. Accordingly, these statements entail various risks and uncertainties.

The material factors and assumptions that were applied in making the forward-looking statements in this Annual Information Form include, among others: execution of the Corporation’s existing production, capital, and/or exploration plans for each of its properties, which may change due to changes in the views of the Corporation or if new information arises which may make it prudent to change such plans or programs; the accuracy of current interpretation of drill and other exploration results or new information or interpretation of existing information which may result in changes in the Corporation’s expectations; and the Corporation’s ability to continue to obtain qualified staff and equipment in a timely and cost-efficient manner to meet demand.

It is important to note that:

- Unless otherwise indicated, forward-looking statements in this Annual Information Form describe management’s expectations as at the date of this Annual Information Form.
- Readers are cautioned not to place undue reliance on these statements as the Corporation’s actual results may differ materially from its expectations as unknown risks or uncertainties may affect its business or estimates or assumptions may prove to be inaccurate. Therefore, no assurance can be provided that forward-looking statements will materialize.
- The Corporation assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or for any other reason, except as may otherwise be required pursuant to applicable laws.

For a description of material factors that could cause actual results to differ materially from the forward-looking statements in this Annual Information Form, see “Risk Factors”.

### 3. TECHNICAL INFORMATION

Technical information provided herein for the Costerfield gold-antimony mine (“**Costerfield**”), the Cerro Bayo silver-gold mine (“**Cerro Bayo**”) and the Björkdal gold mine (“**Björkdal**”) is based upon information contained in the technical reports in respect of the properties, prepared pursuant to National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (“**NI 43-101**”) (each, a “**Technical Report**” and collectively, the “**Technical Reports**”).

The technical report in respect of Björkdal entitled “Technical Report on the Björkdal Gold Mine, Sweden” and dated March 28, 2019 (the “**Björkdal Technical Report**”) was prepared by Roscoe Postle Associates Inc. (“**RPA**”) and the Mineral Resource Estimate was carried out under the supervision of Reno Pressacco, M.Sc.(A.), P.Geo., Principal Geologist and an employee of RPA and independent of Mandalay Resources Corporation. He is a Qualified Person for the purpose of NI 43-101. The Mineral Resource Estimates for Norrberget were carried out under the supervision of Jack Lunnon, CGeol, Senior Geologist and an employee of RPA and independent of Mandalay Resources Corporation. He is a Qualified Person for the purpose of NI 43-101. The Mineral Reserve Estimate was carried out under the supervision of Ian Weir, P. Eng., Senior Mining Engineer (for open pit reserves) and Derek Holm, FSAIMM, Senior Mining Engineer (for underground reserves). Both are employees of RPA and are independent of Mandalay Resources Corporation. Both are Qualified Persons under NI 43-101. Kathleen Ann Altman Ph.D., (P.E.), Principal Metallurgist, an employee of RPA and independent of Mandalay Resources Corporation was also an author on the report. The report was filed on March 28, 2019.

The technical report in respect of Costerfield, entitled “Costerfield Operation, Victoria, Australia, NI 43-101 Report” dated and filed on February 6, 2019 (the “**Costerfield Technical Report**”), was prepared by SRK Consulting (Australia) Pty Ltd. (“**SRK**”), authored by Anne-Marie Ebbels, BEng (Mining), MAusIMM(CP), Principal Consultant; Simon Walsh, BSc (Extractive Metallurgy & Chemistry), MBA (Hons), MAusIMM (CP), GAICD, Associate Principal Consultant (Metallurgy) and Danny Kentwell, MSc Mathematics and Planning (Geostatistics), FAusIMM, Principal Consultant, all independent Qualified Persons under NI 43-101.

The technical report in respect of Cerro Bayo, entitled “Technical Report on the Cerro Bayo Project, Region XI (Aisén), Chile” dated March 21, 2017 (the “**Cerro Bayo Technical Report**”), was prepared by RPA, authored by Normand L. Lecuyer, P.Eng. and Rosmery Julia Cárdenas Barzola, P.Eng., both independent Qualified Persons under NI 43-101, and filed on March 31, 2017.

The technical information contained in this Annual Information Form with respect to Björkdal, Costerfield, and Cerro Bayo has been summarized from the Technical Reports. All summaries and references to Technical Reports are qualified in their entirety by reference to the complete text of the applicable Technical Report, which can be found under the Corporation’s profile at [www.sedar.com](http://www.sedar.com).

### 4. CORPORATE STRUCTURE

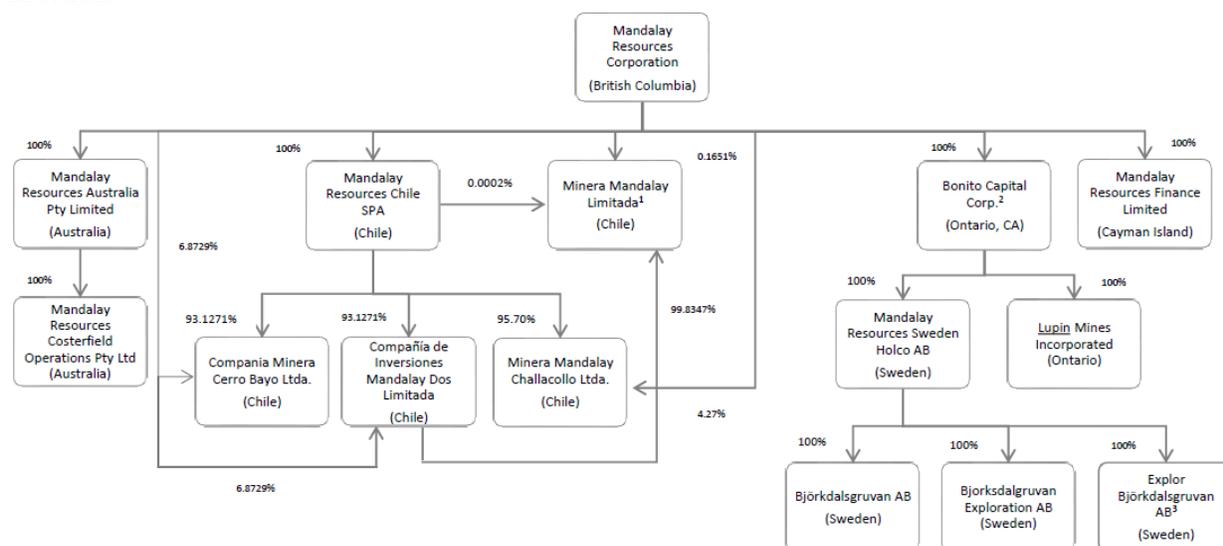
#### 4.1 Name, Address and Incorporation

The Corporation was incorporated on January 29, 1997, as Mandalay Resources Corporation under the *Business Corporations Act* (British Columbia) (“**BCBCA**”). The Corporation’s principal business is the exploration, development, and mining of natural resource properties.

The Corporation’s registered office is located at 355 Burrard Street, Suite 1900, Vancouver, British Columbia, Canada, V6C 2G8. The Corporation’s head office is located at 76 Richmond Street East, Suite 330, Toronto, Ontario, Canada, M5C 1P1.

## 4.2 Intercorporate Relationships

The following chart illustrates the structure of the Corporation as at the date of this Annual Information Form. The chart shows the jurisdiction of incorporation of each active subsidiary and the percentage of voting securities beneficially owned by the Corporation or over which the Corporation has control or direction.



Mandalay Resources Australia Pty (“**MRA**”), formerly Australian Gold Development (“**AGD**”), is a private Australian company that operates Costerfield. All of the issued and outstanding securities of its predecessor company, AGD, were acquired by Mandalay from Cambrian Mining Limited, a wholly-owned subsidiary of Western Coal Corp. and an arms’ length third party of the Corporation on December 1, 2009. AGD was renamed MRA in February 2013. MRA is governed by the laws of *The Corporations Act 2001* (Australia). MRA owns 100% of the voting securities of its sole subsidiary, Mandalay Resources Costerfield Operations Pty (“**Costerfield Operations**”). Costerfield Operations is governed by the laws of *The Corporations Act 2001* (Australia).

Mandalay Resources (Chile) SPA (“**Mandalay Chile**”) is a private Chilean company, incorporated by Mandalay under the laws of Chile on March 15, 2010. The Corporation owns a 100% interest in Mandalay Chile and a 0.1651% interest in Minera Mandalay Limitada (“**MML**”), a private company, incorporated under the laws of Chile on April 12, 2010. Mandalay Chile owns a 0.0002% interest in MML with Compañia de Inversiones Mandalay Dos Limitada (“**CIM**”) owning 99.8347%. CIM is a private Chilean company, incorporated under the laws of Chile on September 7, 2018 and is owned 93.1271% by Mandalay Chile with the Corporation owning the remaining 6.8729% interest. Compania Minera Cerro Bayo Limitada (“**Minera Cerro Bayo**”) is a private Chilean company that operates Cerro Bayo and was acquired by Mandalay from Coeur d’Alene Mines Corporation (“**Coeur**”) and Coeur South America Corp. on August 6, 2010. Minera Cerro Bayo is governed by the laws of Chile and is owned 93.1271% by Mandalay Chile with the Corporation owning the remaining 6.8729% interest. Minera Mandalay Challacollo Limitada is owned 95.70% by Mandalay Chile with the Corporation owning the remaining interest of 4.30%.

Minera Mandalay Challacollo S.A. (“**Mandalay Challacollo**”), formerly Minera Silver Standard Chile S.A. (“**MSSC**”), a private Chilean company that owns Challacollo, was acquired by Mandalay from Silver Standard Resources Inc. (“**SSRI**”) and Silver Standard Ventures Inc. on February 7, 2014. MSSC was

renamed Minera Mandalay Challacollo Ltda. on February 7, 2014. Mandalay Challacollo is governed by the laws of Chile.

Mandalay acquired all of the issued and outstanding shares of Elgin Mining Inc. (“**Elgin Mining**”) on September 10, 2014, in a court-approved plan of arrangement. Elgin Mining was a public company listed on the Toronto Stock Exchange (the “**TSX**”). After the acquisition of Elgin Mining by Mandalay, Elgin Mining was delisted and continued as a private company organized under the BCBCA. In connection with the transaction, 2433119 Ontario Inc. was incorporated as a wholly-owned subsidiary of Mandalay on September 8, 2014. Following the acquisition, 2433119 Ontario Inc. was continued as a BCBCA company under the name Mandalay Elgin Holdings Inc. Effective March 31, 2016, Elgin Mining and Mandalay Elgin Holdings Inc. were amalgamated. Mandalay Elgin Holdings Inc. directly owned 100% of Bonito Capital Corp. Effective February 23, 2017, Mandalay Elgin Holdings Inc. and Bonito Capital Corp. were amalgamated. Bonito Capital Corp. directly owns 100% of Lupin Mines Incorporated, which owns mining interests in Nunavut, Canada. Bonito Capital Corp. also directly owns Mandalay Resources Sweden Holco AB, which was incorporated in 2015 and is governed by the laws of Sweden. Mandalay Resources Sweden Holco directly owns Björkdalsgruvan, Björkdal Exploration AB and Explor Björkdalsgruvan AB, which was formed to hold the tenements for the Norrliden Joint Venture signed May 26, 2017. These entities are governed by the laws of Sweden, and which own and operate the Björkdal mine in Sweden.

Mandalay Resources Finance Limited (“**Mandalay Finance**”) was incorporated on April 7, 2014, as an exempted company in the Cayman Islands with limited liability. Mandalay Finance is a wholly-owned subsidiary of the Corporation and was incorporated to be the borrower in connection with a five-year, \$60 million, 5.875% debt financing with Gold Exchangeable Limited (“**GEL**”), an unaffiliated special purpose vehicle incorporated in Jersey. The debt financing proceeds were raised by way of a concurrent offering (the “**Bond Offering**”) of senior exchangeable bonds (the “**Bonds**”) issued by GEL. Mandalay Finance borrowed the proceeds of the Bond Offering from GEL under the terms of a loan agreement and related funding agreement which together mirrored the principal terms of the Bonds. The debt financing with GEL was to help fund the acquisition of Elgin Mining, and to support the development of the Challacollo project.

## **5. GENERAL DEVELOPMENT OF THE BUSINESS**

### **5.1 Three Year History**

Since 2016, the Corporation has been focused on production and exploration at its Björkdal, Cerro Bayo and Costerfield properties. As of June 2017, the Company was producing from its Björkdal and Costerfield operations.

#### **2016**

On February 29, Mandalay announced its year-end 2015 Mineral Reserves and Resources. In the Proven and Probable Reserve category, contained Au decreased by 1%, contained Ag declined by 13% and contained Sb increased by 21%. In the Measured and Indicated Resource category, contained Au decreased by 1%, contained Ag decreased by 5%, contained Sb increased by 6% and contained Cu was unchanged. All changes were net of mine depletion at year-end 2015.

On March 23, the Corporation announced that Brad Mills, Chief Executive Officer of the Corporation, would be transitioning to Executive Chairman of the board of directors (the “**Mandalay Board**”). In his new role, Mr. Mills continued to be directly involved in Mandalay’s strategic direction and operations. Mark Sander, previously President of Mandalay Resources, replaced Mr. Mills. Concurrently, Braam Jonker, who was serving as Chair of the Mandalay Board, assumed the role of lead independent director. In connection with his appointment as President and CEO, Dr. Sander was also appointed to the Mandalay Board. The Corporation announced that Sanjay Swarup would not stand for re-election to the Mandalay

Board and would continue in his role as Chief Financial Officer. Anthony (Tony) Griffin, a partner at West Face, announced his intention to not stand for re-election to the Mandalay Board and stepped down from the Mandalay Board, effective March 23.

On May 24, 2016 Amy Freedman was appointed to the Mandalay Board to serve as independent director. Ms. Freedman was also named to the Mandalay Board's Audit Committee, replacing Peter R. Jones, who was serving on an interim basis.

On July 26, Mandalay announced the closing of a treasury offering of 33,915,000 Common Shares at a price of CDN\$1.15 per Common Share for gross proceeds of CDN\$ 39,002,250. The Offering was completed on a bought deal basis and was underwritten by BMO Capital Markets.

On September 11, the Corporation announced a fatality at Cerro Bayo. Operations were immediately suspended and the Corporation worked closely with the authorities, employees, and the mining contractor, which was the employer of the deceased, to respond effectively. Operations at Cerro Bayo resumed in Delia NW and SE as well as at the plant on September 19; mining resumed in Coyita on October 12.

On December 15, Mandalay announced an update to its Mineral Reserves and Resources for Björkdal. In the Proven and Probable Mineral Reserve category, contained Au increased by 40%. In the Measured and Indicated Resource category, contained Au increased by 52%. All changes were net of mine depletion from December 31, 2015 to September 30, 2016.

## 2017

On February 23, Mandalay announced its year-end 2016 Mineral Reserves and Resources. In the Proven and Probable Reserve category, contained Au increased by approximately 10%, contained Ag declined by 40% and contained Sb decreased by 7%. In the Measured and Indicated Resource category, contained Au increased by 15%, contained Ag decreased by 14%, and contained Sb decreased by 16%. Contained Cu was unchanged. All changes were net of mine depletion at year-end 2016.

On April 10, the Corporation announced that Brad Mills, Executive Chairman of the Corporation, would be transitioning to Chairman of the Mandalay Board. The Corporation also announced that Belinda Labatte would serve as Chief Development Officer (previously Head of Stakeholder Engagement & Corporate Affairs), Chris Gregory would serve as Vice President, Operational Geology and Exploration (previously Vice President Operational Geology and Chief Shield Geologist), Andre Booyzen would serve as Vice President, Leadership Development, Performance & Sustainability (previously General Manager, Costerfield), Melanie McCarthy would serve as General Manager of Costerfield, Pär Göting would serve as General Manager of Björkdal, and Jasmine Virk would serve as Director, Corporate Affairs and Corporate Secretary (previously Director, Corporate Affairs).

On May 24, the Corporation announced that GEL completed a revised repurchase offer and consent solicitation in respect of the Bonds whereby GEL agreed to purchase \$29,950,000 in principal amount of the Bonds from the holders thereof, at a price of 105% of their principal amount plus accrued and unpaid interest at the rate of 6.875% per annum for the period from (and including) May 13, 2017 to (but excluding) May 26, 2017. In connection with the revised repurchase offer and consent solicitation, the following amendments have been made to the terms of the Bonds:

- extending the maturity date of the Bonds to May 13, 2022;
- removing a condition of the Bonds, which commencing on May 14, 2017, and as additional security for the Bonds, required GEL to start depositing, the aggregate number of shares of the SPDR Gold Trust issuable upon exchange of the Bonds into a custody account;

- adding a covenant to the Bonds which requires GEL offers to repurchase a proportion of the Bonds outstanding at the relevant time if and to the extent that the contained gold equivalent (in ounces) at Costerfield falls below (initially) 232,000 gold equivalent ounces;
- increasing the interest rate payable on the Bonds from 5.875% per annum to 6.875% per annum; and
- reducing the exchange price of the Bonds from \$149.99 to \$135.00.

On June 9, Mandalay announced that a flooding event occurred in which the Delia 2 ramp section of the Delia NW mine of the Corporation's Cerro Bayo property was completely inundated (the "**Inundation Event**"). Two Mandalay employees were working in this section of the mine at the time of the incident. Mine rescue efforts were immediately initiated but were unsuccessful. Mining operations at Cerro Bayo were suspended immediately as the Corporation worked with authorities to respond effectively.

On June 30, the Corporation announced that Cerro Bayo had commenced giving notice of force majeure to the primary customers, suppliers and contractors of the mine due to the Inundation Event. The notice suspends Cerro Bayo's obligations under the relevant contracts.

On July 25, the Corporation announced that it had entered into a senior secured revolving credit facility with HSBC Bank Canada for up to \$40 million (the "Facility"). The Facility matures on July 24, 2020. Proceeds from the Facility will be used for working capital, capital expenditures, permitted acquisitions and other general corporate purposes. Amounts drawn on the Facility bear interest at LIBOR plus 3.5%-4.5% per annum or at HSBC's "base rate" plus 2.5%-3.5%, depending on the Corporation's leverage ratio. The undrawn portion of the Facility is subject to a standby fee of 1.0% per annum. One of the covenants of the Facility is a prohibition on the payment of dividends by the Corporation without HSBC's consent. As a result, the Corporation suspended its dividend.

On September 29, Mandalay announced that it had moved to care and maintenance status at its Cerro Bayo operation and that the workforce would be substantially reduced in order to preserve the Corporation's financial capacity to invest in restart applications.

In the fourth quarter of 2017 Mandalay achieved compliance with certain reclamation bonding requirements for the Lupin project that were imposed in 2016 and that resulted in non-completion of a sale of the Lupin and Ulu gold projects to WPC Resources Inc. ("**WPC**"). Mandalay disclosed that following compliance with the reclamation bonding requirements, the Corporation entered into two separate non-binding letters of intent with WPC that contemplate the acquisition of the Lupin and Ulu gold projects on substantially the same terms, in the aggregate, as the earlier definitive agreement and that Mandalay has subsequently entered into a definitive agreement with WPC with respect to the Ulu property and is negotiating a definitive agreement with WPC with respect to the Lupin property.

## **2018**

On April 3, Mandalay announced multiple high-grade drill intercepts defining the core of the emerging Youle vein beneath the historical Costerfield mine in Victoria, Australia. The drill hole intercepts of Youle reported in this press release contain gold and antimony grades that dilute to potentially minable gold equivalent grades over the minimum mining width of 1.8 m. As well, the strike length (400-600 m) and depth extent (150-200 m) of the intercepts are noted to be consistent with the dimensions of orebodies found beneath the other historic mines in the district.

On May 14, Mandalay announced the resignation of Dr. Mark Sander as President, Chief Executive Officer and Director of the Corporation. Dominic Duffy was subsequently appointed as the new President and Chief Executive Officer.

On August 1, Mandalay announced that it had entered into a non-binding letter of intent with Aftermath Silver (“**Aftermath**”) (TSX-V: AAG.H) pursuant to which Aftermath will acquire Minera Mandalay Challacollo Limitada (“**MMC**”), which currently owns the Challacollo silver-gold project located in Region I (Tarapaca) of Chile in exchange for total consideration of CAD\$11,625,000.

On August 15, Mandalay announced changes to its senior management team. Nick Dwyer, the group financial controller of the Company, was appointed as Chief Financial Officer. Mr. Dwyer replaces Sanjay Swarup, who announced his resignation in conjunction with Mr. Dwyer’s appointment. The Company combined the Group Financial Controller and Chief Financial Officer positions. In addition, Ryan Austerberry was appointed as General Manager of Björkdal, previously holding the position of Manager Technical Services. Mr. Austerberry replaces Pär Göting. With Mr. Austerberry’s promotion, the Company eliminated the position of Manager, Technical Services.

## 2019

On February 20, Mandalay closed an underwritten marketed public offering of subscription receipts (the “**Subscription Receipts**”) at a price of CAD\$0.12 per Subscription Receipts (the “**Offering Price**”). A total of 359,400,000 Subscription Receipts were sold for gross proceeds of approximately CAD\$43 million (the “**Public Offering**”), which included a partial exercise of the over-allotment option granted by the Corporation to the underwriters.

Concurrent with the closing of the Public Offering, the Corporation also closed an \$8 million convertible bridge loan (the “**Bridge Loan**”, and together with the Offering, the “**Financing**”) from an affiliate of CE Mining Fund III L.P. (“**CE Mining**”), an investment fund advised by Plinian Capital Limited, which is controlled by Brad Mills, Chairman of Mandalay’s board of directors.

The Subscription Receipts were issued pursuant to a subscription receipt agreement. The gross proceeds of the Public Offering less 50% of the underwriters’ commission payable in connection with the Public Offering (the “**Escrowed Proceeds**”), are being held in escrow in an interest-bearing account with Computershare Trust Company of Canada, as subscription receipt agent. Upon satisfaction or waiver of certain escrow release conditions (the “**Escrow Release Conditions**”), including the receipt of all required shareholder approvals at a special meeting of Mandalay’s shareholders to be held March 29, 2019 (the “**Special Meeting**”), the remaining 50% of the underwriters’ commission and the underwriters’ expenses will be released to the underwriters, the remaining Escrowed Proceeds will be released to the Corporation and each Subscription Receipt will be exchanged for one Common Share, subject to adjustment in certain circumstances.

If the Escrow Release Conditions are not satisfied by April 30, 2019, holders of the Subscription Receipts will receive an amount per Subscription Receipt equal to the Offering Price together with a pro-rata share of any interest earned on the Escrowed Proceeds. If the Escrowed Proceeds (plus accrued interest) are not sufficient to make such payment, the Corporation will contribute such amounts as are necessary to satisfy any shortfall.

The Bridge Loan has a term of one year, bears interest at a rate of 10% and, following the Special Meeting, will be convertible at CE Mining’s option into Common Shares at a price per share equal to CAD\$0.108, subject to adjustment. If the Escrow Release Conditions are satisfied, the Bridge Loan will automatically be converted into Common Shares concurrently with the exchange of Subscription Receipts for Common Shares. For further details regarding the terms of the Bridge Loan, please refer to the Corporation’s February 11, 2019 press release.

In connection with the closing of the Bridge Loan, the Corporation obtained a waiver from HSBC under the Facility. HSBC has waived any current breaches of the Facility by the Corporation as well as any failure

by the Corporation to comply with the financial covenants set out in the Facility as at December 31, 2018 and March 31, 2019. Notwithstanding these waivers, the Corporation is not permitted to draw any further amounts under the Facility until it is in compliance with the financial covenants. In addition, from and after the date on which the Escrow Release Conditions are satisfied or waived, the aggregate of any undrawn portion of the Facility (which is currently \$5 million) plus the aggregate of the Corporation's unrestricted cash (as defined under the Facility) must at all times be not less than \$10 million. As a result of this additional requirement, CE Mining has agreed to amend the terms of the Bridge Loan such that the amount of the proceeds of the Financing that the Company must hold in reserve in respect of its obligations under the Bonds issued by GEL from \$20 million to \$15 million.

The net proceeds of the Financing are intended to fund working capital requirements (including capital development work at Costerfield, and tailings upgrade and capital development requirements at Björkdal), debt restructuring (including establishing a cash reserve relating to the \$24.1 million principal amount outstanding of senior exchangeable gold bonds); future planned exploration activities at high potential areas including at Costerfield, the Youle lode and deeper hole targets, and the emerging Aurora Zone at Björkdal; and for general corporate purposes.

## **5.2 Significant Acquisitions**

The Corporation made no significant acquisitions during the year ended December 31, 2018.

## **6. DESCRIPTION OF THE BUSINESS**

### **6.1 General Description**

Mandalay is a Canadian-based mining company whose business is to acquire or discover, and thereafter develop, mineral projects with the goal of producing mineral commodities. The Corporation seeks to create shareholder value through the acquisition of advanced or producing mineral properties at discounts to the value that management believes can be delivered through the application of new exploration insight, mining strategies, process optimization, maintenance improvements, modernization and recapitalization of operations and/or operating discipline. Once in the portfolio, projects or operations are managed for optimising near-term cash flow and life-of-project net present value subject to strong safety, health, and environmental policies. The Corporation seeks to grow, and increase its capacity to grow, by developing a critical mass of cash flowing operating assets and technically experienced personnel.

The Corporation's management team consists of seasoned professionals with track records of strong leadership, management integrity, and delivery of value to their shareholders, employees, and communities. The Corporation is focused on commodities in which management has extensive experience, such as Au, Ag, Sb, and other base metals. The Corporation operates and has interests in countries that have a long-standing tradition of mining, low political risk and clear legal frameworks for tenure and taxation. Today, these jurisdictions include Australia, Chile and Sweden.

### **6.2 Material Properties**

Mandalay currently owns 100% interests in two producing assets – Costerfield, Australia (producing Au and Sb) and Björkdal, Sweden (producing Au), and one asset on care and maintenance – Cerro Bayo, Chile (Ag and Au).

The Corporation's material properties are Costerfield, Cerro Bayo, and Björkdal. Costerfield, acquired as a shut-in operation, was initiating the restart of production in the third quarter of 2009 shortly before Mandalay acquired ownership on December 1, 2009. Björkdal was acquired as an operating mine by the Corporation in September of 2014. Cerro Bayo, also acquired as a shut-in operation, was restarted in the

third quarter of 2010, soon after acquisition by Mandalay, with commercial production commencing during the first quarter of 2011. The Cerro Bayo operation was placed on care and maintenance in September 2017 following the Inundation Event. The Corporation is working on technical studies permitting authorizations required for a resumption of operations.

### **6.3 Risk Management Systems**

In 2014, Mandalay adopted a risk management system that consists of a bottom-up and top-down risk management process for the Corporation, with the goal of, at the time, identifying, managing, and reducing overall operational, financial and strategic risks faced by the Corporation. The identified risks, risk managers and action plans were tracked on Mandalay's risk register. The key achievements of this process include risk profiles and individual risk records for the Corporation as a whole, Costerfield Operations, Cerro Bayo Operations, Challacollo Operations and Björkdal Operations. In 2015, Mandalay updated the risk management system across the Corporation as a whole, and integrated new management actions into the strategic planning and budgeting process. The risk management system continues to be reviewed and updated.

In addition, KPMG, the Corporation's third party internal auditors, is tasked with a risk-based internal audit process which was initiated in 2015. In 2018, KPMG reviewed Mandalay's operational and environmental permit compliance. As of December 31, 2018, there were four internal audit actions with agreed timelines for implementation that arose from the 2018 audits. Going forward KPMG will be used selectively, and Mandalay is reviewing a more efficient risk management process for the size of the business.

#### *Insurance*

As part of its risk management system, the Corporation initiated a process in 2015 to standardize and consolidate site insurance policies into a global platform with a single broker coordinating policies, Marsh & McLennan Companies. The comprehensive general liability insurance, cargo insurance, cybersecurity and crime insurance were confirmed in December 2015, with the insurance coverage for property & machinery breakdown confirmed in January 2016. The global insurance coverage was renewed in 2017 & 2018. Although Mandalay maintains insurance in amounts that it believes to be reasonable, the Corporation's insurance might not cover all the potential risks associated with its business. The Company may be unable to maintain insurance to cover certain risks at economically feasible premiums or insurance coverage may not continue to be available or may not be adequate to cover any resulting liability.

### **6.4 Products, Customers, and Distribution**

As of the date of this Annual Information Form, the Corporation has over eight years of production and sales history at Costerfield since it was acquired on December 1, 2009. Costerfield produces two different concentrates: an Au-Sb concentrate and a gravity Au concentrate. The Au-Sb concentrate is sold to the operation's principal customer, Zhongnan Tungsten and Antimony Trading Company. The Au concentrate is sold to CPG Group Pty. Ltd., based in Melbourne, Victoria, Australia.

As of the date of this Annual Information Form, the Corporation has over six years of mine production and sales history from Cerro Bayo. Prior to the suspension of operations following the Inundation Event, Cerro Bayo produced a single Ag-Au concentrate for three Asian customers: Dowa Mining and Metals Corporation in Japan, Pan Pacific Copper Corporation in Japan, and LS Nikko in South Korea.

As of the date of this Annual Information Form, the Corporation has over four years of production and sales history at Björkdal. Björkdal produces four different products: a gravity Au concentrate, a Knelson Au concentrate, a middling Au concentrate, and an Au flotation concentrate. The majority of concentrate sales

are to two customers: Aurubis AG in Germany and Boliden Commercial AB in Sweden. Björkdal has also sold some concentrate in the spot market to customers in Europe and Asia.

## **6.5 Revenues**

Revenue for the financial year ended December 31, 2016 was \$185,543,000. The decrease in revenue was due to lower production volumes sold at Cerro Bayo, partially offset by higher sales at Björkdal and higher metal prices during 2016.

Revenue for the financial year ended December 31, 2017 was \$162,997,000. The decrease in revenue was due to lower production volumes sold at Cerro Bayo which had only six months of production, partially offset by higher sales at Björkdal.

Revenue for the financial year ended December 31, 2018 was \$112,168,000. The decrease in revenue was due to lower production volumes sold at Costerfield and Björkdal.

## **6.6 Competitive Conditions**

The mineral exploration and mining industry is extremely competitive. The Corporation competes globally with mining companies for the acquisition and development of mineral concessions, claims, leases and other interests. The Corporation also competes for smelter capacity for its concentrates and the recruitment and retention of qualified employees and consultants. The prices for the Corporation's products are set in large highly competitive global markets where Mandalay is a very small producer. See "*Risk Factors – Competition*" for further discussion.

## **6.7 Cyclicity and Seasonality**

The Corporation's business and operations are not seasonal, as demand for and pricing of the Corporation's mineral commodities fluctuate throughout the year. All of the Corporation's properties can be and are operated year-round.

Demand for and the pricing of mineral commodities the Corporation produces are volatile and affected by numerous social, political, economic, and event-driven factors beyond the Corporation's control. These factors impact different commodities in different ways. For example, Au, as a traditional store of value, is affected differently than an industrial metal such as Sb. The interaction of supply and demand for mineral commodities leads to periods of high and low metal prices related to high and low metal inventories. Varied interpretations of "price cycles" are common, with the tops and bottoms of cycles often only apparent in hindsight. See "*Risk Factors – Fluctuations in the Market Price of Mineral Commodities*" for more discussion.

## 6.8 Employees and Contractors

As at January 1, 2019, the Corporation had a total of 460 employees and 235 contractors, as further described in the chart below.

	<b>Employees</b>	<b>Contractors</b>	<b>Total</b>
Executive <sup>(1)</sup>	9	0	9
Björkdal	215	156	371
Cerro Bayo	31	18	49
Costerfield	203	61	264
Challacollo	1	0	1
Santiago Shared Services	1	0	1
<b>Total</b>	<b>460</b>	<b>235</b>	<b>695</b>

1. Includes business development staff and exploration staff not specifically assigned to the Corporation's projects.

## 6.9 Stages of Development

### 6.9.1 Producing Stage – Björkdal

From September 10, 2014 (the date on which the Corporation acquired Björkdal), to the date of this Annual Information Form, the Corporation has been engaged in the following activities with respect to Björkdal:

1. accelerating wide-spaced and infill drilling while reducing the previous practice of expensive exploration by large-scale drifting across and on veins;
2. implementing a more detailed block modeling method involving triangulation of all the veins to allow for more detailed resource and reserve tonnes, grade estimation, and subsequent improved mine design and scheduling;
3. implementing grade control measures in the underground mine including production optimization, infill diamond drilling, and channel sampling of all ore development headings with the primary objective to increase the underground feed grade by more selective mining;
4. implementing blast movement monitoring technology into the open pit for improved open pit grade control;
5. implementing the first phase trial of low-grade ore sorting program (crushing and screening);
6. completing the flotation expansion project in 2017 on time and on budget;
7. lowering the level spacing in the underground mine, allowing for better control of the stopes and reduction in dilution; and
8. Exploration drilling of the Aurora zone and higher-grade vein structure in the most northern extent of the known underground operations.

The following table summarizes 2018 production, sales, capital, and costs at Björkdal:

	Unit	Year ended December 31, 2018	Quarter ended December 31, 2018	Quarter ended September 30, 2018	Quarter ended June 30, 2018	Quarter ended March 31, 2018
<b>Mining Production and Mining Cost</b>						
Operating development	m	4,229	1,258	1,033	783	1,155
Mined ore	t	1,125,128	267,266	253,503	289,468	314,891
Ore mined Au grade	g/t	1.33	1.32	1.18	1.34	1.43
Mined contained Au	oz	47,942	11,344	9,655	12,463	14,480
Mining cost per tonne ore	\$/t	27.96	32.33	26.26	26.09	27.34
<b>Processing and Processing Cost</b>						
Processed ore	t	1,251,453	319,232	325,973	315,792	290,456
Mill head grade Au	g/t	1.30	1.17	0.94	1.56	1.55
Recovery Au	%	88.93	89.56	88.27	89.99	89.73
Concentrate produced	dry t	4,814	1,080	872	1,431	1,431
Concentrate grade Au (average of 4 concentrates)	g/t	295	302	303	305	276
Saleable Au produced	oz	45,721	10,482	8,504	14,017	12,716
Processing cost per tonne ore	\$/t	7.85	8.22	6.15	7.53	9.68
<b>Sales</b>						
Concentrate sold	dry t	4,479	929	876	1,337	1,337
Concentrate Au grade (average of 4 concentrates)	g/t	348	320	369	289	411
Au sold	oz	50,061	9,557	10,400	12,428	17,677
<b>Benchmark Unit Cost</b>						
Site cash operating cost/ tonne ore processed	\$/t	42.34	49.16	34.02	38.90	47.91
Site cash operating cost/tonne concentrate produced	\$/t	11,005	14,528	12,710	8,585	9,725
Adjusted EBITDA/tonne ore milled	\$/t	7.33	(5.92)	(2.44)	13.84	25.77
Adjusted EBITDA/tonne concentrate produced	\$/t	1,905	(1,750)	(912)	3,054	5,231
Cash cost per oz Au equivalent produced	\$/oz	1,159	1,497	1,304	876	1,094
Site all-in cost/oz Au eq. oz produced	\$/oz	1,452	1,794	1,615	1,155	1,387

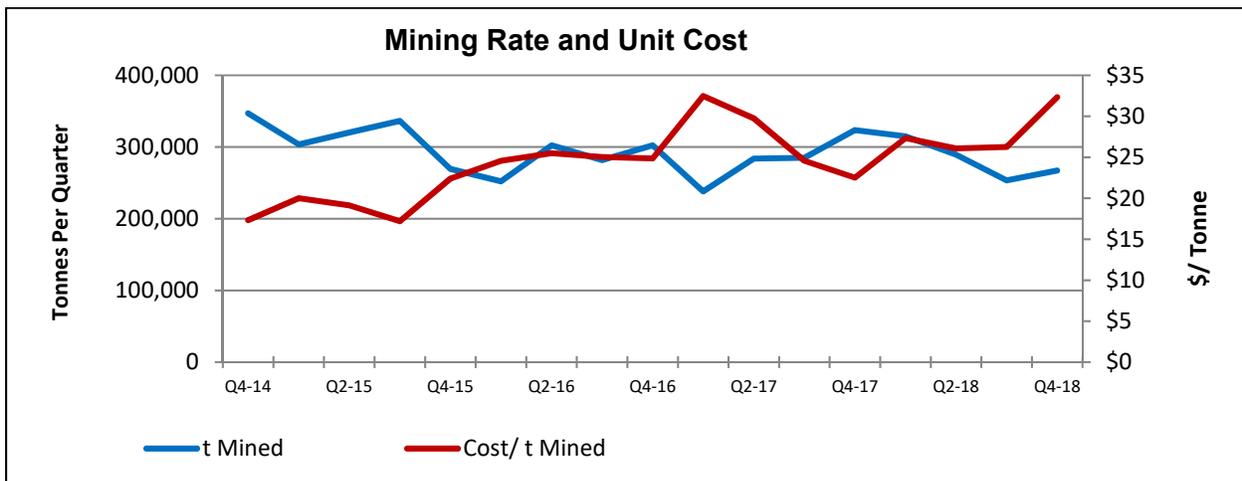
<b>Capital Spending</b>						
Capital development (Underground)	m	2,135	497	458	566	614
Capital pre-strip (Open pit)	t	1,146,097	225,557	279,478	253,358	387,704
Capital development cost	\$000	10,199	2,229	2,027	3,009	2,934
Capital purchases	\$000	15,844	7,906	3,878	1,085	2,975
Capitalized exploration	\$000	1,823	266	257	994	305

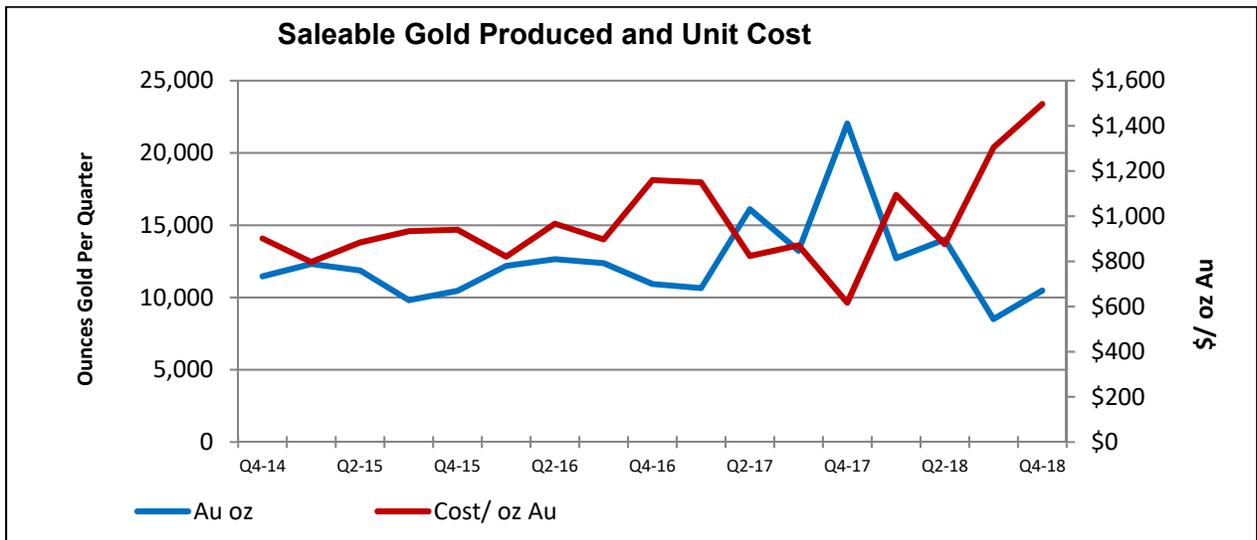
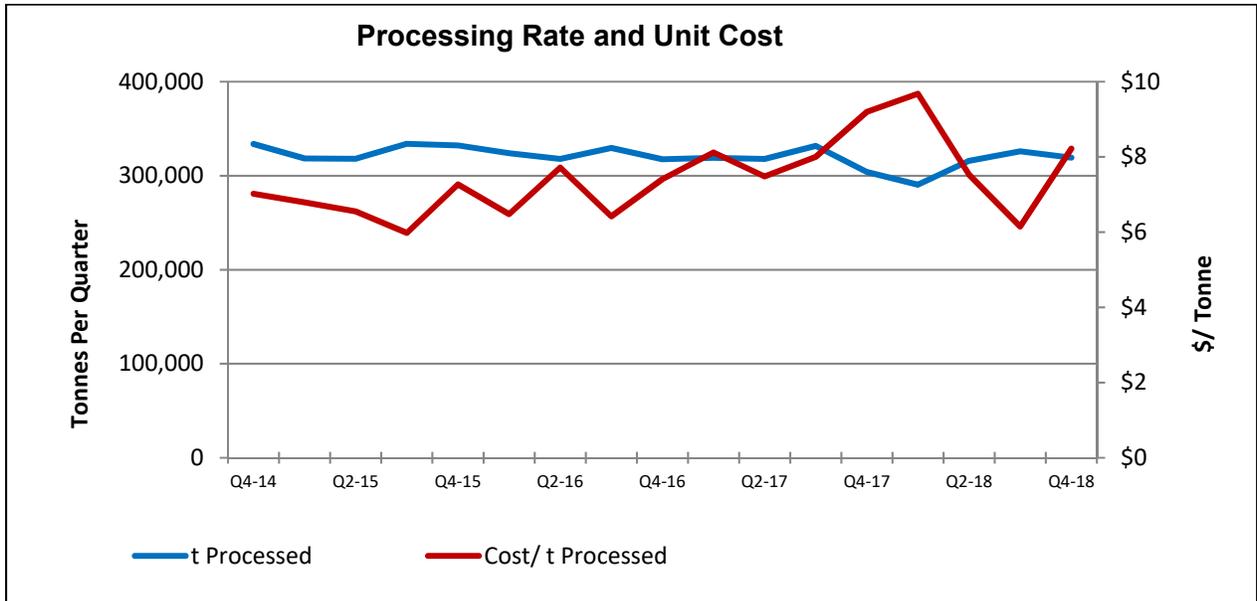
During the 12 months ended December 31, 2018, the Björkdal mine produced 1,125,128 t of ore from both the open pit and underground that averaged 1.33 g/t Au. Ore grades were lower during the year, ending at an average for the year of 1.30 g/t Au. Mining costs rose to \$27.49/t in 2018 versus \$26.95/t in 2017. Mining cost per tonne increased due to lower ounce production. This was caused by limited haulage capacity from the higher-grade underground mine due to the changeover of the underground haulage contractor.

During the 12 months ended December 31, 2018, the Björkdal plant processed 1,251,453 t of ore, producing 45,721 oz of saleable Au. Cost of processing ore was \$7.85/t in 2018. Sales in 2018 were 50,061 oz Au.

In 2018, the Corporation invested approximately \$10.2 million in capital development, \$15.8 million in property, plant and equipment and \$1.8 million in exploration. Mineral Reserves estimated at December 31, 2018 for the property approximately replaced depletion for 2018 production.

The Corporation expects to see improvement in production from Björkdal in 2019. 2018 production was significantly hampered by an underground haulage bottleneck caused by a contractor changeover that prevented the delivery of the Corporation’s highest-grade ore to the mill. This situation was rectified at the end of 2018. The Corporation’s production and costs since Björkdal was acquired by the Corporation in 2014 are summarized in the charts below:





For more information on Björkdal, refer to section 6.12 of this Annual Information Form.

### 6.9.2 Producing Stage – Costerfield Mine

From December 1, 2009, to the date of this Annual Information Form, the Corporation has been engaged in the following primary activities with respect to Costerfield:

1. mining ore remaining on the upper levels of the Augusta Lodes, left over from an earlier episode of mining that ended under previous ownership in the fourth quarter of 2009;
2. driving primary development to access deeper levels of the mine;
3. implementing a new, more efficient mining method incorporating cemented rock fill, allowing significantly improved mining recoveries;
4. ramping up production and sales as the new faces accessed by the decline are developed;

5. drilling exploration holes to delineate new resources below existing workings in the Augusta Lodes, the Cuffley Lode, the N-Lode, the Brunswick Lode, and to discover new veins nearby;
6. driving primary development to access the Cuffley Lode and carrying out production in the lode;
7. tailings lift to support continuing plant production;
8. commencing capital development to the Brunswick Lode and carrying out production in the lode;
9. exploring of the Youle Lode beneath the old Costerfield workings; and
10. commencing capital development to the Youle lode.

The following table summarizes 2018 production, sales, capital, and costs at Costerfield:

	Unit	Year ended December 31, 2018	Quarter ended December 31, 2018	Quarter ended September 30, 2018	Quarter ended June 30, 2018	Quarter ended March 31, 2018
<b>Mining Production and Mining Cost</b>						
Operating development	m	3,844	1,012	816	875	1,141
Mined ore	t	151,557	37,536	36,215	37,816	39,990
Ore mined Au grade	g/t	5.66	5.10	5.39	5.36	6.73
Ore mined Sb grade	%	2.36	2.32	2.23	2.35	2.52
Mined contained Au	oz	27,599	6,154	6,276	6,516	8,652
Mined contained Sb	t	3,572	869	808	888	1,006
Mining cost per tonne ore	\$/t	145	141	150	146	142
<b>Processing and Processing Cost</b>						
Processed ore	t	155,744	39,019	38,856	39,311	38,558
Mill head grade Au	g/t	5.64	5.30	5.11	5.44	6.72
Mill head grade Sb	%	2.33	2.33	2.16	2.18	2.64
Recovery Au	%	87.70	87.38	87.86	86.89	88.51
Recovery Sb	%	93.80	95.95	94.75	92.00	92.61
Concentrate produced	dry t	6,507	1,638	1,513	1,524	1,832
Concentrate grade Au	g/t	71.76	64.46	64.73	74.67	81.67
Concentrate grade Sb	%	52.21	53.18	52.61	51.61	51.50
Au produced in gravity concentrate	oz	9,655	2,392	2,438	2,294	2,532
Au produced in sulfide concentrate	oz	11,954	2,556	2,500	2,843	4,055
Saleable Au produced	oz	21,609	4,948	4,938	5,137	6,587
Saleable Sb produced	t	2,173	560	505	503	605

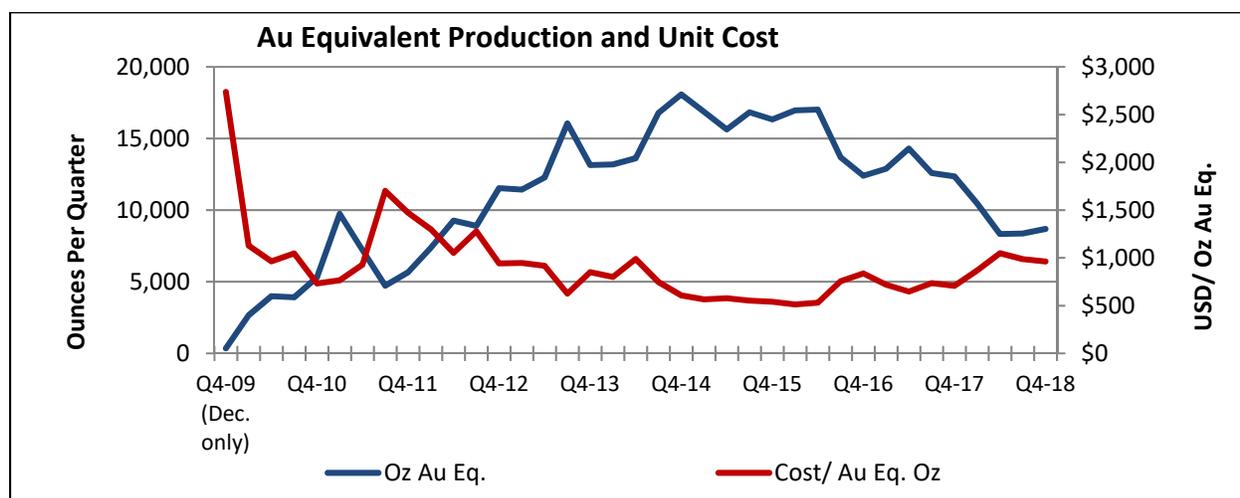
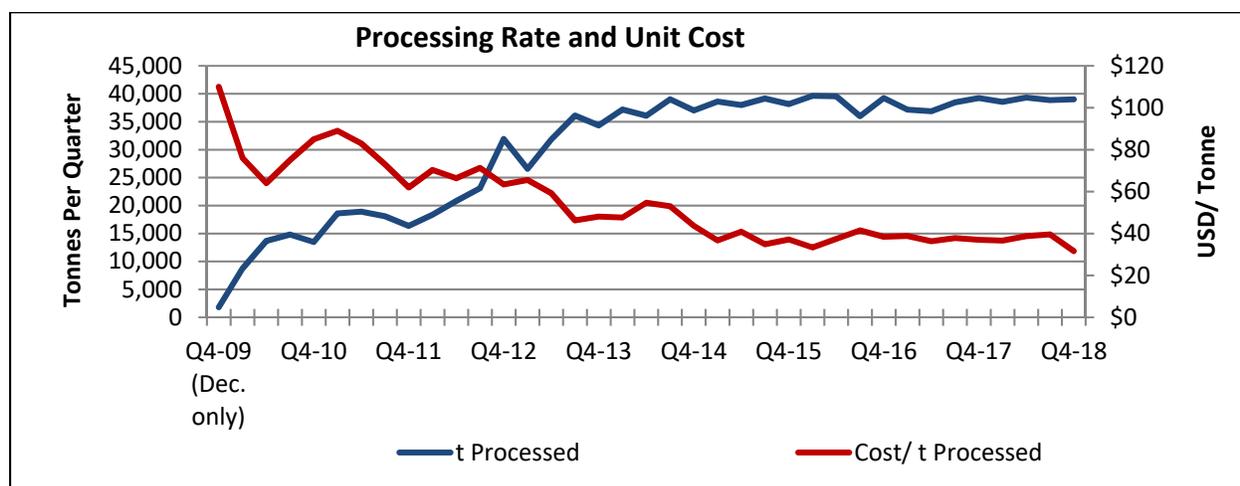
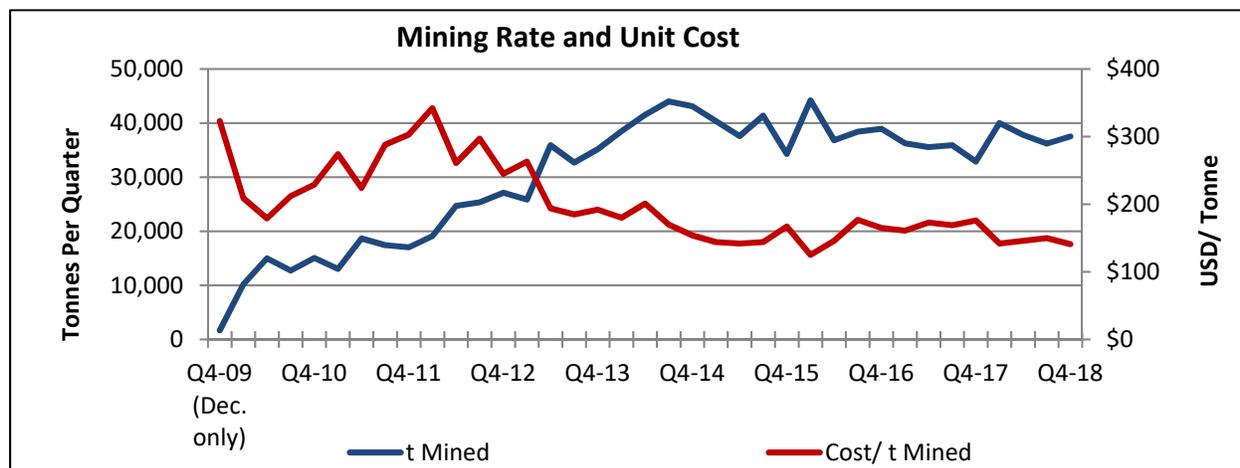
Saleable Au equivalent produced	oz	35,849	8,691	8,370	8,331	10,456
Processing cost per tonne ore	\$/t	36.67	31.61	39.62	38.75	36.67
<b>Sales</b>						
Concentrate sold	dry t	6,968	1,759	1,488	1,645	2,077
Concentrate Au grade	g/t	73.79	64.34	66.43	80.38	81.83
Concentrate Sb grade	%	52.21	52.92	52.26	51.32	52.28
Au sold in gravity concentrate	oz	9,154	2,118	2,264	2,502	2,629
Au sold in sulfide concentrate	oz	13,386	2,839	2,479	3,566	4,502
Au sold	oz	22,900	4,957	4,743	6,069	7,131
Sb sold	t	2,307	582	486	560	679
<b>Benchmark Unit Cost</b>						
Site cash operating cost/ tonne ore processed	\$/t	218	212	210	219	232
Site cash operating cost/tonne concentrate produced	\$/t	5,227	5,049	5,403	5,657	4,882
Adjusted EBITDA/tonne ore milled	\$/t	66	26	45	33	162
Adjusted EBITDA/tonne concentrate produced	\$/t	1,592	631	1,167	854	3,415
Cash cost per oz Au equivalent produced	\$/oz	961	962	988	1,049	869
Site all-in cost/oz Au eq. oz produced	\$/oz	1,407	1,391	1,420	1,512	1,326
<b>Capital Spending</b>						
Capital development	m	2,644	672	590	750	632
Capital development cost	\$000	10,243	2,478	2,509	3,140	2,116
Capital development cost/meter	\$/m	3,875	3,689	4,253	4,188	3,347
Capital purchases	\$000	6,959	1,498	1,670	2,157	1,634
Capitalized exploration	\$000	5,243	1,141	1,609	1,423	1,070

During the 12 months ended December 31, 2018, the Costerfield mine completed 3,844 m of operating development and produced 151,557 t of ore. Through the year, mined ore averaged 5.66 g/t Au and 2.36% Sb. Mining cost averaged \$145/t, representing a reduction from 2016 and 2017.

During the 12 months ended December 31, 2018, the Costerfield plant processed 155,744 t of ore, producing 21,609 oz of saleable Au and 2,173 t of saleable Sb. These numbers are lower than 2017 annual production volumes due to lower mined grades attributable to the production on the high-grade Cuffley lode ramping down, and to an approximately three-month delay in reaching on-vein development of the Brunswick Lode due to higher-than-anticipated dewatering requirements. Cost of processing ore was \$36.67/t in 2018, compared to \$37.52/t in 2017. Costerfield sales for 2018 were 22,900 oz Au and 2,307 t Sb.

During 2018 at Costerfield, the Corporation invested \$10.2 million in capital development, \$7.0 million in property, plant and equipment and \$5.2 million in exploration. For the exploration spending, the Corporation's Au Mineral Reserves increased by 58,000 oz and the Corporation replaced antimony depletion, both net of 2018 depletion. The current mine life is approximately five years.

The Corporation expects to see improvement in production from Costerfield in 2019. The Corporation also expects production increases in late 2019 as the Corporation reaches the high-grade Youle Lode and begins on-vein development. The Youle Lode has markedly higher grades than Brunswick. The performance of the Costerfield mine since its acquisition and restart in 2009 is summarized in the charts below:



For more information on Costerfield, refer to section 6.13 of this Annual Information Form.

### 6.9.3 Care and Maintenance – Cerro Bayo (operations were suspended on June 9, 2017)

From August 10, 2010, to the date of this Annual Information Form, the Corporation has been engaged in the following activities with respect to Cerro Bayo:

1. hiring and training the workforce necessary to restart operations;
2. developing six of nine veins included in the current life-of-mine plans, Dagny, Dalila, Fabiola, Delia NW, Yasna, and Bianca beginning in September 2010, and two additional veins (Delia South and Coyita) beginning in 2015;
3. restarting the Cerro Bayo plant in January 2011;
4. increasing production and sales to a full production rate of 1,200 tpd in the fourth quarter of 2012;
5. expanding production to an increased rate of 1,400 tpd by the fourth quarter of 2014;
6. exploration drilling, primarily to extend and infill resources along the nine veins included in the current life-of-mine plan, and also to test new vein targets on the property;
7. initiation of development of the Delia South mine and the Coyita mine during 2015;
8. accelerating development rate at Coyita to reach high-grade ore; and
9. placing the property on care and maintenance following the Inundation Event while it obtains LOM permits to restart operations as it reviews alternative options for the property, including a sale or disposition, and a phased closure plan.

Production occurred at Cerro Bayo from January to June 2017. Operations were suspended on June 9, 2017 due to the Inundation Event. The year was characterized by full production during the first quarter, diminished production during the second quarter due to the Inundation Event and no production during the third and fourth quarters. For the year 2017, the Cerro Bayo operation completed 3,252 m of total operating development and 154,542 t of ore mined. Mining costs and processing costs per tonne of ore rose to an average of \$61.09/t in 2017 versus \$52.88/t in 2016. Processing costs rose slightly to \$22.67/t, compared to \$21.01/t in the previous year. Au recovery in 2017 rose to an average of 88.16% (84.93% in 2016) while Ag recovery also rose to an average of 90.36% (87.40% in 2016).

Sales of concentrate were 3,398 t in 2017, containing 7,003 oz of saleable Au and 926,832 oz of saleable Ag.

During 2017, the Corporation invested approximately \$6.0 million in capital development (achieving 1,923 m of advance), \$2.2 million in property, plant, and equipment, and \$1.4 million in exploration.

Following the Inundation Event, the Corporation's in-house technical staff compiled revised estimates of Mineral Resources and Reserves by depleting block model estimates supported by the Cerro Bayo Technical Report for production in 2017 and the total depletion of the negligible remaining Mineral Resources and Reserves in the Delia NW mine (the only mine directly sterilized by the Inundation Event). The total depletion of Mineral Resources and Reserves in the Delia NW mine as a result of the Inundation Event did not have a material impact on the Mineral Resources and Reserves at Cerro Bayo. As a result, a new technical report has not been obtained in respect of this property. Estimation parameters used by the in-house technical staff, including cut-off grades, were unchanged from those used in the Cerro Bayo

Technical Report. The ongoing technical evaluations may eventually affect estimates of Mineral Reserves, involving changes to pillar sizing or other mine design parameters in some areas.

### 6.10 Knowledge and Expertise

All aspects of the Corporation's business require specialized skills and knowledge. Such skills and knowledge include the disciplines of geology, geophysics, geochemistry, drilling, mineral resource estimation, mining engineering, mine planning, metallurgy and mineral processing, metal and concentrate sales, field operations, tax, and accounting. To date, the Corporation has successfully identified and recruited employees and consultants with the requisite skills to advance the Corporation's strategy and the Corporation believes it will be able to continue to do so.

### 6.11 Business Outlook for Fiscal 2019

The following section contains forward-looking statements. Reference should be made to "Forward-Looking Statements" herein. For a description of material factors that could cause the Corporation's actual results to differ materially from the forward-looking statements, see "Risk Factors" in this Annual Information Form.

As at December 31, 2018, the Corporation had working capital of \$4.9 million, and cash and cash equivalents of approximately \$8.4 million. The Corporation began and ended 2018 with no metal price hedging instruments in place.

Björkdal's estimated volumes and costs for 2019 are summarized in the following table:

<b>Björkdal Plan</b>	<b>2018 Actual</b>	<b>2019 Estimate</b>
Saleable Au Produced (koz)	45.7	50-56
Cash Cost/ oz Au Eq	\$1,159	\$800-\$950
Capital Expenditure (\$M)	26.1	18-22

At Costerfield in 2019, the Corporation plans to mine and process approximately 12,000 tonnes per month of ore throughout the year, from which it expects to recover and sell Au and Sb in the volumes and for the costs summarized in the following table:

<b>Costerfield Plan</b>	<b>2018 Actual</b>	<b>2019 Estimate</b>
Saleable Au Produced (koz)	21.6	23-30
Saleable Sb Produced (t)	2,173	2,600-3,100
Cash Cost/ oz Au Eq	\$961	\$790-\$920
Capital Expenditure (\$M)	17.2	21-25

This plan is based on the development of the Youle Lode.

Cerro Bayo will remain on care and maintenance. The Corporation could only restart the operation subject to the receipt of all necessary permits and is also pursuing alternative value maximization initiatives such as the sale of the asset.

The Corporation anticipates that it will spend \$3-4 million at Cerro Bayo in 2019 on care and maintenance in order to preserve the Corporation's financial capacity to invest in restarting operations. The fewer than 50 employees remaining on site will be engaged in ongoing care and maintenance of the mine, plant and infrastructure, supporting completion of the third party investigations and risk assessments relating to resuming underground mining in the Laguna Verde area, and obtaining permits necessary to resume operations at Cerro Bayo.

## **6.12 Mineral Project – Björkdal**

Information referenced in this section referring to Björkdal is based on the Björkdal Technical Report.

### **Property Location**

The Björkdal property is located in Västerbotten County in northern Sweden, at approximately 20°35'26" E longitude and 64°56'7" N latitude (WGS84). Björkdal is located approximately 28 kilometres ("km") northwest of the municipality of Skellefteå and approximately 750 km north of Stockholm. The property is accessible via Swedish national road 95 or European highway route E4 followed by all-weather paved roads.

The Norrberget property is located approximately four km east of the Björkdal mine and is currently accessible via a forest road.

### **Ownership**

Mandalay holds 100% of Björkdal through the Swedish registered companies Björkdalsgruvan AB and Björkdal Exploration AB.

### **Granted Tenement Details**

The Björkdal property consists of nine mining concessions, owned by Björkdalsgruvan AB, and 19 exploration permits, owned by Björkdal Exploration AB. The mining concession Norrliden K nr 1 and exploration permits Malånäset nr 100 and Malånäset nr 101 are held by Explor Björkdalsgruvan AB. The following tables show the exploitation concession and exploration permit status as of 31/12/2018.

**Table: Exploitation Concessions**

Permit Name	Area (ha)	Expiry Date
Häbbersfors K nr 1	98.6894	January 1, 2031
Häbbersfors K nr 2	34.8839	February 2, 2025
Häbbersfors K nr 3	18.8864	April 29, 2027
Häbbersfors K nr 4	5.0012	November 21, 2025
Häbbersfors K nr 5	21.8263	March 6, 2034
Häbbersfors K nr 6	23.4887	April 24, 2038
Häbbersfors K nr 7	32.1100	January 17, 2042
Nylunds K nr 1	73.4700	January 30, 2043
Storheden K nr 1	61.27	November 8, 2043
Norrleden K nr 1*	18.51	January 1, 2032
<b>Total</b>	<b>338.1359</b>	

\* Permit held by Explor Björkdalsgruvan AB

**Table: Exploration Permits**

Permit Name	Area (ha)	Expiry Date	Status
Björkdal nr 26	978.80	February 7, 2019	Application for Extension
Björkdal nr 25	967.70	May 9, 2020	
Björkdal nr 19	225.00	October 18, 2017	Application for Exploitation Concession
Björkdal nr 28	39.53	October 14, 2023	
Björkdal nr 31	540.52	November 7, 2020	
Norrberget nr 300	37.50	May 23, 2017	Application for Exploitation Concession
Norrberget nr 400	87.47	October 1, 2018	Application for Exploitation Concession
Olofsberg nr 101	42.79	February 15, 2019	Expired – covered by concession buffer zone
Björkdal nr 29	1,073.89	November 30, 2020	
Björkdal nr 30	64.03	February 23, 2021	
Björkdal nr 32	2,219.60	October 27, 2018	Application for Extension
Sandfors nr 101	3,267.82	June 9, 2021	
Björkdal nr 33	1,409.35	October 19, 2020	
Björkdal nr 34	2,520.16	November 9, 2020	
Björkdal nr 35	135.43	October 17, 2021	
Björkdal nr 36	670.4		Application Submitted, replacing Björkdal nr 10
Malänäset nr 100*	591.84	March 20, 2019	Application for Extension
Malänäset nr 101*	687.77	March 28, 2021	
Lillträsket nr 3	246.59	October 17, 2021	
Vorsberget nr 1	804.73	May 25, 2021	
Vidmyran nr 100	1,197.50	March 10, 2023	
<b>Total</b>	<b>17,808.42</b>		

\* Permit held by Explor Björkdalsgruvan AB

An application for the exploration permit Björkdal nr 36 has been submitted to the relevant authority. This permit replaces the previous Björkdal nr 10, which had reached its 15-year maturity. Mandalay has

met all of the required milestones in respect of the renewal of this permit and anticipates that it will be granted in due course.

The Norrberget exploitation concession was granted in January 2019 and is the tenth exploitation concession in the Björkdal area. Björkdal nr 19, Norrberget nr 300 and Norrberget nr 400 permits were locked by the application for the Norrberget exploitation concession. As the exploitation concession now has been granted, an application for Björkdal nr 37 has been submitted, and this area covers the previous Björkdal nr 19, Norrberget nr 200, Norrberget nr 300 and Norrberget nr 400 exploration permits.

Olofsberg nr 101 has expired and is under moratorium, however the area is largely covered by concession buffer zone.

The Björkdal deposit is located on Häbbersfors exploitation concessions.

### **Permitting**

Mandalay reports that Björkdal is fully permitted in accordance with Swedish environmental and health and safety legislation. The latest environmental permit was issued in December 2018 and is in good standing. Under Swedish law, there is no time limit on the water-use permit, however, the government may make adjustments as required to meet any regulation changes. A new permit related to the mine tailings area was obtained on December 3, 2018 and is valid for a period of ten years.

Björkdal is permitted to use the Kåge River as a water source for the processing plant. The allowed amount is 50 l/s (180 m<sup>3</sup> per hour). The plant uses approximately 150 m<sup>3</sup> per hour and of this amount, 55% is recycled from the tailings facility, and the remaining 45% is drawn from the Kåge River. Water used at the mine for purposes other than the processing plant is sourced from wells.

A list of current permits is presented in the table below.

**Table: Mandalay Resources – Björkdal Gold Mine Permits**

<b>Permits</b>	<b>Valid from Date</b>	<b>Valid to Date</b>	<b>Type</b>
M 771-17	2018-12-03	2028-12-03	Environment permit
VD DVA 9/87	1987-05-26	No expiry date	Water-use permit

### **Royalties**

The holder of an exploitation concession must pay an annual minerals fee to the landowners of the concession area and to the State. The fee is 0.2% of the average value of the minerals mined from the concession, 0.15% of which is paid to the landowners in proportion to their ownership interest in the concession area. The remaining 0.05% is paid to the State for research and development in the field of sustainable development of mineral resources. The fee is estimated after consideration of the amount of mined ore, the amount of minerals in the ore, and the average price of the mineral during the year or by use of an equivalent value.

The Norrberget nr 200, 300, and 400 exploration concessions are subject to a 2% net smelter return in favour of North Atlantic Natural Resources AB.

### **Environmental Liabilities**

Mine closure and reclamation plans are submitted and approved as an annex to the environmental permit and includes a reclamation bond with the Swedish authorities. The approved plan provides an overview of reclamation requirements that follow the July 2004 European Commission guidelines for Best Available

Practice for the management of tailings and waste rock in mining activities. Six months prior to mine closure, a detailed remediation plan must be submitted to the regulator.

The environmental permit granted in 2018 includes an updated closure and reclamation plan and is anticipated to add approximately \$1.7 million dollars to the reclamation bond. This will increase the total reclamation bond held by the Swedish authorities to 43 million SEK (approximately \$4.6 million).

## **Local Resources and Infrastructure**

### *Power*

The power supply for the site is provided by Skellefteå Kraft AB. The electricity is sourced from low-cost hydro power and is delivered to Björkdal via the Swedish power grid.

### *Water*

Water for the process plant is supplied from two sources. Two submersible pumps located at the Kåge River supply approximately 700,000 m<sup>3</sup> of raw water annually to plant water tanks via two pipelines. Existing water rights allow Björkdal to withdraw up to 50 l/s, equivalent to 180 m<sup>3</sup> per hour and 1.58 million m<sup>3</sup> per year. A second pumping station located at the water treatment plant returns water from the tailings management facility. Approximately 55% of the process water is recycled from the tailings system and the remaining 45% is drawn from the Kåge River.

At present, the Björkdal Mine is diverting approximately 400,000 m<sup>3</sup> per year of water from the underground and open pit mines to the tailings facility and this allows a 55:45 ratio throughout the year. The result is less water discharged from the tailings system and less fresh make-up water required.

### *Buildings and Facilities*

Björkdal has all the facilities associated with an open pit and underground Au mine including:

- raw ore stockpile facility containing eleven 5,000 to 7,000 t capacity raw ore stockpiles
- primary jaw crushing facility with 400 t coarse ore stockpile
- secondary crushing facility
- 5,000 t fine ore stockpile and reclaim facility
- 3,600 tpd mill, gravity gold plant, and flotation plant
- heavy equipment maintenance facility
- ancillary buildings for office, assay laboratories, etc.
- 250 ha Tailings Management Facility (“**TMF**”)
- raw water supply and storage
- water treatment plant
- core storage facility
- explosive magazine and emulsion and ANFO mixing facilities
- storage facilities for chemical reagents and bulk supplies.

### *Tailings and Waste Rock Storage Areas*

There are currently two active waste dump areas; the North and South waste dumps. In the new operating permit application received in 2018, the capacity of the waste rock dumps has been expanded to over 53 million t. This capacity is sufficient to cover the needs of the current mine life.

The TMF is located in an area of gently undulating relief approximately 1.5 km north of the processing plant. Approximately 31 million t of tailings have been deposited since mining began at Björkdal in 1988.

Recent studies have estimated that current TMF capacity is approximately one year. Further expansion of the TMF was contingent on the granting of the environmental operating permit, which was received in the fourth quarter of 2018. The new permit allows for up to 17 Mt with construction expansions.

TMF expansions have been planned by independent consultants, Tailings Consultants Scandinavia, and preliminary construction work is scheduled to begin in 2019.

The expanded facility will involve the establishment of a new sedimentation clearing pond at Lillträsket, the conversion of existing clearing ponds to tailings storage and will result in expanded capacity to hold approximately 15 million tonnes of mill tailings.

### *Accessibility*

Björkdal is located approximately 40 km by road northwest of the municipality of Skellefteå (population of 72,000) and is accessible via Swedish National Route 95 or European highway route E4, followed by all-weather paved roads. Norrberget is located approximately four km east of the Björkdal mine and is accessible via a forest road. On the property, gravel roads link the main site gate entrance to the surface infrastructure. Gravity concentrate is trucked from the mine to Skellefteå where it is loaded on ships for delivery to smelting customers in Europe. Sulphide flotation concentrates are trucked to nearby processing facilities. The nearest airport, located in Skellefteå, has daily service to Stockholm.

### **Climate**

This area of Sweden has a subarctic climate with mild summers and cold snowy winters. The climate is moderated by proximity to the Gulf of Bothnia, so that while winters are cold, they are much less so than winters at similar latitudes in other parts of the world. The average low temperature for January is -14°C. The short summers are also reasonably warm for latitudes near the Arctic Circle. The average daily high temperature in July is 19°C, although temperatures above 30°C have been recorded. Yearly precipitation is less than 600 mm, with August being the wettest month at over 71 mm. Precipitation is low near the coast, but snow may lie on the ground for up to four months. July is typified by an average of 21 hours of daylight while the average for December is four hours. Björkdal's exploration activities and mining and processing operations function year-round.

### **Topography and Vegetation**

The mine is located at an average elevation of 140 m above sea level. The terrain around Björkdal is relatively subdued with low hills and numerous shallow lakes. Glacial till forms the main soil cover over the area. The vegetation around Björkdal consists predominantly of managed forests of spruce and birch with some areas of cultivated land.

### **Geology and Mineralization**

#### *Geology*

Geologically, the Skellefteå region consists of Paleoproterozoic-aged rocks that host several world-class volcanogenic massive sulphide copper, zinc, and lead deposits that have been worked on for nearly a century. The Skellefteå district lies within a large and ancient cratonic block named the Fennoscandian shield. The Fennoscandian shield spans much of Finland and northwestern Russia, extending further westward throughout Sweden and Norway.

Mineralization in the Skellefteå region is focused within and around a regionally extensive, west- to northwest-trending structural feature named the Skellefteå belt. The Skellefteå belt is 120 km long and 30 km wide and consists of deformed and metamorphosed volcanic, sedimentary, and igneous rocks that are all Paleoproterozoic in age. Deformation and metamorphism is attributed to the Paleoproterozoic-aged Svecokarelian orogeny that occurred around 1.88-1.8 Ga. Metamorphism associated with the Svecokarelian orogeny and ranges in intensity from greenschist to amphibolite facies.

The stratigraphy of the Skellefteå area consists of Paleoproterozoic-aged volcanic, volcanoclastic, and sedimentary rocks. The stratigraphy is divided into two large litho-stratigraphic groupings that are named the Skellefte Group (lower division) and the Vargfors Group (upper division). The Skellefte Group is dominated by extrusive volcanic successions that are interbedded/intercalated on a large scale with clastic sediments containing volcanic rock-types within the Skellefte Group classified as rhyolite, dacite, andesite, and basalt rock-types. Sedimentary lithologies consist of black-coloured pyritic mudstone and shale, volcanoclastic rocks, breccia conglomerates, and minor carbonates.

The stratigraphic successions are locally intruded by igneous rocks thought to belong to the Jörn granitoid suite. The relative ages of these intrusive bodies are constrained through radiometric dating and field relationships indicate a contemporaneous emplacement age with the volcanic rocks belonging to the Skellefte Group. Compositions of these intrusive rocks of the Jörn granitoid suite range considerably from felsic to mafic with end-member compositions respectively represented by gabbros and granites.

The rocks of the Skellefteå belt are observed to have undergone two major shortening events and metamorphism during the Svecokarelian orogeny. The first of the major shortening events resulted in folding and shearing: folding consisting of vertical to upright isoclinal folds with east- to northeast-striking axial planes, while shear zones are oriented sub-parallel to the axial planes of the folds. The later shortening event produced structures mainly dominated by shearing, with only minor folding coaxially overprinting the earlier generation of folding.

#### *Mineralization – Björkdal*

Litho-stratigraphic mapping, petrological observation and geochemical analysis undertaken by Mandalay Resources' Björkdalsgruvan geologists have indicated that host-rock geology, metamorphism and alteration styles are far more complex and variable than previously documented. Instead of a large, massive plutonic-type intermediate intrusion occupying the domal structure observed within the Björkdal area, a variable and complex alteration signature overprints many different rock-types including; pyroclastic, volcano-sedimentary, tuffaceous, extrusive-volcanic (andesitic to basaltic compositions), sub-volcanic intrusive (andesitic compositions) and sedimentary (silici-clastics, shales and carbonates) lithologies. Common alteration and metasomatic styles include silicification, carbonatization, calc-silicate (actinolite) alteration, albitization, chloritization, potassic (biotite and K-feldspar), epidotization, pyritization, tourmalinization, with various skarn-type alteration assemblages common in areas where calcareous host-rock is present (including actinolite, tremolite, pyroxene, and minor garnet). Alteration and metasomatic zonation of these various styles is present however, the spatial distribution has not clearly been defined. Major control on the alteration zonation appears to be host-rock lithology (protolith composition), and proximity to major fluid-driven heat sources (i.e., hydrothermal systems).

The Björkdal gold deposit is a lode-style, sheeted vein deposit that is hosted within the upper-portions of the Skellefte Group sediments as they are found at Björkdal (as described above). Gold is found within quartz-veins that range in thickness from less than a few centimetres in width, to over several decimetres in width. These veins are usually observed as vertical to sub-vertical dipping veins that strike between 000° and 090°, with the majority of veins occurring with a strike between 030° and 060°. The veining is locally structurally complex, with many cross-veining features as well as thin quartz veinlets which introduce mineralization into the wall rocks proximal to the main quartz veins.

Gold-rich quartz veins are most often associated with the presence of minor quantities of sulphide minerals such as pyrite, pyrrhotite, marcasite, and chalcopyrite alongside more common non-sulphide minerals such as actinolite, tourmaline and biotite. Scheelite and bismuth-telluride compounds (i.e., tellurobismuthite and tsumoite) are also commonly found within the gold-rich quartz veins and are both excellent indicators of gold mineralization.

Gold occurs mostly as free gold. Gold mineralization is also associated with Bi-telluride, electrum and pyroxenes. Silver is seen as a minor by-product of the Björkdal processing plant, however, very little is known about its deportment within the deposit, although it is assumed to be associated with electrum.

#### *Mineralization – Norrberget*

The mineralization at Norrberget is strata bound within an interbedded altered volcanoclastic package that sits unconformably below a 30 m to 40 m thick marble unit. Gold mineralization has been observed up to 50 m below this contact. Gold mineralization is principally hosted in an amphibole-albite banded alteration and is also common where volcanoclastics are interbedded with crystalline tuff units. These alteration bands vary between 1 cm and 50 cm in thickness, are typically fine to medium grained and appear to be sheared. Trace sulfides and minor quartz/carbonate are associated with the bands.

Gold is also associated with the amphibole veinlets with the mafic crystalline tuff which is also associated with carbonate and minor sulfides. Lesser amounts of gold can also be found within the heavily silicified volcanoclastics where minor amphibole is observed. Where visible gold can be identified within alteration banding, it is observed to lie between or on the contact of grains.

Although veining is common, gold mineralization is rarely associated with the quartz veins. Visible gold has been identified in veins consisting of grey fractured quartz along with amphibole, carbonate, silver, minor chalcopyrite, pyrrhotite and galena. Veins consisting of quartz, carbonate and albite with euhedral amphibole crystals can also carry gold mineralization. These veins can be intermixed and individual veins can continue for up to 50 m. However, the gold grade is not consistent along them.

#### **History**

The Björkdal deposit was originally discovered in 1983 by Terra Mining AB (“**Terra Mining**”) by a till sampling program which returned anomalous gold values. Anomalous bedrock values were obtained in 1985 and definition drilling began in early 1986.

Definition drilling was coincident with metallurgical testwork and positive feasibility studies were completed in May 1987. Terra Mining commenced mining operations at Björkdal in July 1988. In 1996, Terra Mining was purchased by William Resource Ltd. (“**William**”). William continued to operate the mine until the end of June 1999, when it was petitioned into bankruptcy. The assets were bought through public auction in June 2001 by International Gold Exploration, which operated the mine from September 2001 until 2003, when it was acquired by Minmet plc (“**Minmet**”).

In 2006, Gold-Ore Resources Ltd. (“**Gold-Ore**”) acquired an option from Minmet to purchase the holding company for the mine. On December 31, 2007, Gold-Ore exercised its option and acquired all the shares of Björkdalsgruvan AB. During exploration and development of Björkdal, Gold-Ore generated cash flow from gold sales which commenced on a full scale in mid-2008. In January 2009, Gold-Ore’s management concluded that there were sufficient mineral reserves and resources at Björkdal for at least a five-year mine life and declared commercial production.

In May 2012, Elgin acquired all of the issued and outstanding common shares of Gold-Ore. Gold-Ore's common shares were delisted from the TSX and Elgin graduated from a TSX Venture listed company to a TSX listed company.

On June 4, 2014, Mandalay announced that it had entered into an arrangement agreement pursuant to which Mandalay would acquire all the outstanding common shares of Elgin. The transaction was completed on September 10, 2014.

## **Exploration**

RPA reviewed the historical exploration work and found that pre-Mandalay work programs were not well documented. In general, no significant regional exploration had taken place since the original Terra Mining ownership (ca. 1983-1999). Since the previously filed resource estimations (year-end 2017 for both underground and open-pit targets), Mandalay conducted both underground and surface diamond-core and reverse circulation (RC) drilling, both within and near the active production areas, in addition to regional prospects.

From January 2015 to September 2017, Mandalay drilled a total of 42,250 m of exploration diamond-core from underground at the Björkdal Mine. This drilling most recently focused on the eastward strike-extension of known vein systems (mostly in the Main, Central and Lake zones). The drilling also focused to the north with the goal of searching for new vein systems (Lake Zone North) that may lie proximal to the underground mine. The drilling programs employed an initial broader-spaced drilling density that is sufficient to classify the newly discovered mineralization into the Inferred Mineral Resource category. Subsequent infill drilling was then carried out in order to upgrade the classification into the Indicated Mineral Resource category.

For the period of January 2015 to September 2018, Mandalay drilled a total of 103,097 m of exploration diamond-core drilling from underground stations at the Björkdal Mine. This drilling has most recently focused on the eastward strike-extension of known vein systems (mostly in the Main, Central, and Lake zones). For the period of January 2015 to September 2018, Mandalay has drilled a total of 21,614 m of exploration diamond-core drilling and 81,609 m of exploration RC drilling from surface-based setups at the Björkdal Mine. Similar to the underground exploration strategy, the surface drilling was prioritized around the margins of the current open pit mine in order to estimate Inferred and Indicated Mineral Resources in the near-mine environment. The majority of this drilling took place in the vicinity of the Quartz-Mountain, East Pit, and Nylund areas.

There is high likelihood of further discoveries in the Björkdal area, as deposit models currently being formulated and tested by Mandalay geologists are proving successful and much of the held ground remains either unexplored or under-explored.

The Norrberget area was extensively drilled from 1994 to 1996 by COGEMA before interest in the prospect declined under subsequent owners. After the area was purchased by Gold-Ore in 2007 some sporadic drilling campaigns were undertaken without significant discovery.

After Mandalay acquired Elgin, Mandalay re-logged and re-assayed the existing core from Norrberget, resulting in renewed interest in the area. In 2016 a 2,542 m diamond-core drilling program confirmed the historical results and extended the limits of mineralization. A 1,400 m RC drill program infilled and further extended the resource down-dip in 2017.

During the summer months of 2015, 2,492 m of diamond-core drilling was completed around the greater Björkdal region to test a number of targets of both geochemical and structural origins. Two of these drill-holes intersected significant mineralization; DDE2015-001 and DDE2015-008 in the Storheden and

Morbacken areas, and these areas are now of high exploration interest. The potential of the Storheden area was further tested with 2,136 m of diamond-core drilling and 1,408 m of RC in 2016 and 2017. These drilling programs have confirmed the existence of a mineralized system of shear-hosted quartz veins extending below the current site of the TSF.

Target generation in 2015 and 2016 consisted of geophysical surveys and re-interpretation of existing geophysical magnetic and electric surveys. These surveys ranged from regional-scale airborne surveys to high-resolution down-hole electric logging in order to establish geophysical characteristics indicative of mineralized rock-systems in the greater Björkdal exploration land package. Areas of significant mineralization have detectable effects on both magnetic (ground magnetics) and electrical (chargeability) properties of the host-geology. These surveys are being incorporated with geochemical and structural geological data in order to identify highly prospective ground. The targets that have been generated will be prioritized and then systematically tested in the immediate future.

In 2017, ground magnetic surveys and till sampling programs were expanded across high potential areas within the tenement package. High resolution outcrop mapping and sampling was also carried out to further develop the macro-scale understanding of the property's potential.

In 2018, ground magnetic surveys were expanded across high potential areas within the tenement package.

### Drilling – Björkdal

The cut-off date for the drill hole database used to prepare the 2018 Mineral Resource estimate was September 30, 2018. The following table summarizes the drilling carried out by Mandalay between 2014 and 2018:

**Table: Summary of Drilling at Björkdal Completed by Mandalay Resources from 2014 to 2018**

Year	Drill Hole Type	Underground		Open Pit	
		Number of Drill Holes	Metres (m)	Number of Drill Holes	Metres (m)
2014	Core (Infill)	19	1,614		
	RC			65	2,103
	Core	12	3,302	5	632
2015	Core (Infill)	150	11,880		
	RC			439	13,959
	Core	58	14,151	56	9,145
2016	Core (Infill)	280	32,252		
	RC			558	28,468
	Core			14	4,087
2017	Core (Infill)	211	23,839		
	RC			597	24,924
	Core			13	2,377
2018*	Core (Infill)	164	20,974		
	RC			383	14,290
	Core			37	5,904
<b>Total</b>		<b>894</b>	<b>108,012</b>	<b>2,167</b>	<b>105,889</b>

\*2018 drilling includes drill holes completed to September 30, 2018.

Total exploration drilling completed at Björkdal for 2018 totaled 17,181 m.

## Drilling – Aurora Zone

One of the goals of the drilling completed in 2018 was to follow up on some encouraging drill hole intersections that were returned from drilling completed in 2017 on a newly discovered mineralized zone that is located along the northern, down-plunge continuation of the mineralized veins exploited by the underground mine. The details from this newly discovered zone (referred to as the Aurora Zone) were disclosed in 2018. The drill hole information available at the time suggested that the zone extends along a strike length of approximately 250 m and has been outlined over a distance of approximately 150 m vertically. A summary of the significant intersections returned from the Aurora Zone is provided in the table below:

**Table: Summary of Significant Intersections, Aurora Zone**

Hole ID	Core Length (m)	True Width (m)	Au (g/t)
DOD2017-065	10.41	9.14	1.13
DOD2017-067	7.85	6.25	1.05
DOD2017-071	14.85	13.22	1.61
DOD2017-072	8.93	6.92	0.92
DOD2017-073	13.20	7.96	1.76
DOD2018-057	10.30	8.12	1.38
DOD2018-058	16.78	14.67	0.52
DOD2018-059	17.33	15.19	2.75
DOD2018-060	6.70	5.60	0.30
DOD2018-061	10.83	8.68	0.60
DOD2018-062	13.39	8.64	7.10
DOD2018-063	6.74	5.32	1.22
DOD2018-064	8.70	6.62	2.10
DOD2018-065	7.53	6.43	0.57
DOD2018-066	6.84	5.11	1.51
DOD2018-067	5.47	4.27	0.51
DOD2018-068	7.25	6.37	0.36
DOD2018-076	8.56	7.42	0.94
DOD2018-077	5.90	5.22	2.56
DOD2018-078	9.75	8.02	1.28
DOD2018-088	12.86	7.40	0.99
DOD2018-090	10.18	7.60	1.68
DOD2018-091	16.56	11.98	1.95
DOD2018-092	16.24	11.63	2.61
DOD2018-093	20.20	15.26	1.08
DOD2018-094	16.68	13.73	0.90
DOD2018-095	24.59	18.03	0.43
DOD2018-110	14.05	9.69	0.31
DOD2018-111	10.67	7.63	1.33
DOD2018-112	12.40	8.29	0.64
DOD2018-113	9.50	7.19	4.31
DOD2018-120	17.72	14.10	2.68
DOD2018-121	11.60	10.68	1.82
DOD2018-122	8.60	8.26	3.82
DOD2018-123	11.50	11.46	4.97
DOD2018-124	11.30	11.08	0.94
DOD2018-169	7.05	4.90	9.04
MU6-037	17.89	13.59	0.75
MU7-028	19.15	17.04	1.71
MU7-029	21.55	15.16	1.51

MU7-030	15.24	9.18	6.18
MU8-001	19.50	15.32	3.07
MU8-002	19.50	16.42	1.33
MU8-003	8.15	7.23	0.98
MU8-004	17.86	14.20	0.97
MU8-005	16.10	14.67	0.53
MU8-033	15.69	14.96	2.70
MU8-035	16.04	8.35	1.70
MU8-036	6.97	4.58	5.86
MU8-037	6.34	4.29	9.21
MU8-038	3.60	3.49	3.87
MU8-039	4.80	4.50	3.97
MU8-040	2.42	1.42	1.91
MU8-041	4.70	2.63	12.51

## **Drilling Procedure**

### *Diamond Drilling*

All underground exploration drilling since September 2014 has been conducted with wireline diamond core drilling methods by experienced Swedish drilling contractors Protek Norr AB and Styrud Arctic AB. Drilling has been carried out with dedicated underground exploration drill rigs in the Hagby series WL66 and WL76 sizes (50.5 mm and 57.5 mm diameter core respectively).

Surface exploration since September 2014 has been carried out with wireline diamond core drilling methods by experienced Swedish and Finnish drilling contractors Styrud Arctic AB, Arctic Drilling Company OY, Kati OY, and experienced international drilling operator Mason & St John; based in the UK. Various drilling equipment sizes have been used depending on project needs and are as follows: WL66 (50.5 mm core diameter), NQ2 (50.7 mm core diameter), and WL76 (57.5 mm core diameter).

Production and development optimization holes are primarily drilled with Mandalay-owned and operated drill rigs and drilling staff, although contractors have been used at times when extra capacity is required (Styrud Arctic AB and Protek Norr AB). In March 2016, an Atlas Copco model Diamec U4 data rig was purchased and is operated by three drillers working shifts using a WL56/39 drill string (39.0 mm diameter core). They work seven days a week, producing 25 m per shift. In December 2018, a fourth shift was added to this rig.

Due to the nature of deposit, core recovery is generally excellent, reflected in core recovery values generally in excess of 95%.

### *RC Drilling*

Since 2010, RC drilling has been utilized for grade control in the open pit to define gold-bearing quartz veins which vary in scale from 1 cm to greater than 1 m.

The standard drill pattern is a 7.5 m by 15 m by 18 m grid in which holes are directed perpendicular to the quartz vein orientation.

Drilling is performed by drill contractors utilizing five-inch (12.7 cm) diameter drill bits. Drill cuttings are sampled every 1 m via a cyclone. RC drilling is performed year-round.

## **Sampling and Analysis**

Samples from Björkdal and Norrberget were prepared and analyzed at ALS Minerals, an independent, ISO-accredited laboratory located in Piteå, Sweden, and on-site at Björkdal. Samples were also analyzed by CRS Minlab Oy (CRS), an independent, ISO 9001:2008 certified laboratory located in Kempele, Finland. Whole core samples and RC samples were sent directly to the laboratories for sample preparation and assaying. Assaying was conducted utilizing the PAL1000 and LeachWELL process. Quality assurance and quality control (QA/QC) included the use of standard reference samples, blanks, duplicates, repeats, and internal laboratory quality assurance procedures. Underground chip and sludge samples were collected by geological technicians and delivered directly to the on-site laboratory. The on-site laboratory with a PAL1000 unit was established in June 2016 and was run by CRS until April 2018. Since April 2018, the on-site laboratory has been run by ALS Minerals. The mine sludge samples have not been used for the Mineral Resource estimation.

## **Data Verification**

RPA verified the accuracy of data entry for geologic and assay information to the database and is of the opinion that the Björkdal drill hole and chip sample data are adequate for the purposes of Mineral Resource estimation.

## **Security of Samples**

The Björkdal mine site has not experienced any major security issues. Access to the open pit and underground is restricted to authorized personnel in mine or contractor vehicles.

Drill and mine samples are transported from the site to the Björkdal on-site core logging and sample preparation facility, which is located within a secure area.

All diamond drill core is logged into laptop versions of GeoSpark. Only persons permitted by Björkdal are allowed to handle the samples, and measures are in place to limit and deny access by unauthorized persons.

Commercial freight companies are used to transport samples to the appropriate independent sampling and assaying laboratories. Sample shipment lists are emailed to the assay laboratory.

## **Quality Assurance and Quality Control**

No QA/QC data is available for historical drilling prior to 2004. RC drilling for grade control purposes carried out from 2006 to 2013 and assayed at ALS did not include any QA/QC insertions into the sample stream. From 2013 to 2014, standard and blank samples were inserted into the sample stream with one blank and one standard sample inserted per RC drill hole. In 2014, RC samples were sent to the uncertified CRS and Svartliden laboratories.

Following Mandalay's acquisition of Björkdal in 2014, the QA/QC protocols were updated to include the regular insertion of blanks and multiple standards within each 20 sample batch. A blank sample was also inserted after every sample containing visible gold. External check assaying is carried out at the Actlabs facility located in Ancaster, Ontario using a conventional FA method. All samples collected from the regional exploration programs, the underground and near-mine surface-based exploration programs, and the grade control sampling from 2015 onwards were included in the QA/QC program.

In RPA's opinion, the QA/QC program as designed and implemented by Mandalay is adequate and the assay results within the database are suitable for use in a Mineral Resource estimate.

## **Mineral Resources and Reserves**

### *Björkdal*

Since the 2014 Mineral Resources and Reserves estimate, Mandalay has been carrying out infill drilling programs in both the open pit and underground mines. These drilling programs include a total of 824 additional diamond drill holes and 2,042 RC drill holes that total approximately 174,303 m in length. This new drill hole information has resulted in the creation of a number of additional mineralized wireframe models for both the open pit and underground mines.

Mandalay built individual mineralized wireframes separately for open pit and underground domains. The open pit wireframes were based on a nominal 0.3 g/t Au cut-off value over a minimum of two m, and the underground wireframes were based on a nominal 2 m minimum width at a cut-off value of 0.5 g/t Au.

Separate cut-off grades were developed for reporting underground and open pit Mineral Resources. Each cut-off grade was developed using the January to September 2018 actual cost information along with a gold price of \$1,400 per ounce. The cut-off grade for reporting Mineral Resources was determined to be 0.95 g/t Au within the underground mine and 0.35 g/t Au for the open pit mine.

At a cut-off grade of 0.95 g/t Au, the Mineral Resources in the underground mine comprise approximately 7.42 million tonnes at an average grade of 2.98 g/t Au containing approximately 711,000 oz Au in the Indicated Mineral Resource category and approximately 1.92 million tonnes at an average grade of 2.63 g/t Au containing approximately 162,000 oz Au in the Inferred Mineral Resource category.

At a cut-off grade of 0.35 g/t Au, the Mineral Resources in the open pit mine comprise approximately 2.94 million tonnes at an average grade of 2.3 g/t Au containing approximately 218,000 oz Au in the Indicated Mineral Resource category and approximately 2.51 million tonnes at an average grade of 1.32 g/t Au containing approximately 107,000 oz Au in the Inferred Mineral Resource category.

RPA classified the Mineral Resources into either the Indicated or Inferred categories based on drill hole spacing, grade continuity, and reliability of data. For the underground mine model, vein blocks interpolated in passes 1 and 2, with ranges of up to 35 m, and lying below the marble contact were classified as Indicated. Vein blocks interpolated in pass 3, with ranges of up to 70 m and lying below the marble contact, were classified as Inferred.

For the open pit mine model, vein blocks interpolated in pass 1, with a range of 35 m were classified as Indicated. Vein blocks interpolated in pass 2, with a range of 70 m were classified as Inferred. All blocks that received an estimate within the waste domain were classified as Inferred.

Any blocks located above the marble contact were removed from the Mineral Resource classification.

### *Norrberget*

The following description for Norrberget was taken from the 2018 Technical Report (RPA, 2018). No changes have been made to the Mineral Resource estimate since the underlying assumptions have not changed with the exception of the exchange rate (9.0:1 versus 8.4:1). RPA does not expect the change in exchange rate to have a material impact on the Mineral Resource at Norrberget.

RPA reviewed data for Norrberget and has independently prepared Mineral Resource estimates using a drill hole database with a cut-off date of September 30, 2017. The Mineral Resource estimate has an effective date of December 31, 2017. No drilling has been carried out since October 4, 2017.

RPA generated three mineralized domains for Norrberget that reflected packages of mineralized and altered material above a 0.35 g/t Au cut-off that was a minimum of 2 m in horizontal width.

RPA reviewed the Norrberget data and capped the grades to ensure that sporadic high-grade values were not overrepresented. A 24 g/t Au capping value was applied. The capped samples were flagged by the mineralized domain wireframes and the intercepts were composited on a 1.0 m length between the wireframe boundaries, with a minimum residual of 0.5 m.

A block model that encompassed the mineralization wireframes and sufficient waste to constrain the resource within a pit was generated. Au grades were interpolated into the mineralized blocks using ID3. A total of three interpolation passes were carried out to estimate the grades in the block model.

Cut-off grades were developed using the January to September 2017 actual cost information from Björkdal along with an Au price of \$1,400 per ounce. The cut-off grade for reporting of Mineral Resources for Norrberget was determined to be 0.35 g/t Au.

RPA classified the Mineral Resources as Indicated and Inferred based on drill hole spacing, grade continuity, and reliability of data.

At a cut-off grade of 0.35 g/t Au, the Norrberget Mineral Resources comprise 144,000 t at an average grade of 3.29 g/t Au containing 15,000 oz of Au in the Indicated Mineral Resource category and approximately 500 oz of Au in the Inferred Mineral Resource category. Mineral Resources were estimated within an open pit.

The Mineral Resource estimates, as shown in the table below, are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

**Table: Mineral Resources at the Björkdal Mine and Norrberget Deposit as of December 31, 2018, inclusive of Mineral Reserves**

Category	Area	Tonnage (kt)	Grade (g/t Au)	Contained Au (koz)
<b>Indicated Resources</b>				
	Open Pit	2,947	2.30	218
	Underground	7,416	2.98	711
	Stockpile	2,700	0.64	56
	Sub-total	13,063	2.36	985
	Norrberget Open Pit	144	3.29	15
<b>Total Indicated</b>		<b>13,207</b>	<b>2.36</b>	<b>1,000</b>
<b>Inferred Resources</b>				
	Open Pit	2,516	1.32	107
	Underground	1,922	2.63	162
	Sub-total	4,438	1.89	269
	Norrberget Open Pit	3	4.03	0.5
<b>Total Inferred</b>		<b>4,441</b>	<b>1.89</b>	<b>270</b>

Notes:

1. Björkdal Mineral Resources are estimated using drill hole and sample data as of September 30, 2018 and depleted for production through December 31, 2018.
2. Norrberget Mineral Resources are estimates using drill hole and sample data as of September 30, 2017.
3. CIM (2014) definitions were followed for Mineral Resources.
4. Mineral Resources are inclusive of Mineral Reserves.
5. Mineral Resources are estimated using an average gold price of US\$1,400/oz and an exchange rate of 9.0 SEK/US\$.

6. Bulk density is 2.74 t/m<sup>3</sup>.
7. High gold assays were capped to 30 g/t Au for the open pit mine.
8. High gold assays for the underground mine were capped at 60 g/t Au for the first search pass and 40 g/t Au for subsequent passes.
9. High gold assays at Norrberget were capped at 24 g/t Au.
10. Interpolation was by inverse distance cubed utilizing diamond drill, reverse circulation and chip channel samples.
11. Open pit Mineral Resources are estimated at a cut-off grade of 0.35 g/t Au and constrained by a resource pit shell.
12. Underground Mineral Resources are estimated at a cut-off grade of 0.95 g/t Au.
13. A nominal two metres minimum mining width was used to interpret veins using diamond drill, reverse circulation, and underground chip sampling.
14. Stockpile Mineral Resources are estimated at a cut-off grade of 0.40 g/t Au and are based upon surveyed volumes supplemented by production data.
15. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
16. Numbers may not add due to rounding.

The Mineral Reserves estimated by RPA with an effective date of December 31, 2018, are listed in the table below.

The Mineral Reserve estimate for Björkdal is 11.38 million tonnes at a grade of 1.58 g/t Au, for a total of 580,000 oz contained Au. The Mineral Reserve estimate for Norrberget is 162,000 tonnes at a grade of 2.80 g/t Au, for a total of 15,000 oz contained Au.

**Table: Mineral Reserves at the Björkdal Mine and the Norrberget Deposit as of December 31, 2018**

Category/Area	Area	Tonnage (kt)	Grade (g/t Au)	Contained Au (koz)
<b>Probable Reserves</b>				
Björkdal	Open Pit	3,768	1.23	149
	Underground	4,754	2.36	360
Norrberget	Open Pit	162	2.80	15
Stockpile	Stockpile	2,700	0.64	56
<b>Total Probable</b>		<b>11,384</b>	<b>1.58</b>	<b>580</b>

Notes:

1. Mineral Reserves are estimated using drill hole and sample data as of September 30, 2018 and depleted for production through December 31, 2018.
2. CIM (2014) definitions were followed for Mineral Reserves.
3. Open Pit Mineral Reserves are based on mine designs carried out on an updated resource model, applying a block dilution of 100% at 0.0 g/t Au for blocks above 1.0 g/t Au and 100% at 0.6 g/t Au for blocks between 0.4 g/t Au and 1.0 g/t Au. The application of these block dilution factors is based on historical reconciliation data. A cut-off grade of 0.4 g/t Au was applied. Open Pit Mineral Reserves for Norrberget are based on 15% dilution at zero grade and 100% extraction.
4. Underground Mineral Reserves are based on mine designs carried out on an updated resource model. Minimum mining widths of 3.5 m for stopes (after dilution) and 3.8 m for development were used. Dilution was applied by adding 0.5 m on each side of stopes as well as an additional 10% over break dilution. Further dilution, ranging from 10% to 100%, was added on a stope by stope basis depending on their proximity with other stopes. An overall dilution factor of 14.5% was added to development. Mining extraction was assessed at 95% for contained ounces within stopes and 100% for development. A cut-off grade of 1.00 g/t Au was applied. An incremental cut-off grade of 0.4 g/t Au was used for development material.
5. Stockpile Mineral Resources are estimated at a cut-off grade of 0.40 g/t Au and are based upon surveyed volumes supplemented by production data.
6. Mineral Reserves are estimated using an average long-term gold price of US\$1,200/oz, and an exchange rate of 9.04 SEK/US\$.
7. Tonnes and contained gold are rounded to the nearest thousand.
8. Totals may appear different from the sum of their components due to rounding.

## Mining Operations

### *Open Pit – Björkdal*

Current mining parameters and loading equipment allow for reasonably good selectivity, however, dilution levels are much higher than typical open pit parameters given the narrow-veined nature of the Björkdal deposit.

A pit design was created based on Whittle pit shell using the Deswik mine planning software. The design parameters used are based on the current operating practices used at Björkdal. The final pit bottom is at the

-240 level. Single ramps, with widths of 15 m, are used in the first series of benches to access ore in the pit bottom. These single ramps converge into a double ramp at the -160 level pit and finish at the northeast side of the pit rim. The pit is designed slightly wider than the Whittle shell to achieve a reasonable mining width to operate the equipment. RPA has assumed approximately 30 m to 40 m to be a reasonable width based on equipment size.

Benches are 5 m high, and are taken in groups of 2-4 with an 8-10 m wide berm every 10-20 m. A 72-85° bench face angle is used to give an overall wall slope of 42-52°.

Open pit mining is carried out by contractors using trucks and loaders. The existing mining capacity with the current equipment configuration is approximately 8 million t per year. Loading is carried out with a combination of front-end loaders and excavators. Ore and waste are hauled with 90 t capacity trucks. Production drilling is currently done by NBT (contractor). The ore blast bench height is five metres, utilizing a 3.25 m x 4.5 m drill pattern. The drill holes are all drilled vertically, with a sub-drilling of 0.5 m.

Delivery of explosives and igniters and charging/blasting services in Björkdal is contracted out to EPC Sverige AB (EPC), a wholly owned subsidiary of the French explosives company EPC Groupe. Two detonators are placed in the bottom of each drill hole. The SSE type emulsion explosive (velocity 5,500 m/s) is used for blasting. The specific charge is approximately 0.25 kg/t. Stemming depth is approximately 2.4 m and comprises a fine gravel material.

In order to minimize ore dilution, the blasting sequence “direction” is normally along strike of the quartz veins. The swelling factor is 50% resulting in a 7.5 m high blasted bench that will be mined in 3 consecutive flitches, each with a height of 2.5 m.

Excavator operators are given ore maps created by the pit geologist. Operators also receive digital maps that they can display on the screen in the cab. Maps contain drilling info, A-ore and B-ore zones, and selective mining areas. A-ore is sent to the mill whereas B-ore is generally sent to the low-grade stockpile. Ore zones are marked on the ground in all three consecutive flitches, each flitch with a height of 2.5 m. Excavator operators mark the ore map with the parts of the blast they have loaded as an A-ore, B-ore, and waste. To help excavators to separate waste and ore pit geologists are in the field giving instructions to the excavator operator.

The open pit ore production schedule has sufficient flexibility to maintain access to at least one of the two existing underground portals at all times.

#### *Underground – Björkdal*

Indicated Mineral Resource blocks greater than 1.0 g/t Au were used as a basis for initial stope designs generated by Auto Stope Designer, an automated layout function that is part of the Deswik software package.

The resulting stopes were evaluated manually and adjustments were made where necessary. Stopes were evaluated based on size, grade, and relative distance to existing development. Stopes that were not economically viable were removed from Mineral Reserves. Any stopes that were within 5 m of each other were combined into larger stopes and diluted based on the additional internal waste captured in the new stope. The 5 m pillar requirement is based on actual mining conditions experienced at Björkdal. The current stope designs do not incorporate localized geotechnical and geological considerations including detailed knowledge of hangingwall and footwall contacts, fault zones, and structural features such as folding.

The underground mining method used at the Björkdal Mine is longhole stoping with a sub-level spacing of 15 m to 20 m, depending on the zone. Crosscuts are established perpendicular to the vein system and are within approximately 20 m of the marble contact at 20 m vertical intervals. Veins are developed by drifting on each sublevel from the crosscut. All pre-production vein, crosscut and ramp development is drilled and blasted using conventional trackless mining equipment.

Stoping blocks are drilled with approximately 15 m long 64 mm up-holes connecting to the bottom of the overlying stope using Atlas Copco Simba S7D or M7C drill rigs. When production drilling is completed, initial slot raises are developed and drill lines blasted in groups of three to five rings using a burden of 1.5 m and retreating towards the hangingwall. The material is removed between blasts, which also allows void for the following blast. Remotely operated scoops are used to muck the stopes to nearby re-handle stockpiles.

In consideration of the variable vein geometry and existing equipment configuration, 3.5 m has been established as the most practical minimum mining width. This includes provision for a 0.5 m over break on both the hangingwall and footwall sides of the stope.

### **Mineral Processing**

The mineral processing plant at Björkdal commenced operation in 1989. Since that time, it has processed more than 31 million tonnes of ore from open pit and underground sources and produced approximately 1.4 million ounces of gold. Currently, the concentrator throughput is 1.2 Mtpa and the overall gold recovery is 90% of which 73% is obtained from the gravity processes and 17% from flotation.

The concentrator includes primary, secondary, and tertiary crushing, primary and secondary grinding, a series of gravity concentration steps, regrinding, and flotation to produce three gravity concentrates and a flotation concentrate.

### *Markets*

Björkdal produces four salable products: a gravity concentrate, a middlings concentrate, a Knelson concentrate and a flotation concentrate. Björkdal has concentrate sales agreements with Aurubis Ag in Germany and Boliden Comercial AB in Sweden. The terms and conditions of commercial sale are not disclosed pursuant to confidentiality requirements. Björkdal has also sold some concentrate on the spot market to customers in Europe and Asia.

### *Contracts*

Other contracts that exist with the mine and suppliers include those for:

- Open Pit Loading/Hauling: Bennys Gräv AB contract expired mid-2018, Swerock AB undertook new contract thereafter.
- Open Pit Drilling: Norrbottens Bergteknik AB.
- Blasting: EPC Sverige AB for the supply of emulsion and ANFO explosives and blast hole loading for both open pit and underground.
- Exploration Diamond Drilling: Contracted on an as-needed basis.
- Electrical: Boliden Electro AB provides all electric services.
- Underground Ore Transport: Porjus Entreprenad AB is responsible for the loading and haulage to the surface of all underground mined material.
- RC drilling: Styrud AB.
- Variety of leased mining equipment.

### *Environmental*

A full environmental audit is carried out every three years by an independent consultant and the local authorities. Monitoring, control and management, policy and procedures are well documented and entirely appropriate to the type of operation.

Björkdal has low sulphide content resulting in no acid rock drainage potential. Au is recovered by mechanical and gravity processes with no use of cyanide. There are no harmful elements associated with the mine tailings and they have been declared non-toxic by the authorities. Previous characterization studies have shown that waste rock from open pit mining contains very low levels of heavy metals and sulphur and conclude that the waste should be considered inert.

Water quality is monitored on a regular basis at eight strategically placed monitoring stations. The Upper Lillträsk Creek and Upper Kåge River stations are located upstream of the mining area and provide reference water quality data; two stations on the property monitor discharge quality from the mine water system (PP1) and the TMF (PP2); and four additional stations located in Lower Lillträsk Creek, Kåge River, and Røjmyr Creek monitor changes in the receiving watershed.

Björkdal reports that the discharge water quality from both the mine water management system (PP1) and the TMF (PP2) have historically exceeded permissible levels for nitrates and TSS. Elevated levels of phosphorus and phosphates have also been noted at PP1.

The Mine has conducted several studies to establish the cause for these elevated values and to address elevated nitrogen and TSS levels. In 2015, the underground mine water discharge was diverted into the tailings pond and nitrogen levels declined as a result of degradation of nitrogen due to a longer residence time and dilution. During 2018, all mine discharge water was being discharged to the TMF through PP2, and PP1 has been removed from the control and monitoring system. This change has been approved by the environmental court and is anticipated to resolve all issues with elevated nitrites and TSS.

Mine closure and reclamation plans are submitted and approved as an annex to the environmental permit and includes a reclamation bond with the Swedish authorities. The newly granted environmental permit includes an updated closure and reclamation plan. Mandalay presently has US\$1.7 million (SEK 16 million) in a secured reclamation account held by the Swedish authorities and this will be increased to US\$4.49 million (SEK 43 million).

### *Taxes*

The Corporation's profit is subject to a corporate tax at a flat rate of 21.4% applying from January 1, 2019 and is to be decreased to 20.6% in 2021. Until December 31, 2018, the corporate tax rate was 22.0% (applying from 2013). The Corporation currently does not have any carry-forward tax losses.

### *Capital Costs*

RPA has completed the LOM and cost estimates in sufficient detail to be satisfied that economic extraction of these Probable Mineral Reserves is justified. The majority of the capital cost estimates contained in this report are based on quantities generated from the open pit and underground development requirements. The following table summarizes the capital costs for the project:

**Table: Björkdal Capital Cost Summary**

Description	Value (US\$ '000)
Sustaining Capital Fixed Assets	21,556
Capital Development Underground	21,385
Pre-Strip Open Pit	40,146
<b>Total Sustaining Capital</b>	<b>79,646</b>
Growth Capital Fixed Assets	23,474
<b>Total LOM Capital Expenditure</b>	<b>106,560</b>

### *Operating Costs*

Björkdal maintains detailed and all-inclusive operating cost records that provide an excellent basis for estimating future operating costs. Björkdal produced a cash flow estimate based on the budgeted costs for 2019. This estimate was checked by RPA against 2017 and 2018 costs provided by Björkdal. The majority of Björkdal's operating costs are based in Swedish Kroner.

All costs have been converted to US dollars using exchange rate assumptions of 9.0 SEK/US\$.

**Table: Björkdal LOM Operating Costs**

Description	LOM (US\$ '000)	Annual Average (US\$ '000)	Unit Cost (US\$/t proc)
Mining	138,835	17,180	12.20
Processing	86,013	9,822	7.56
G&A	80,954	9,244	7.11
Royalties and Refining	14,440	1,604	1.27
<b>Total Operating Cost</b>	<b>320,243</b>	<b>39,677</b>	<b>28.29</b>

Notes:

1. Annual average calculated by dividing the LOM figures by 8 years.

### **Economic Analysis**

This section is not required as the property is currently in production. Mandalay is a producing issuer, and there is no material expansion of current production. RPA has verified the economic viability of the Mineral Reserves via cash flow modelling, using the inputs discussed in the Björkdal Technical Report.

### **Exploration and Development**

For 2019, Mandalay anticipates the main focus to be on exploration in the underground. Capital development will continue to the north of the known mineralization proximal to the Aurora zone. Ramping will also continue at the main and central zones following the depth extensions of those zones. Main capital production spend in the open pit will be for the initial removal of till for the Nylunds area, to the south of the current workings.

In 2019, Mandalay is seeking to drill extensions of the Aurora zone and surrounding veins. Drilling is expected to occur from surface looking for the upper limit of Aurora and from underground seeking to extend the depth of the mineralization. Drilling will also be focused on higher-grade skarn mineralization in the underground mine. No diamond drilling is scheduled for the open pit for 2019 and only RC infill drilling is scheduled to occur.

### 6.13 Mineral Projects – Costerfield

Information referenced in this section referring to Costerfield is based on the Costerfield Technical Report.

#### Property Location

The Costerfield Operation is located within the Costerfield mining district of Central Victoria, approximately 10 km northeast of the town of Heathcote, and 50 km east-southeast of the City of Bendigo.

The Costerfield Operation encompasses the underground Augusta Mine including the Cuffley, Brunswick and Youle deposits, the Brunswick Processing Plant, Splitters Creek evaporation Facility, Bombay Tailings Storage Facility (“TSF”) and associated infrastructure.

The Augusta mine (Augusta) is located at latitude of 36° 52’ 27” south and longitude 144° 47’ 38” east. The Brunswick Processing Plant is located approximately 2 km north west of Augusta. The Cuffley deposit located approximately 500 m north–northwest of the Augusta workings is accessed via a decline from Augusta. The Brunswick deposit is located approximately 1.4 km north–northwest of the Augusta workings and 680 m north–northwest of the Cuffley deposit. The Youle deposit is located north of the Augusta workings (2.2 km) and Cuffley deposit (1.6 km).

#### Ownership

Mandalay manages the Costerfield Operation and holds a 100% interest in tenements MIN4644, MIN5567, EL3310, EL 5432 and EL5519. On November 2, 2018, two Exploration Licence Applications (ELA6847 and ELA6842) were submitted to DEDJTR (Department of Economic Development, Jobs, Transport and Resources). These two tenements are located to the east and west of the existing Costerfield tenements and cover an area of 64 km<sup>2</sup>. Tenure information for the two Mining Licences, three Exploration Licences, and two Exploration Licence Applications are shown in the following table:

**Table: Costerfield Granted Tenement Details**

Tenement	Name	Status	Company	Area	Grant date	Expiry date
MIN4644	Costerfield	Granted	AGD Operations P/L	1219.3 Ha	25/02/1986	30/06/2026
EL3310	Costerfield	Granted	AGD Operations P/L	59.0 GRATS	17/09/1993	17/09/2020
EL5519	Antimony Creek	Granted	Mandalay Resources Costerfield Operations Pty Ltd	8.0 GRATS	28/05/2015	27/05/2023
EL5432	Peels Track	Granted	AGD Operations P/L	4.0 GRATS	23/08/2012	22/08/2022
ELA6842	Costerfield West	Under Application	Mandalay Resources Costerfield Operations Pty Ltd	29.0 GRATS	Submitted 2/11/2018	Pending
ELA6847	Costerfield East	Under Application	Mandalay Resources Costerfield Operations Pty Ltd	35.0 GRATS	Submitted 2/11/2018	Pending
MIN5567	Splitters Creek	Granted	Mandalay Resources Costerfield Operations Pty Ltd	30 Ha	20/02/2013	20/02/2023

1 GRATS is equivalent to 1 km<sup>2</sup>

The mining licenses cover all current and future planned mining activity.

### **Permitting**

Primary approval for the operation of Costerfield is held through Mining License MIN4644. In December 2017, this license was renewed for 10 years (until June 30, 2026).

### **Royalties**

Royalties apply to the production of antimony and are payable to the Victorian State Government through the Department of Economic Development, Jobs, Transport and Resources (“DEDJTR”). The royalty is applied at 2.75% of the revenue realized from the sale of antimony produced, less the selling costs.

No royalty is payable on gold production, nor is there any royalty agreement in place with previous owners.

Royalties are payable to the Victorian State Government through the DEDJTR if waste rock or tailings is sold (or provided to) to third parties, because they are deemed to be quarry products. The royalty rate is AUD0.87/t.

### **Environmental Liabilities**

Costerfield Operations is currently in compliance with all permits and authorizations.

In October 2018, a bond review was carried out and the value of the rehabilitation policy has increased by AUD224,000 to AUD4,079,000 in total for MIN4644 and MIN5567. The rehabilitation bond for MIN4644 is currently AUD3.331 million.

A further AUD10,000 bond is paid to the DEDJTR for tenements EL3310 and EL5432 and with Vic Roads for licences for pipelines that are crossing roads.

The rehabilitation bond for MIN5567, the lease on which the Splitters Creek Evaporation Facility has been constructed, was calculated in October 2018 and set aside AUD748,000.

The total bond for MIN4464, the lease where the Augusta mine site and Brunswick Processing Plant are situated, is AUD3.331 million. The bond has increased in the latest bond review due to the addition of the Brunswick vent shaft in 2018.

Rehabilitation is undertaken progressively at the Costerfield Operation, with the environmental bond only being reduced when rehabilitation of an area or site has been deemed successful by the DEDJTR. This rehabilitation bond is based on the assumption that all rehabilitation is undertaken by an independent third party. Therefore, various project management and equipment mobilization costs are incorporated into the rehabilitation bond liability calculation. In practice, rehabilitation costs may be less if Mandalay chooses to use internal resources to complete rehabilitation.

Other than the rehabilitation bond, the Costerfield Operation is not subject to any other environmental liabilities.

### **Local Resources and Infrastructure**

#### *Power*

Costerfield purchases electricity directly from the main national electricity grid. The Costerfield Operation has a current agreement with Powercor for 2 MW to be shared across the 2 HV supply points (Cuffley and

Augusta). Once above 2 MVA, the customer is required to maintain a power factor (PF) of 0.9. With 2 MW at 0.9 PF equating to 2.222 MVA, there is a requirement to remain below 2.222 MVA across the 2 HV supply points. The Brunswick site has a contracted amount for 706 kVA.

The Brunswick plant has a single 500 kVA duty generator that supplies power to the reverse osmosis (RO) plant, processing plant compressed air, and Brunswick to mine pumping. An 800 kVA generator is on standby for backup in the event of mains failure.

The power supply at Costerfield is in a current state of change due to shortcomings in network availability. In 2019, the site will be upgraded to an embedded system. There are two power sources that will synchronize to form a total demand availability of 6mVA. 3mVA is available from the network supplied by City Power/Powercor the other 3mVA will be generated on site by up to five diesel generators.

### *Water*

The water services at the Brunswick Processing Plant consist of raw water, process water and excess water disposal systems. Most of the raw make-up water is provided by dewatering the underground operations. Process water for the Brunswick Processing Plant is drawn from the brine stream of the RO Plant and is supplemented by brine currently in storage when the RO Plant is not in operation. The Augusta Mine reuses groundwater that has been dewatered from the underground workings.

Potable water is trucked in from Heathcote, while grey water is stored in tanks. Sewage is captured in sewage tanks before being trucked off site by a local contractor.

In the fourth quarter of 2014, construction commenced on a groundwater evaporation facility called the Splitters Creek Evaporation Facility. Now complete, the facility is used to evaporate groundwater extracted from Costerfield, thereby maintaining dewatering rates from the underground workings. Additional detail is provided in Section 20 of the Costerfield Technical Report.

### *Buildings and Facilities*

The Costerfield office and ablution facilities are located on the Augusta underground mine site and at the Brunswick site.

Currently, all employees live in the surrounding towns and commute to work in private vehicles. There are five houses available for new employees and contractors as required.

### *Tailings and Waste Rock Storage Areas*

Two tailings storage facilities (“TSF”) have been constructed and operated:

- (i) Brunswick TSF; and
- (ii) Bombay TSF.

Both TSFs were constructed based on a conventional paddock style/turkey’s nest type design with earthen embankments.

The Bombay TSF had a 2.5 m (140,000 m<sup>3</sup> capacity) lift completed in 2018 and will be used until Q1 2020. An additional upstream lift on the Brunswick TSF is scheduled to start in Q2 2019 and is expected to be completed by Q4 2019.

Planning approval has been granted for further 2.7 m lift of the Bombay TSF in the future to provide further storage capacity. The total Brunswick and Bombay approved increase in tailings storage allows for over two years' capacity at current milling rates.

Studies are underway to determine the most effective way to further increase tailings capacity to meet the LOM plan.

### *Workforce*

The workforce for Costerfield is sourced from the surrounding area and the large mining town of Bendigo. There is adequate access to labour available in the area for foreseeable operating plans.

### *Accessibility*

Access to Costerfield is via the sealed Heathcote–Nagambie Road which is accessed off the Northern Highway to the south of Heathcote, at a distance of approximately 100 km north of Melbourne. The Northern Highway links Melbourne and Central and North-Central Victoria.

The Augusta mine site is accessed off the Heathcote–Nagambie Road via McNicols Lane which comprises a sealed/gravel road that continues for approximately 1.5 km to the Augusta site offices.

The Brunswick processing plant is located on the western side of the Heathcote–Nagambie Road, approximately 1 km further north of the McNicols Lane turnoff. The Brunswick site offices are accessed by a gravel road that is approximately 600 m long.

The access road to the mine off the Heathcote-Nagambie Road is a narrow-width bitumen strip with gravel shoulders.

### **Climate**

The local climate of the Costerfield district is 'semi-arid' or 'Mediterranean' in character. The winters are cool and wet, and the summers are hot and dry. There is a high probability of rainfall occurring during the summer and the rainfall often yields high intensity downpours.

Annual rainfall in the area is approximately 500-600 millimetres (“**mm**”), with the majority occurring between April and October. The temperature ranges from -2°C in winter (May to August) to +40°C in summer (November to February).

The weather is amenable to year-round mining operations; however, construction activity is restricted to the summer months as high winter rainfall can lead to saturated ground conditions that can affect surface activities.

### **Topography and Vegetation**

The topography of the Costerfield area consists of relatively flat to undulating terrain with elevated areas to the south and west sloping down to a relatively flat plain to the north and east. The low-lying areas of the plain are a floodplain. The area ranges in elevation from approximately 160 m above sea level in the east along Wappentake Creek to 288 m above sea level in the northwest. Vegetation ranges from mixed species of open forest in the valleys and gentle slopes, with shrubby box gum on the stony gravelly hills and heath and grasses on the dry slopes and ridges. Much of the undulating land and alluvial flats have been cleared of vegetation for farming purposes.

## Geology and Mineralization

The Costerfield Au-Sb vein district, of which the Augusta Lodes are part, is located on the northern end of the Darraweit Guim Province. Stratigraphy in this area comprises a thick sequence of Lower Silurian to Lower Devonian shelf and flysch sedimentary rocks, dominated by turbiditic siltstone, with minor sandstone and argillite. These rocks form the Murrindindi Supergroup. At the base of the Supergroup is the Costerfield Formation, which is conformably overlain by the Wappentake (sandstone/siltstone) and Dargile (mudstone) Formations, the McIvor Sandstone and the Mount Ida Formation (sandstone/mudstone).

The north-trending Heathcote-Mt William fault system marks the western boundary of the Melbourne Trough in the Costerfield area.

The Au-Sb veins in the Costerfield district are hosted within the Silurian Costerfield Siltstone unit. Within the district, four north-northwest (“NNW”) -trending zones of mineralization have been identified. They are, from the west:

- (i) Antimony Creek Zone, approximately 6.5 km southwest of Costerfield, on the outer western flank of the Costerfield Dome;
- (ii) Western Zone, approximately 1.5 km west of Costerfield, on the western flank of the Costerfield Dome;
- (iii) Costerfield Zone, near the crest of the dome, centred on the Costerfield township and hosting the major producing mines and deposits; and
- (iv) Robinsons – Browns (R-B) Zone, 2 km east of Costerfield (see Figure below).

Au-Sb veins of the Augusta Lodes typically comprise quartz (laminated to brecciated) and sulphides. The dominant sulphide mineral is stibnite ( $Sb_2S_3$ ). Minor amounts of arsenopyrite and pyrite occur as well. Stibnite occurs as fine-grained, massive vein fill or as matrix support to vein-quartz breccias. Au is finely dispersed within the massive stibnite. As well, coarse Au is contained in the older quartz veins.

The Augusta Lodes occur within NNW-trending shear zones, which dip steeply to the west. They include E and W-Lodes, previously mined; N-Lode, currently being mined; and the smaller C-Lode. The E-Lode vein is approximately 0.4 m thick with a strike length of about 500 m. W-Lode averages approximately 0.4 m thick and has a strike length of approximately 230 m.

The Cuffley Lode lies approximately 200 m to the west of E-Lode. The lode dips at about  $85^\circ$  to the east and occurs over a strike length of approximately 750 m, with a down-dip extent of approximately 250 m. It has an average true thickness of approximately 0.53 m. At present, the Cuffley Lode is open at depth.

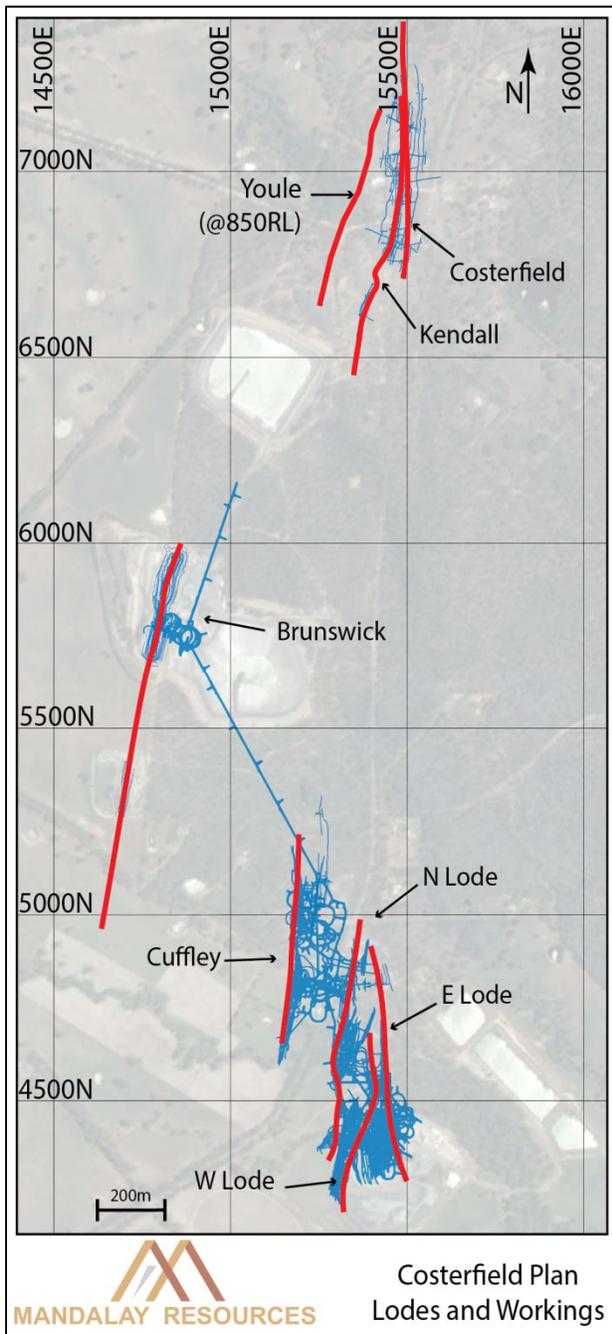
The Brunswick Lode lies approximately 600 m northwest of the northernmost point of the Cuffley Lode. The lode is sub-vertical and occurs over a strike length of approximately 450 m, with a down-dip extent of approximately 200 m and an average true thickness of approximately 1.28 m. Recent exploration drilling has identified mineralization to the south and at depth below the known Brunswick Lode. Mineralization is broken into two zones of mineralization below the Brunswick Lode, called the P-K domain and Brunswick Deeps. The P-K domain is capped by the shallow west-dipping Penguin Fault, and extends to the Kiwi Fault. The Brunswick Deeps zone is defined by the west-dipping Kiwi Fault and Adder Fault. Similar in nature to Cuffley and N-Lodes, the mineralization in the two domains is generally confined to sub-vertical quartz–stibnite veins.

The Youle deposit extends below the historical Costerfield, Minerva and Bombay group of mines located approximately 1.2 km northeast of Brunswick. Mineralization was identified in 2011 in drill hole MB012,

which struck the down-dip continuation of the vertical Kendall Lode, offset westward over the west-dipping No. 3 thrust fault. In 2016, drill hole BC006W1 revealed the existence of a high-grade north–northwest striking, west-dipping lode structure, Youle. The Youle Lode dips at a shallower angle to the mineralized lodes in Augusta and Cuffley and has been identified as the down-dip continuation of the vertical Kendall Lode offset westward over the west-dipping No.5 thrust fault.

Youle has thus far demonstrated consistent structural and grade continuity over much of its extent. The Youle Lode has a strike length of 600 m (width of 150 m) and ranges in true thickness between 0.16 m and 1.37 m. Similar to the Augusta and Brunswick Lodes, mineralization is confined to quartz-stibnite veins.

### Plan View of Augusta, Cuffley, Brunswick and Youle Lodes



### Mineralized Structures of the Costerfield District



## **History**

Exploration for Sb-Au deposits in the Costerfield area of Central Victoria started in the early 1850s and resulted in the discovery of the main Costerfield Reef in 1860. Around the same time, the Kelburn (Alison) Reef and Tait's Reef were discovered at South Costerfield.

The Alison Mine ceased operations in 1923, while the South Costerfield/Tait's Mine operated sporadically from the 1860s until 1978 and was the last shaft mine to operate on the field.

In 1970, Mid-East Minerals NL identified a large bedrock geochemistry anomaly south of Tait's Shaft, which they called 'Tait-Margaret'. This was subsequently drilled by the Mines Department in 1977 and mineralized veins were intersected.

In 2001, AGD drilled the 'Tait-Margaret' anomaly, which was re-named 'Augusta'. AGD commenced underground mining of the Augusta resource (N, C, W and E-Lodes) in 2006. Brownfield exploration core drilling by Mandalay in 2011 located a faulted offset of the Alison Lode beneath the old Alison Mine and New Alison Mine workings. The deeper offset mineralization was renamed the Cuffley Lode. Subsequent definition drilling throughout 2011 and 2012 resulted in an initial Inferred Resource for the Cuffley Lode being established in January 2012 and the Brunswick Lode in 2016.

Further infill and extension drilling continued to build on Inferred Resources and convert Inferred Resource to Indicated Resource in 2013-2016. Mining of the Cuffley deposit began in 2014. Through 2014 and 2015 the focus of mining moved to N-Lode and Cuffley as extraction from E-Lode and W-Lode neared completion. 2017 ore extraction was predominantly from the N-Lode and Cuffley. In 2017, the Corporation began developing toward the Brunswick Lode, producing from Brunswick in late 2018. In 2018 successful exploration has led to the inclusion of the high-grade Youle Lode in mineral reserves and the commencement of capital development to the Youle deposit.

## **Exploration**

The Costerfield antimony-gold deposits were discovered in the 1860s. At that time, prospectors Coster, Field and Youle named and mined the Main Costerfield Reef. Further exploration found the Minerva and Bombay deposits between 1860 and 1883. From 1936, the south Costerfield deposit was defined and mined. This deposit is the northern extent of the Augusta deposits. Mid-East Minerals discovered the Brunswick line of Sb and Au mineralization in 1966. This deposit was further explored and mined by Forsayth Mineral Exploration & Costerfield Mining Pty Ltd. from 1973 to 1975. The Augusta mineralization was discovered by the Victoria Mines Department between 1975 and 1981. Continued exploration and resource definition drilling resulted in the completion of a successful feasibility study and development of the Augusta Lode underground mine by AGD in 2006.

Costerfield Operations continued exploration in the mine area. Mandalay drilled the Augusta E and W-Lodes below the existing mine workings with a single rig from June to December, 2010. Good results of that program led the mine to commit a 12-month, two-rig continuation of the Deeps drilling, in addition to inaugurating a single-rig, 8-month program to explore the district for new mineralized shoots. The 2011 drilling program yielded a number of intercepts in the Augusta E and W-Lodes and discovery of the Cuffley (formerly Alison Deeps) Lode. These results encouraged Mandalay to execute a three-rig program in 2012 that extended W, N, and Cuffley Lode resources.

In 2013, the drill program focused on infill drilling the central, high-grade part of the Cuffley Lode to convert some of the Inferred Mineral Resources to the Indicated category.

In 2014, Costerfield Operations continued extending and infill drilling Cuffley Lode and tested several new targets along the principal strike of the district.

In 2015, exploration focused on extending the Cuffley and Augusta Resources both along strike and at depth. The expansion of the Cuffley Resource included the commencement of drilling in the Cuffley Deeps and Sub King Cobra regions. Exploration drilling was also carried out in West Costerfield and the Margaret areas.

In 2016, exploration focused on drilling on Sub-King Cobra, Cuffley Deeps, Cuffley South/M and New Lode, Margaret and Brunswick Lodes with the purpose of extending and converting the existing Inferred Mineral Resource at Brunswick to an Indicated Resource, infill drilling in the Cuffley Deeps and extending the Cuffley Deeps West Lode.

In 2017, exploration was focused predominantly on near-mine and opportunistic targets close to existing infrastructure and capital development, with the primary focus to increase immediate mine life. A strong focus for the year was carrying out infill and extension of the Brunswick Resource and upgrading the Brunswick Mineral Resource with the aim to convert to Mineral Reserve, while also increasing in-mine Resources through Opportunistic Drilling Projects. A successful target testing campaign was undertaken, investigating the depth continuation of mineralization underneath the Costerfield mine.

In 2018, a strong focus was on replacing depletion, increasing reserve grade and extending the mine life. Exploration in 2018 resulted in the inclusion of the high-grade Youle Lode in Mineral Reserves. At Youle, 121.2 koz Au and 8,800 t Sb was added to the Mineral Reserves at grades of 14.1 g/t Au and 3.3% Sb.

Exploration also involved carrying out infill and extension drilling of the Brunswick and Youle resources while also increasing in-mine resources through opportunistic drilling projects. The Youle resource drilling has also informed the decision to mine the Youle Lode. Capital development commenced on the Youle Lode in 2018 from the Brunswick Lode workings and the Corporation expects production at Youle will commence by year-end 2019.

The goals achieved in 2018 include:

- (i) successful infill and resource drilling of the Youle deposit;
- (ii) commencement of capital development at the Youle deposit;
- (iii) regional exploration with drill testing of the Costerfield mine extension, Augusta East and Brunswick line of lode; and
- (iv) commencement of mining of the Brunswick deposit.

In total, 34,656 metres of diamond drilling was undertaken on Mandalay's tenements at Costerfield during 2018. Throughout the year, the Augusta, Cuffley and Brunswick deposits were mined, all of which were accessed through the Augusta portal with Cuffley's capital infrastructure exiting the Augusta Decline at 1,030 mRL.

## **Mineralization**

Veins at Costerfield typically comprise quartz (laminated to brecciated) and sulphides. The dominant sulphide mineral is stibnite ( $Sb_2S_3$ ). In addition to stibnite, arsenopyrite and pyrite occur in minor amounts.

The veins occur within discrete shear systems. The following paragenesis has been interpreted:

1. sericitization of host rock sediments with minor pyrite deposition;
2. faulting with associated open-space deposition of quartz, locally with coarse gold, and partial replacement of pyrite by auriferous arsenopyrite – only minor replacement of sericite-altered host rock by quartz occurs, with some remobilization of sericite into convoluted cross-cutting veinlets;
3. open-space deposition of carbonate in quartz vugs;
4. influx of Sb-rich solutions, resulting in massive stibnite infill and replacement of brecciated quartz-carbonate veins. The massive stibnite contains finely-disseminated Au; and
5. re-crystallization / annealing of stibnite.

Ore shoots in the veins are typically 0.25-1.0 m thick and extend for 200 m or more along strike. They are typically displaced by flat faults so that they appear flat-bottomed. However, as with the Cuffley Lode, the Corporation is having success finding the offset parts of ore shoots below the flat faults; the deepest intercept in the district, approximately 500 m below surface in the Cuffley Lode, is also one of the highest-grade intercepts.

## **Drilling**

Drilling at Costerfield is largely accomplished through diamond drilling methods with excellent core recoveries. Core sizes vary and include PQ, HQ, HQ3 and NQ2. Drill holes vary in length from 20 m to over 400 m.

## **Drilling Procedure**

Experienced contract drillers perform all diamond core drilling. Drillers record drilling activities on daily drilling reports. Drilled core is placed into drill core storage boxes, each labeled with the drill hole number and depth. Core blocks listing the hole number and depth are placed at the end of each core run. Drillers include additional blocks marking the location of lost core and the end of hole as required.

Drilling is carried out in a staged fashion with initial exploration drilling occurring on 100 m sections along strike. Resource drilling is then carried out at 40 m spacing along strike and 30 m spacing down dip. In some places, drilling is as closely spaced as 10 m x 10 m, should complexity of the geology warrant the additional drilling.

Veins at Augusta dip to the west, so drilling is designed to drill from the hangingwall to the footwall (east dipping holes) and intersect the lode perpendicular to the structure. In the case of underground drilling, the drill holes are drilled from the footwall to the hangingwall.

**Table: Drilling at Costerfield**

Company	Year	# Holes	Diamond (m)	Percussion/Auger (m)
<b>Surface Drilling</b>				
Mid East Minerals	1966-1971	33	3,676.2	
Metals Investment Holdings	1971	12	1,760.8	
Victoria Mines Department	1975-1981	32	3,213.0	
Federation Resources N.L.	1983-2000	27		2,398.3
AGD/Planet Resources J.V.	1987-1988	23		1,349.2
AGD N.L.	1987-1988	14		1,680.8
	1994-1995	142	1,368.5	5,536.0
	1996	59	195.5	2,310.0
	1997	23		725.0
AGD	2001	27	3,361.1	
	2002	7	907.5	
	2003	30	1,522.0	
	2004	27	3,159.5	
	2005	31	4,793.4	
	2006-2007	67	4,763.4	
	2007-2008	11	2,207.2	
	2008-2009	8	1,785.8	
<b>Subtotal Surface</b>		<b>573</b>	<b>32,714.4</b>	<b>13,999.3</b>
<b>Underground Drilling</b>				
AGD Operations	2008-2009	11	799.8	
<b>Total Pre-Mandalay</b>		<b>584</b>	<b>33,514</b>	<b>1,3999</b>
Mandalay	2009	117	459	547
	2010	129	4,032	0
	2011	295	13,515	0
	2012	4,610	18,581	7,296
	2013	110	24,329	3,838
	2014	427	20,817	3,906
	2015	120	18,439	2,732
	2016	154	32,995	0
	2017	144	27,827	0
	2018	164	34,656	0
<b>Total Mandalay</b>		<b>6,126</b>	<b>195,650</b>	<b>18,319</b>

For more information on drilling, reference is made to section 10 of the Costerfield Technical Report.

## **Sampling and Analysis**

Samples are taken from both the drill core and channel sampling along the ore development drives. Approximately 80% of all drive faces are sampled. Each development cut is approximately 1.8 m along strike. Samples are taken at a frequency of between 1.8 m and 5 m along strike.

Diamond holes are oriented so that the drill holes are perpendicular to the lode. Diamond drill core is logged by Costerfield Operations geology staff using a standardized procedure and legend. Geotechnical, lithological, structural, mineralogical, and alteration logs are produced using a touch-screen ToughBook computer installed with acQuire software. Data collected on hard copy and digitally from previous companies prior to implementing this system has been digitally captured in the acQuire drill hole database.

Drill core is initially noted on core blocks by the drilling contractor and verified by the geologist at the logging stage and recorded within the acQuire database. In order to maximize core recovery and mineralized sample size, 80% of the core drilled at Costerfield Operations is of HQ3 size.

In 2005, McArthur Ore Deposits Assessments Pty Ltd. reported core recoveries in lode intercepts for Augusta holes MH001 – MH064 as 88% and for holes MH065 – M091 as 97%. For the Augusta deposit, much of the current Mineral Resource estimate is based on recent drilling information (holes MH092 – MH178) where core recovery of the lodes is very high (in excess of 95%).

There are a few general rules that are applied in the selection of sample intervals for assaying, as listed below:

- all stibnite-bearing veins are sampled;
- a waste sample is taken from each side of the mineralized vein (ranging 30-100 cms);
- areas of stockwork veining are sampled;
- laminated quartz veins are sampled;
- massive quartz veins are sampled;
- siltstone is sampled where disseminated arsenopyrite is prevalent; and
- puggy fault zones are sampled at the discretion of the geologist.

A Mandalay Exploration Field Technician samples the core. The diamond drill core is cut in half with a diamond saw along the top or bottom mark of oriented core and a representative sample of the core is taken.

Sampling intervals for drill core used for resource estimation purposes are not shorter than 3 cm and not longer than 1 m. The average sample length for drill core samples in the Augusta drill program is 40 cm for 2016. Drill holes that were designed and drilled for metallurgical analysis have had sample intervals up to 2 m in length.

## **Data Verification**

On November 18, 2014, SRK full-time employee Danny Kentwell (QP for Sections 6 to 12 and Section 14 of the Costerfield Technical Report) visited the Augusta and the Brunswick Mine sites and was escorted by Chris Davis, Resource and Exploration Manager for Costerfield Operations. All drill core for Costerfield

is processed at the Brunswick exploration core shed. For data verification purposes, Messrs. Kentwell and Davis had discussions with site geologists regarding:

- sample collection;
- sample preparation;
- core mark-up;
- core recovery;
- core cutting procedures;
- sample storage;
- QA/QC;
- data validation procedures;
- collar survey procedures;
- downhole survey procedures;
- geological interpretation;
- exploration strategy;
- grade control sampling and systems; and
- inspection of Brunswick core shed facilities and drill core intersections (Augusta and Cuffley).

Danny Kentwell also visited the site in August 2015, November 2016, October 2017, and October 2018 to examine core and review current operations but did not inspect the underground workings.

In SRK's opinion, the geological data used to inform the Augusta and Cuffley block model estimates were collected in line with industry best practice as defined in the Canadian Institute of Mining and Metallurgy and Petroleum (CIM) Exploration Best Practice Guidelines and the CIM Mineral Resource, Mineral Reserve Best Practice Guidelines. As such, the data is suitable for use in the estimation of Mineral Resources.

### **Security of Samples**

Sample bags containing sample material and a ticket stub with a unique identifier are placed in heavy duty plastic bags in which the sample submission sheet is also included. The plastic bags are sealed with a metal twisting wire / heavy duty plastic cable-ties. This occurs for both underground face samples and drill core samples. The bags are taken to a storage area that is under constant surveillance. A Mandalay courier collects samples once daily and transports them directly to Onsite Labs in Bendigo, Victoria, Australia where they are accepted by laboratory personnel. Sample pulps from Onsite are returned to Mandalay for storage. The pulps are stored undercover and wrapped in plastic at the Costerfield site.

### **Sample Assays**

The sample preparation practices and standard analytical techniques for Costerfield samples are deemed appropriate by SRK. No directors, staff or other associates of Costerfield Operations or Mandalay are involved in the commercial preparation or assaying of samples from Costerfield.

Assaying of the drill core and face samples is predominantly completed by Onsite Laboratory Services (Onsite) in Bendigo. This laboratory is independent of Mandalay and holds a current ISO 9001

accreditation. ALS Global (Brisbane) and Bureau Veritas (Perth) have also been used to verify the accuracy of Onsite. ALS is NATA-certified (825) for Au and Sb. Genalysis is NATA-certified (3244) for Au and Sb.

After Mandalay dispatches the core or face samples, the assaying laboratory's personnel undertake sample preparation and chemical analysis. Results are returned to Mandalay staff, who validate and input the data into the relevant databases.

### **Assay Quality**

Five standards have been used for quality control in 2018. Three have been made from material collected from Augusta (MR04/06, MR-C1 and MR-F1), and are routinely submitted to Onsite. MR04/06, MR-C1 and MR-F1 are Sb and Au only standards. Mandalay also routinely uses a commercially available, Au-only standard (G310-6) and Sb-Au standard (GSB-02) which Onsite sources from Geostats Pty Ltd.

A standard is sent with each batch of exploration samples (on average 1 standard per 25 samples) and with each batch of the underground face samples (on average 2 different standards per batch).

Mandalay believes that the level of compliance and bias displayed by the standards is good and demonstrates the reliability of the Au and Sb grades used to inform the block model estimate.

For more information on Sampling, Analysis, and Data Verification, reference is made to sections 11 and 12 of the Costerfield Technical Report.

### **Mineral Resources and Reserves**

Au and Sb grades and lode thickness were estimated using the two-dimensional (“**2D**”) accumulation method for all lodes with the exception of Brunswick. The 2D accumulation method requires that Au and Sb grades are multiplied by true thickness to give an Au and Sb accumulation. This method assigns weights to composites of different lengths during estimation. The interpolation method used was ordinary kriging with the exception of CM210 Domain 6, CD Domain 3, AS 230 Domain 2, CSE 213, CSE 212, Sub KC, NSP 39/49 lodes, and Youle 500 domains 2 and 3, which used the inverse distance squared method. The estimated grade is then back-calculated by dividing estimated Au accumulation and estimated Sb accumulation by estimated true thickness. The Brunswick Lode was estimated using a conventional three-dimensional (“**3D**”) block modelling method. A 3D wireframe was created for both hangingwall and footwall contacts of the lode. Samples within these wireframes were selected and composited to 1 m intervals. Au and Sb grades were estimated into blocks contained within the hangingwall and footwall contacts.

Statistical analysis was undertaken on the accumulated data to determine the appropriate capping requirements for both Au and Sb accumulation. Estimation routines that limit the spatial influence of grades above the determined cap values are then implemented to control potential overestimation.

Mineral Resources have been classified in accordance with CIM guidelines, with due regard to Mandalay's experience in mining the deposit and the comparable reconciliation observed between previous block model resource estimates and the processing plant head grade during 2017 and 2018. The classification criteria include the following:

- the Measured Resource is located within, and defined by, developed areas of the mine. These criteria ensure the estimate is supported by close spaced underground channel sampling and mapping;

- the Brunswick Model has not been given a Measured Mineral Resource classification despite close-spaced data, due to the high variability in the lode observed in development. This will be reviewed in 2019 following stoping reconciliation;
- the Indicated Resource is located where drilling spacing on a nominal 40 mN x 40 mRL grid and there is good geological confidence in the geological model; and
- the Inferred Resource has irregular or widely-spaced drill intercepts, is difficult to interpret due to multiple splays, or the structure does not have a demonstrated history of predictable mining.

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

**Table: Mineral Resources at the Costerfield mine as of December 1, 2018, inclusive of Mineral Reserves**

	Lode Name	Resource Category	Tonnes	Au (g/t)	Sb (%)	Au (oz)	Sb (t)
Augusta Deposit	E-Lode	Measured	50,000	8.8	5.3	14,100	2,700
		Indicated	69,000	4.9	2.7	11,000	1,900
		Inferred	30,000	3.0	2.0	2,900	600
	B-Lode	Measured	8,000	5.7	2.3	1,400	200
		Indicated	28,000	5.1	1.8	4,600	500
	B-Splay	Measured	3,000	3.3	2.4	300	100
		Indicated	4,000	6.6	1.4	700	100
		Inferred	15,000	3.8	1.0	1,800	200
	W-Lode	Measured	31,000	9.9	5.7	9,600	1,800
		Indicated	55,000	4.1	2.2	7,300	1,300
		Inferred	62,000	6.8	3.3	13,500	2,100
	C-Lode	Indicated	59,000	5.1	2.5	9,600	1,500
	NS39	Measured	1,000	5.8	2.1	100	100
		Indicated	5,000	5.5	2.2	900	200
	N-Lode	Measured	54,000	9.2	4.0	15,900	2,200
		Indicated	69,000	4.6	1.9	10,200	1,400
		Inferred	64,000	4.5	1.2	9,300	800
	NE-Lode	Measured	19,000	5.3	2.5	3,200	500
		Indicated	42,000	4.6	2.1	6,200	900
	NV43	Measured	5,000	3.9	2.3	600	200
Indicated		22,000	4.6	1.6	3,200	400	
Inferred		8,000	6.5	0.8	1,700	100	
NV44	Indicated	6,000	3.4	2.1	700	200	
NSW	Measured	2,000	10.1	3.7	500	100	
	Indicated	14,000	5.8	4.1	2,600	600	
NW-Lode	Measured	1,000	6.3	3.7	200	100	

	Lode Name	Resource Category	Tonnes	Au (g/t)	Sb (%)	Au (oz)	Sb (t)	
		Indicated	3,000	4.7	3.2	400	100	
	N48	Indicated	6,000	4.4	2.7	800	200	
		Inferred	1,000	4.1	3.0	100	100	
	N49	Measured	2,000	3.3	4.3	200	100	
		Indicated	1,000	3.5	6.7	200	100	
	P1-Lode	Measured	11,000	8.9	2.4	3,100	300	
		Indicated	9,000	8.7	2.2	2,500	200	
	P2-Lode	Measured	3,000	4.7	3.4	500	100	
		Indicated	19,000	5.6	2.0	3,400	400	
		Inferred	2,000	3.8	0.2	200	100	
	K-Lode	Measured	11,000	5.3	2.5	1,800	300	
		Indicated	57,000	3.2	1.9	6,000	1,100	
		Inferred	23,000	3.8	2.0	2,800	500	
	Curtley Deposit	CM-Lode	Measured	43,000	9.0	3.2	12,500	1,400
			Indicated	55,000	6.6	2.6	11,600	1,500
Inferred			6,000	5.0	2.0	1,000	200	
CE-Lode		Measured	10,000	11.6	4.3	3,700	500	
		Indicated	13,000	6.0	1.9	2,500	300	
CS-Lode		Indicated	11,000	2.2	1.9	800	200	
		Inferred	2,000	2.1	1.0	200	100	
CSE-Lode		Indicated	1,000	4.8	3.6	200	100	
CD-Lode		Measured	10,000	12.3	4.8	3,600	500	
		Indicated	58,000	5.4	1.6	10,100	1,000	
		Inferred	9,000	4.6	1.2	1,300	200	
CDL-Lode		Inferred	27,000	7.4	0.1	6,200	100	
AS-Lode		Measured	2,000	18.5	1.6	700	100	
		Indicated	30,000	5.7	1.6	5,400	500	
		Inferred	6,000	6.2	1.5	1,100	100	
Brunswick Deposit	Indicated	242,000	6.8	3.0	53,100	7,400		
	Inferred	8,000	4.9	1.0	1,200	100		
Sub King Cobra	SKC CE	Inferred	11,000	2.8	0.9	900	100	
	SKC LQ	Inferred	8,000	10.8	0.2	2,700	100	
	SKC C	Inferred	65,000	7.0	1.2	14,700	800	
	SKC W	Inferred	65,000	10.3	0.0	21,300	100	
Youle	Youle	Indicated	185,000	22.1	5.2	130,900	9,700	
	Youle	Inferred	83,000	17.0	4.6	45,300	3,900	
	Doyle	Indicated	34,000	2.2	1.9	2,500	700	
	Doyle	Inferred	9,000	2.3	2.4	700	300	
<b>Measured and Indicated</b>			<b>1,319,000</b>	<b>8.3</b>	<b>3.1</b>	<b>350,700</b>	<b>40,800</b>	
Inferred			497,000	8.0	1.9	128,200	9,500	

Notes:

1. Mineral Resources estimated as of December 1, 2018 and depleted for production through November 30, 2018.
2. Mineral Resources are stated according to CIM guidelines and include Mineral Reserves.
3. Tonnes and contained gold (oz) are rounded to the nearest thousand; contained antimony (t) rounded to nearest hundred.
4. Totals may appear different from the sum of their components due to rounding.
5. A cut-off grade of 3.5 g/t AuEq over a minimum mining width of 1.2 m is applied where AuEq is calculated at a gold price of USD1,400/oz, antimony price of USD10,000/t.
6. The AuEq value is calculated using the formula:  $AuEq = Au \text{ g/t} + 1.67 * Sb\%$ .
7. Geological modelling and sample compositing was performed by Mandalay Resources and was independently verified by Danny Kentwell, FAusIMM, full-time employee of SRK Consulting (Australasia) Pty Ltd.
8. The Mineral Resource estimation was performed by Mandalay Resources. The resource models were verified by Danny Kentwell, FAusIMM, full-time employee of SRK Consulting (Australasia) Pty Ltd. Danny Kentwell is a Qualified Person under NI 43-101 and is the Competent Person for the Mineral Resource.

From the Mineral Resource, a mine plan was designed based only on Measured and Indicated Mineral Resource blocks predominantly using the cemented rock fill blasthole stoping method. A cut-off grade of 4.0 g/t AuEq and minimum stoping width of 1.2 m were used, with planned and unplanned dilution at zero grade. An Au equivalent (AuEq) grade (using USD1,200/oz Au and USD8,500/t Sb) is calculated using the formula  $AuEq = Au + (Sb \times 1.68)$  where Sb is in percentage and Au is in grams per tonne.

Financial viability of Proven and Probable Mineral Reserves was demonstrated at metal prices of USD1,200/oz Au and USD8,500/t Sb.

**Table: Mineral Reserves at the Costerfield mine, as of December 1, 2018**

Category	Inventory (kt)	Gold Grade (g/t)	Antimony Grade (%)	Contained Gold (koz)	Contained Antimony (kt)
Proven	76	8.4	4.0	20	3.1
Probable	461	10.8	3.1	160	14.2
<b>Proven + Probable</b>	<b>537</b>	<b>10.4</b>	<b>3.2</b>	<b>180</b>	<b>17.2</b>

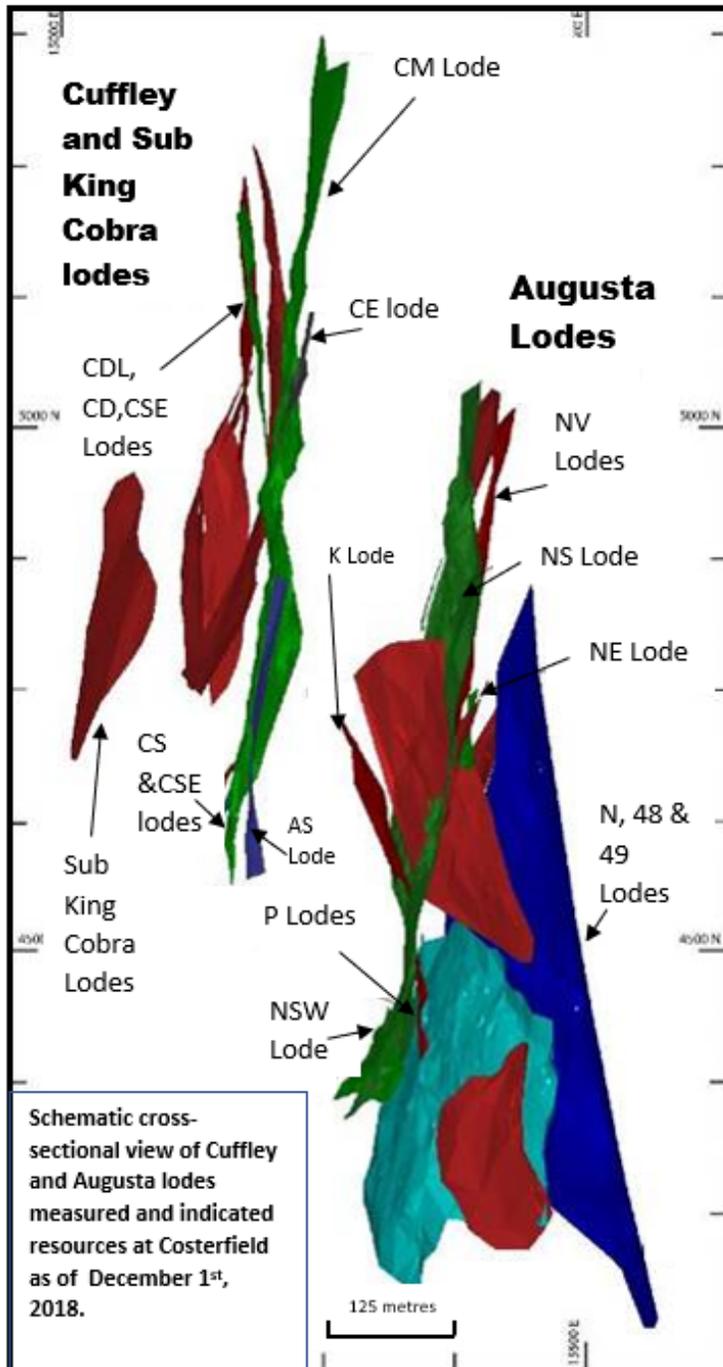
Notes:

1. Mineral Reserve estimated as of December 1, 2018, and depleted for production through to November 30, 2018.
2. Tonnes are rounded to the nearest thousand; contained gold (oz) rounded to the nearest thousand and contained antimony (t) rounded to the nearest hundred.
3. Totals are subject to rounding.
4. Lodes have been diluted to a minimum mining width of 1.2 m for stoping and 1.8 m for ore development.
5. A 4.0 g/t gold equivalent (AuEq) cut-off grade is applied.
6. Commodity prices applied are; gold price of USD1,200/oz, antimony price of USD8,500/t and exchange rate of USD: AUD 0.71.
7. The gold equivalent value (AuEq) is calculated using the formula:  $AuEq = Au \text{ g/t} + 1.68 * Sb \%$ .
8. The Mineral Reserve is a subset of a Measured and Indicated only Schedule, of a Life of Mine Plan that includes mining of Measured, Indicated and Inferred Mineral Resources.
9. The Mineral Reserve estimate was prepared by Steven Taylor, BTech (Mining Engineering) MAusIMM, and Chris Lynch, BEng (Mining), MAusIMM, who are full-time employees of Mandalay Resources and was independently verified by Anne-Marie Ebbels, MAusIMM, CP(Mining), who is a full-time employee of SRK Consulting and a QP under NI 43-101.

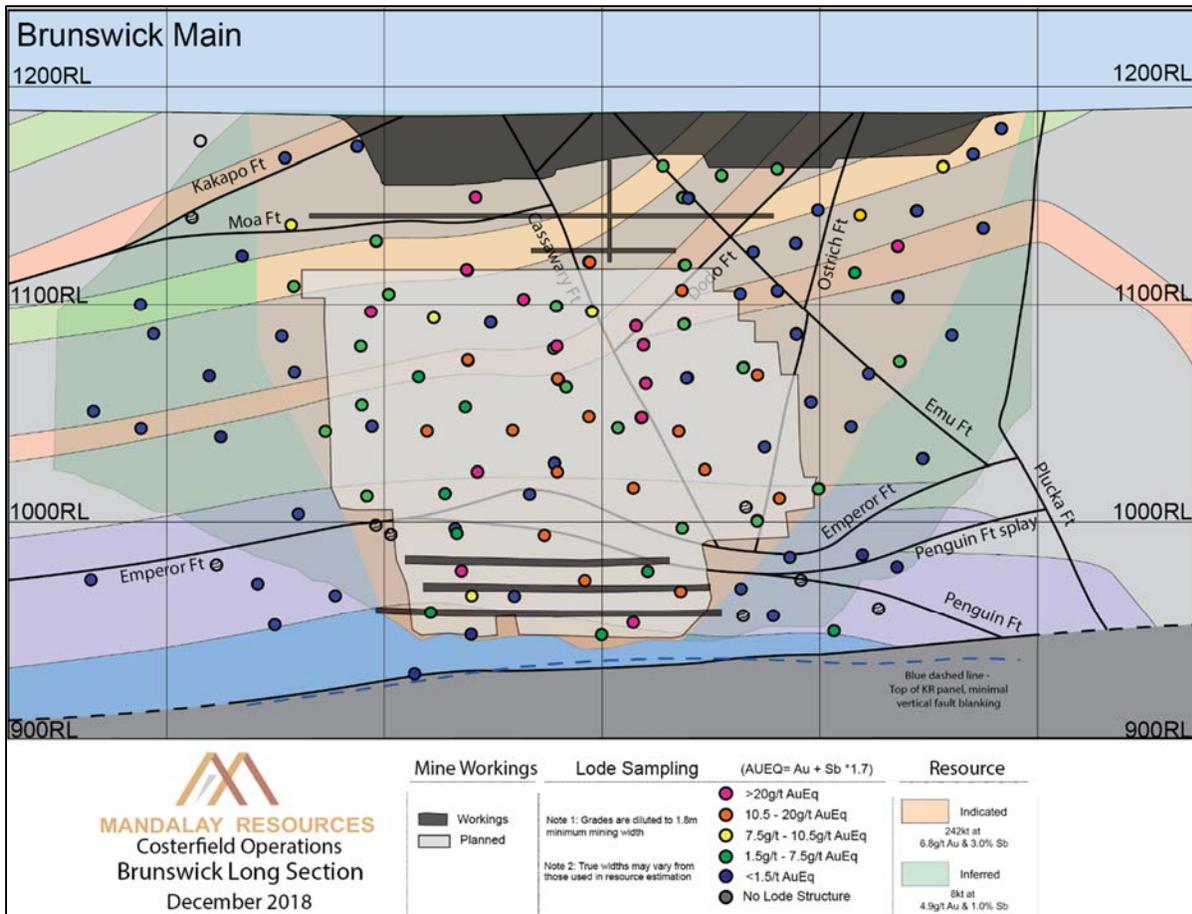
For more information in respect of the key assumptions, parameters and methods used to estimate the Mineral Resources and Mineral Reserves presented above, reference is made to sections 14 and 15 of the Costerfield Technical Report.

The following long sections of each lode relate the drilling and face sampling results to the limits of Mineral Resources and areas of stoping.

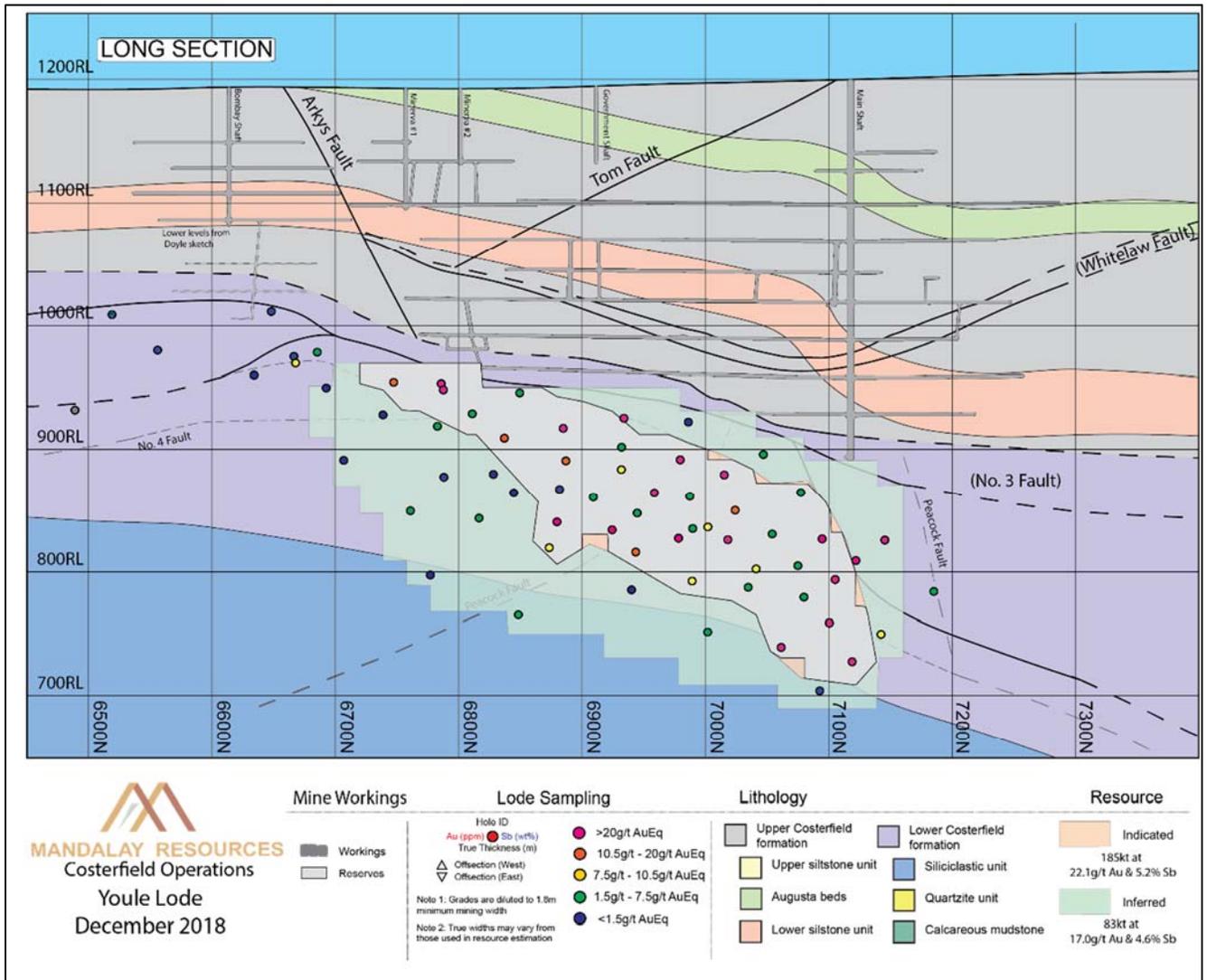
### Costerfield Plan Section



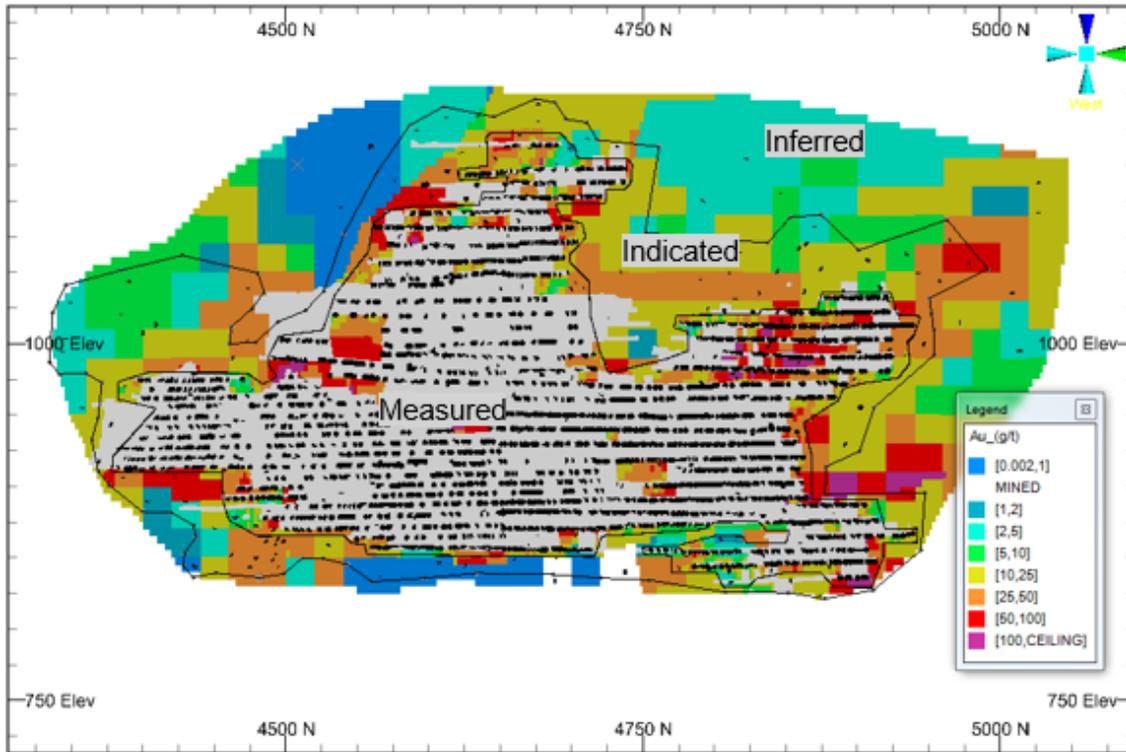
**Brunswick Resources, Showing Geology, Drill holes and Mineral Resource Category Boundaries**



**Youle Resource Showing Geology, Drill holes and Mineral Resource Category Boundaries**

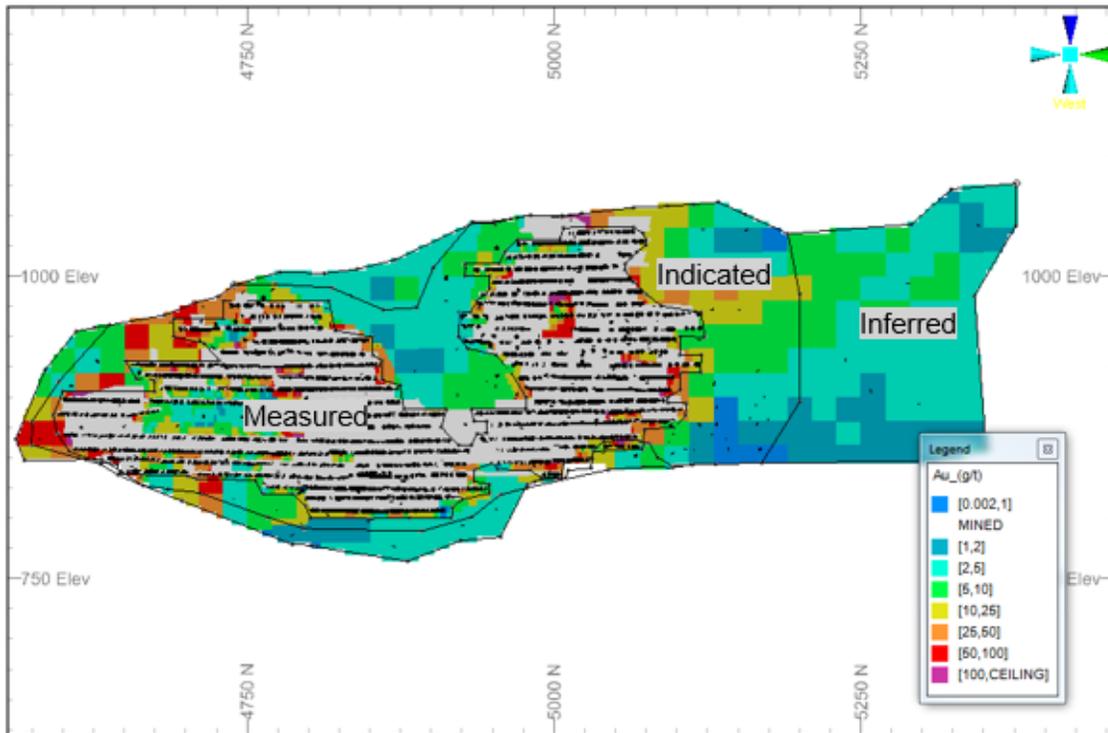


### NM Lode Resource Block Model with Resource Category Boundaries



Note: Black dots represent face and drill hole samples used in the resource estimate; white areas denote mined-out areas.

### CM Main Lode Block Model with Resource Category Boundaries



Note: Black dots represent face and drill hole samples used in the resource estimate; white areas denote mined-out areas.

Reconciliation results show good precision and reasonable accuracy between the resource block model data and the processing plant data. Unquantified errors such as stockpiling, ore-waste misallocation, and unplanned dilution influenced the reconciliation data.

A model overcall of 10% and 16% was observed for gold and antimony, respectively. The majority of this overcall came from Cuffley Main Lode where realized lode thicknesses were far less than modelled values due to narrowing of the lode between levels, and veins being discontinuous between levels. After exclusion, the model overcall is reduced significantly – to 4% gold and 10% antimony. This overcall is likely due to the inclusion of discontinuous splay veins in the wireframe that were not captured during stoping. As a result of this overcall, wireframing in selected areas was adjusted so that some splay veins were not included in the 2018 Mineral Resource estimate. This area is also now mined out and is depleted.

## **Mining Operations**

The Augusta Mine has been operational since 2006.

The underground mine is accessed by a 4.5 m wide and 4.8 m high decline mined at a gradient of 1.7 down. The decline provides primary access for personnel, equipment and materials to the underground workings.

The Augusta Mine employs predominantly airleg long-hole stoping methods as well as longitudinal uphole retreat working a bottom up sequence. Cemented Rock Fill (“**CRF**”) is placed into stoping voids to maximize extraction and assist with mine stability.

Access to the lower levels of the lodes is being achieved by extending the decline to the lower levels.

### *Mining Methods*

Long hole CRF has been selected as the preferred mining method for the remaining Augusta Mineral Resource.

#### *Long Hole Cemented Rock Fill*

Long hole CRF involves establishing 7 m – 10 m floor-to-floor sub-level spacing. The Brunswick orebody will use a sub-level spacing of 12 m floor-to-floor. This has been established due to better drill accuracy, and the wider orebody (average diluted stope width of 1.65 m vs 1.5 m in Cuffley and Augusta). The production cycle for long-hole CRF stoping comprises the following:

- develop access to the orebody;
- establish bottom sill drive and upper fill drive;
- drill production blastholes in a zipper or two holes per ring pattern depending on ore width (nominal stope design width is 1.2 m);
- blast 2.8 m strike length of holes and extract ore;
- place rock bund at brow of stope and place rock tube in stope. Rock tube is tightly rolled steel mesh placed in leading edge of stope prior to filling and eliminates the need for boring reamer holes in next stoping panel;
- place CRF into the stope;
- remove rock bund at brow of stope; and
- commence extraction of adjacent stope once CRF has cured.

### *Metallurgical Processing and Recoverability*

The processing facility comprises a single stage mobile crushing and screening process, two ball mills in series, with classification and gravity concentration in closed circuit, rougher, scavenger and cleaner flotation for the production of gravity Au and an Sb-Au flotation concentrate. The plant has been operating since 2007, and by Mandalay since late 2009. Since then several processing plant upgrades have seen production increase from approximately 2,000 t/month to the current average of over 12,600 t/month over the 2015, 2016, 2017 and 2018 calendar years. The concentrator operates 24 hours per day, 7 days per week. Prior to 2013, the gravity Au concentrate was blended into the flotation concentrate before filtering and bagging. In 2013, the Corporation began selling the gravity gold as a separate concentrate. In late 2013, the Corporation upgraded the gravity Au cyclone capacity to allow for a larger percentage of the Au to be separated and sold in gravity concentrate.

Recoveries have been consistent and predictable over the last several years of operation and because of this, there is a high degree of confidence in the future forecast recoveries. The 2018 reconciled plant recoveries were 93.8% Sb and 87.5% Au.

### *Markets*

Costerfield is a combined Au and Sb mine; the business is sensitive to the price of both metals. Sb is not traded on international metal exchanges, with prices being agreed upon between producer and consumer. Pricing is dependent on the quality and form of Sb product sold.

Sb is primarily used as a flame retardant and in the production of lead (“**Pb**”) acid batteries. These markets together account for nearly 90% of antimony consumption worldwide. China is the world’s largest producer of antimony, accounting for approximately 75-80% of world production.

The Sb-Au concentrate produced from the Costerfield mine is sold directly to smelter(s) capable of recovering both the Au and Sb from the concentrates, such that Mandalay receives payment based on the concentration of both metals in the concentrate. The terms and conditions of commercial sale are not disclosed pursuant to confidentiality requirements. The marketing of the concentrate is conducted through a third party.

### *Contracts*

The Costerfield Operations is employing a contractor to perform capital development to the Youle Lode.

### *Environmental*

The Costerfield Operations is in compliance with all environmental rules and regulations. Other than the rehabilitation bond, the project is not subject to any other environmental liabilities.

### *Taxes*

Income tax on an Australian company’s profits is set at 30%.

Due to Australian tax legislation, a portion of the 2015 brought forward losses at Costerfield have been deferred to future years in line with the “Available Fraction” rule. Please refer to page 21 of the Corporation’s Management’s Discussion and Analysis for the fourth quarter and full-year ended December 31, 2015 for further discussion of this.

As at December 31, 2018, Costerfield Operations had approximately AUD14.4 million of carried forward tax losses.

### *Capital Costs*

The economic test of life-of-mine Proven and Probable Reserves through 2022 requires approximately AUD61.6 million in capital purchases and capital development.

### *Operating Costs*

For the life-of-mine economic test model, the following costs were used:

**Table: Costerfield Operation – Operating Cost Estimate**

Description	Units	Quantity
Mining		
Jumbo Lateral Development	AUD/m	1,394
Stoping	AUD/t	52
Mining Admin	AUD/day	14,941
Geology	AUD/day	3,542
ROM Haulage	AUD/t	5
Processing Plant	AUD/t milled	48
Site Services	AUD/day	7,615
General and Administration	AUD/day	10,459
Selling Expenses including Royalty	AUD/t con	162

Description	Operating Cost (per t mined)			
	AUD M	AUD/t	USD M	USD/t
Mining	87	140	66	105
Processing	30	48	23	36
Site Services, General and Administration	27	44	20	33
<b>Total</b>	<b>144</b>	<b>232</b>	<b>109</b>	<b>174</b>

Million dollars rounded to nearest million.

“/ t” rounded to the nearest dollar.

### *Economic Analysis*

This section was not required in the Technical Report as the property is currently in production, Mandalay is a producing issuer, and there is no material expansion of current production planned. SRK verified the economic viability of the Mineral Reserves via cash flow modelling, using the inputs discussed in this report. SRK has also independently verified that the cash flow analysis provides positive economics at the reserve cut-off grade prices of \$1,200/oz for Au and \$8,500/t for Sb.

## **Exploration and Development**

In 2019, exploration at Costerfield will focus on extending the Youle mineralization and testing further exploration targets around Youle and at depth. Youle drilling will focus to the south of the known vein and at depth to the north following the trend of the main shoot. Further to the north, the Corporation will be testing for Youle-like structures under prospective ground. The Corporation also intends to carry out deeper drilling to follow up from two high-grade intercepts drilled several years earlier. The deep drilling will be testing under the August lodes, Cuffley, Brunswick and Youle Lodes.

The cost of this exploration and development is not included in the base case financial analysis because it is not needed to produce metal from the Proven and Probable Reserves and no additional benefits are included in the analysis resulting from that exploration (i.e., more Resources and Reserves).

### **6.14 Mineral Projects – Cerro Bayo**

Information referenced in this section referring to the Cerro Bayo mine is based on the Cerro Bayo Technical Report unless otherwise indicated. Any information stated after the date of the Technical Report is information that has been updated by the Corporation. Such information is primarily found in the following sections: “Ownership”, “Environmental Liabilities - *Cerro Bayo Closure Plan*”, “Permitting, Local Resources and Infrastructure - *Tailings Storage, Workforce*”, and “History, Exploration, Drilling, Mining Operations - *Contracts, Environmental*”.

#### **Property Location**

The Cerro Bayo property is located in the General Carrera Province, Aisén (XI) Region, Chile, at approximately 72°W longitude and 46.5°N latitude. The Cerro Bayo property is situated approximately 130 km south of Coyhaique, the capital of Region XI in southern Chile, and 12 km west of the town of Chile Chico, which is 6 km west of the border with Argentina.

#### **Ownership**

Mineral rights at Cerro Bayo are fully controlled by Compañía Minera Cerro Bayo, which became a 100% owned subsidiary of the Corporation in August 2010. Compañía Minera Cerro Bayo’s mining rights comprise one contiguous block that covers an area of 29,495 hectares (“**ha**”) of exploitation concessions (mensuras).

In December 2017, final payment was made to the Chilean state for the purchase of surface rights on a triangular plot of land of 286 ha comprising part of the plant and tailings dam facilities. The registration process to finalize this transaction and obtain title documents is expected to be completed by April 2018.

#### **Royalties**

There are no private royalties on Cerro Bayo. In April 2016, Mandalay purchased from Coeur the 2% net smelter return (NSR) royalty previously payable on cumulative Au production over 50,000 oz and cumulative Ag production over 5,000,000 oz sold from the property.

#### **Environmental Liabilities**

##### *Cerro Bayo Closure Plan*

The current Cerro Bayo closure plan was updated in 2015 by Minería y Medioambiente Limitada (“**MYMA**”), from the previous estimate prepared in 2008. The updated closure plan is shown in the table.

**Table: Cerro Bayo Closure Costs Breakdown by Year**

<b>Cost (US\$000)</b>	<b>Total</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Closure/Reclamation	12,000	1,000	1,000	1,000	1,000	4,000	4,000

The closure plan for the site includes properly sealing portals, rehabilitation of waste and stockpile areas, rehabilitation of all sedimentation and other water basins, dismantling and removal of all fixed plant infrastructure and miscellaneous clean-up to ensure the site conditions are returned to as near as natural condition.

Regulations in Chile introduced in November 2012 require all mining operations to place bonds for reclamation of their sites. Cerro Bayo has submitted a new closure plan and closure cost estimate pertaining to the new regulations on July 27, 2016. One month after approval by SERNAGEOMIN of the closure plan and cost estimate, Cerro Bayo will be required to begin depositing funds into the bond. 20% of the bond must be accumulated within one year of approval. The rate of accumulating the remainder of the reclamation bond is dependent on mine life and 100% of the approved cost estimate must be bonded when two thirds of the mine life has elapsed.

### **Permitting, Requirements and Status**

#### *Chilean Regulation – General Information*

In Chile, Law 19.300 (1994) and subsequent modifying Law 20.417 (2010) regulates Environmental Impact Studies (“EIS”) of public and private investment projects or activities. EIA regulations were enacted in April 1997, by D.S. No.30 (Ministry of the General Secretary of the Presidency) and modified by D.S. 95 (2001). The law provides that projects or activities listed therein may only be “executed” or “modified” after an assessment of their environmental impact. The main environmental authority in Chile is the Ministerio del Medio Ambiente, which replaced the National Commission for the Environment, whose functions and administration are regulated by Law 19.300. In addition, the government organized a ministry level Advisory Council (Consejo Consultivo) and Regional Ministerial Secretaries (“SEREMI’s”) in each region of the Chilean territory reporting to the environmental sub-secretary.

#### *Required Environmental Permits*

Law 19.300 creates a system that integrates much of the sectorial environmental requirements, known as “the single window”. This is coordinated through the Servicio de Evaluación Ambiental (“SEA”) with all the public agencies during the assessment process via Sistema de Evaluación de Impacto Ambiental (“SEIA”). The corresponding environmental resolution of SEA is based on reports from relevant public agencies that participate in the evaluation of the assessment documents. If the assessment is favourable, and the final approval is issued, no public agency may deny the pertinent environmental authorizations; on the contrary, if the decision is negative, those same agencies must deny such authorization. Additionally, there are also a number of other sectorial permits of a non-environmental nature that are required for mining operations.

#### *Status of Chilean Required Permits*

Both environmental and sectorial permits are required at the two mining districts, Laguna Verde and Cerro Bayo, to complete the LOM plan upon a resumption of operations.

At Laguna Verde, a Declaracion de Impacto Ambiental (“DIA”) is required for the planned production in the Coyita mine. Subsequent to the new DIA, a sectorial permit is required from SERNAGEOMIN to

approve the mining method in Coyita South. In addition, the restart of operations at Laguna Verde (Delia SE and Coyita N) is subject to SERNAGEOMIN approval.

At Cerro Bayo, approval for de-watering of the workings of the Javiera-Wendy mine was obtained during 2018, which is required for mining Mineral Reserves in the Marcela vein. A sectorial permit request has been submitted to SERNAGEOMIN for approval of the mining method for operations in the Marcela and Raul veins.

#### *Tailings Dam*

The Fachinal tailings dam was approved by the environmental authority in 1994. The tailings capacity was increased by raising the dam in 2014 and work commenced in 2017 to raise the dam from 317 m to its final height of 322 m. Completion was approximately 35% before work was curtailed following the Inundation Event. Upon a restart of operations, construction of the final dam wall lift is anticipated to resume and take approximately six months to complete. Capacity available upon completion of the final expansion is anticipated to be approximately 1.8 million tonnes, which exceeds the requirements of the current LOM plan.

#### *Processing Plant*

The processing plant for the Fachinal Project was approved in 1994. The plant consists of installations for crushing, grinding, flotation, thickening, agitation, and filtration with a capacity of 1,650 tpd. The plant is located close to other installations including offices, service buildings, storage buildings, generator building (for plant), etc. The plant has continued operating without any significant modifications since the original approval and thus the permits remain valid.

#### *Mining in the Laguna Verde Area*

Prior to the Inundation Event, three mines were in operation at Laguna Verde: the Delia NW, Delia SE, and Coyita veins, each accessed via its own portal and decline. Operating permits were granted on the basis of underground mining, via long hole open stopping. Waste rock generated from the operations was stored in the existing waste dump (Los Juncos) with sectorial approvals granted in 2017 for use of two new dumps, at Delia SE (old Tranque open-pit) and Coyita. Total waste storage capacity between the three dump sites, exceeds the requirements of the LOM plan. Upon the resumption of mining at Laguna Verde, mining is anticipated to continue in Delia SE, which includes the Trinidad vein, and Coyita where mining will transition from the current northern working towards the south, incorporating production from the Yasna Sur and Branca in addition to the main Coyita vein.

#### *Mining in the Cerro Bayo Area*

Mining in the Cerro Bayo area includes the Marcela and Raul veins. In October 2008, the operations were suspended for economic reasons and existing underground workings, including those accessing the Marcela vein, must be de-watered for mining to resume. Consequently, it is necessary to obtain permission to de-water the mine. A DIA for de-watering by pumping to the Laguna Salitrosa, was submitted in February 2017. In addition to the environmental permit for de-watering the Cerro Bayo workings, sectorial permits have been requested from SERNAGEOMIN to approve the mining method for both Marcela and Raul.

## **Local Resources and Infrastructure**

### *Power*

Integrated diesel generation facilities with 12 MW of total capacity supplies power to the processing plant, surface facilities, and the underground mines at Laguna Verde. The facilities include four Caterpillar generators (1995) with 1,150 KVA driven by 3,516 motors and eight Atlas Copco (2012-2015) QA1000 units. The total diesel generating capacity is supplemented by a 1.8 MVA wind power plant, comprising three 600 kV wind turbines, which is integrated into the site power generation and distribution system. Power is supplied to the ball and SAG mills at 3.3 kV and other fixed plant and mobile equipment is supplied at 400V.

### *Water*

The water from the underground operations is pumped to surface and the sedimentation basins, where the suspended solids are allowed to settle out. Water is recycled to the underground for reuse.

Process water is currently obtained from a combination of the adjacent Lago General Carrera, surface stream water and tailings recirculation. The property has a series of water rights that currently exceed the needs of the plant. This includes water rights for 680 litres per second (“l/s”) from the Lago General Carrera and several additional smaller rights in different areas of the property totaling 135 l/s. The plant has a maximum fresh water requirement of 50 l/s and also uses water recovered from the tailings storage facility.

### *Buildings and Facilities*

Cerro Bayo has an office complex (Hotel Fachinal facility) located in Chile Chico.

At the plant site, there is an administrative building, assay lab, and buildings and shops associated with the processing plant. There is a central shop facility for repairs of mine and surface mobile equipment. These facilities are in good condition. There is diesel fuel storage at the site and diesel deliveries are available. Capacity of the tanks is 400,000 L, contained in two 200,000 L tanks. All mine and mill shop facilities are in good repair, clean and usable. Mobile equipment is in good condition. The warehouse facility is clean, well-stocked and orderly. It contains mine and mill supplies, office supplies and safety equipment, as well as a stock of steel for fabrication needs. A spare SAG/ball mill motor and drive are available at the site.

The assay and metallurgical labs are clean and orderly. The metallurgical lab has Denver bench-scale flotation equipment, a mini-mill, vacuum filters, sieves in usable condition. The assay lab has separate mine ore and concentrate sample preparation areas to avoid contamination of samples with concentrates, a fire assay system and an Atomic Absorption machine. In addition to all required lab equipment, there are computers and an evident method of tracking chain of custody, duplicates, standards and blanks.

The administration building at the plant site has spaces designated for human resources, geology, engineering, managers and staff. The building is in good condition.

### *Tailings Storage*

The tailings dam was raised to a 317 m elevation in 2014. Work to raise the tailings dam wall to its final height of 322 m commenced in January 2017 and was curtailed following the Inundation Event. Remaining tailings storage capacity, including capacity which is anticipated to be available upon completion of the final expansion, is approximately 1.8 million tonnes, which exceeds the requirements of the current LOM plan.

### *Waste Disposal*

The administrative and process plant facilities at Laguna Verde are connected to a sewage system where the final discharge is a drain field on the shore of the tailing storage facility, authorized by the Health Inspector (SEREMI de Salud). Facilities which service the mining operations at Laguna Verde and Cerro Bayo have their own septic tanks for which accumulated waste is disposed of by a contractor approximately two times per year.

### *Workforce*

The workforce for the mine operation is sourced from the neighboring town of Chile Chico and the surrounding area. There is adequate access to labour available in the area. As of December 31, 2018, the operation had a total of 31 employees and 18 contractors on site under the current care and maintenance status.

### **Accessibility**

Access to the mine and mill is via a gravel all-weather road, Route 265, from the town of Chile Chico, approximately 30 km away from the mine. This connects to Chilean Route 7 that connects to Coyhaique (population of approximately 50,000 people) and eventually to the port of Puerto Chacabuco on the Pacific Ocean, which is approximately 250 km from the mine. There is also barge and ferry service from Chile Chico to Puerto Ibañez on the other side of Lago General Carrera, which also allows for access to Puerto Chacabuco. Concentrate from Cerro Bayo is barged across the lake and trucked to Puerto Chacabuco, where it is loaded on ships for delivery to smelting customers. Major supplies are transported to Puerto Ibañez from Puerto Chacabuco by truck and then barged across the lake to Chile Chico. Charter air-service is available from Chile Chico to Balmaceda in locations where commercial air service is available.

### **Climate**

The climate in the area is sub-Mediterranean, with the winter months of June to August at temperatures of -10°C to 0°C, with light snowfall and rain. Summers are warm and dry with temperatures in the high teens to low 20°C. Average annual precipitation is approximately 300 mm, most of which is rain. The humidity is generally around 50% given the proximity of Lake General Carrera. The area is located on the east side of the Andes Mountains and on the edge of the Patagonia area, which is commonly windy. Due to the relatively warm climate and mild winters, Cerro Bayo is suitable for year-round operations.

### **Topography and Vegetation**

Cerro Bayo lies on the eastern side of the Andes Mountains with elevations ranging between 200 and 1,400 m above sea level. Topography varies from steep mountain valleys to rolling farmland. The area had been largely agricultural in nature prior to the volcanic eruption of the Hudson Volcano in 1991, when the area was covered in ash. Subsequent recovery of vegetation in the area is limited to grasses and trees. The landforms in the area consist of glacially eroded valleys and glacial till deposits.

### **History**

Au and Ag mineralization at Cerro Bayo was identified by Freeport Chilean Exploration Corporation (“FCEC”) in 1984. FCEC continued field exploration until 1989. FCEC stopped its exploration on the property in 1989 and sold the property to Coeur. Coeur resumed exploration on the property in early 1990. A feasibility study, completed in 1994, resulted in a production decision in the Laguna Verde area. A standard flotation mill was constructed at this location in late 1994 and production started in early 1995, predominantly using surface mining methods. Mining operations were halted in November 2000 because

of falling metal prices and declining open pit reserves. Coeur conducted exploration drilling in 2000 and delineated a high-grade vein system near the Cerro Bayo dome. Located 12 km east of the mill at Laguna Verde, this area was the focus of engineering and economic evaluations in 2001. During this period, two underground ramps were collared to intercept the main Lucero vein at depth. Underground mine development and re-start of the Laguna Verde processing plant were completed between November 2001, and April 2002.

In October 2008, Coeur once again put the property on care and maintenance. The operations were suspended due to the downturn in the economy and a lack of developed ore. The mining operations were based on Mineral Reserves contained in the veins of Cerro Bayo and Laguna Verde.

After purchasing the property in August 2010, Mandalay reinitiated pre-production capital and operating development on the Dagny and Fabiola mines in the third quarter of 2010. In the first quarter of 2011, Mandalay restarted the plant with stockpiled ore, and by the end of 2012 ramped-up production to 1,200 tpd from the Dagny, Fabiola, and Delia NW mines. In 2013, a second internal decline was started in Delia NW mine, the purpose of which was to facilitate a ramp-up in production to 1,400 tpd in 2014, which was achieved during the final quarter of 2014. In 2014, the primary capital development was initiated for the Delia SE mine. Production in the Delia SE and Coyita mines commenced in 2016 and replaced production from the Fabiola and Dagny mines.

On June 9, 2017, Mandalay announced the Inundation Event. Mining operations at Cerro Bayo were suspended immediately as the Corporation worked with authorities to respond effectively. Cerro Bayo remains on care and maintenance while the Corporation works to obtain the receipt of all necessary permits.

## **Geology and Mineralization**

### *Geology*

The Cerro Bayo District is situated within a 250 km long, north-south Mesozoic volcanic belt that lies near the boundary between an eastern craton (Patagonian Plateau) and a western magmatic arc (Patagonian Cordillera). Volcanic rocks erupted during Jurassic to Middle Cretaceous times and were deposited over a Late Paleozoic accretionary basement prism. The volcanic pile contains large volumes of rhyolitic to dacitic ash-flow tuffs and pyroclastic rocks interpreted to be associated with large volcanic structures. Marine sedimentary horizons deposited during the Cretaceous and Tertiary periods are locally inter-bedded with the volcanic rocks. The belt is unconformably overlain by plateau basalts that range in age from Early to Late Tertiary.

Molybdenite-quartz veins and veinlets occur in pegmatitic facies of the Patagonian Batholith. Mesozoic epithermal precious metals deposits, locally containing Pb and Zn, have been explored and mined in the Chilean-Argentinean Patagonia. Cerro Bayo and El Toqui in Chile and Mina Martha, Cerro Vanguardia, Cerro Negro, Cerro Moro, Manantial Espejo, and San Jose in Argentina are the largest epithermal deposits presently known in the region.

### *Mineralization*

Epithermal Au and Ag mineralization at Cerro Bayo is contained in veins, stockworks, and breccias. The deposits show multiple stages of mineralization and display open-space filling and banding, typical of low-sulfidation style epithermal mineralization. Mineralogy is complex and is associated with alteration assemblages that suggest at least three types or stages of precious depositional environments.

The principal epithermal Au-Ag mineralization event with local bonanza grades is hosted mainly in NNW and N-S to NNE structural trends, such as the Cerro Bayo, Cascada and Coigues Este (in the Laguna Verde sector) veins.

This event was predated by a more likely mesothermal event with silver, gold and base metal mineralization hosted in arcuate N-S to NNE veins and tectonic breccias. This style of mineralization is only known to exist in the Laguna Verde sector and is interpreted to be a result of igneous intrusions, doming, and subsequent collapse. A third mineralizing event is interpreted to coincide with the emplacement of a porphyritic stock and related apophyses at Rodados Colorados, which is characterized by a porphyry-style alteration pattern. This includes moderately extensive propylitic alteration with chlorite, epidote, disseminated cubic pyrite, and specular hematite. Structures contain gangue dominated by calcite with locally abundant oxides and relict pyrite.

Epithermal mineralization is characterized by Au and Ag associated with minor Cu, Pb, and Zn. Over 90 major veins have been identified to date within the property. Vein mineralogy consists of predominantly quartz with a minor, but complex, sulfide mineral suite and accessory gangue minerals. The veins pinch and swell following pre-mineral faults and fractures. Exposed strike lengths vary from 300 to 2,200 m and widths vary from 0.5 to 5.0 m, with local pods up to 7 m wide. The control of mineralization is mostly structural. The mineralizing fluids were channeled along pre-mineral faults or fracture zones that were infilled during successive hydrothermal pulses, locally punctuated by syn-mineral fault movement. Lithology also plays a role in mineral control. Brittleness and plasticity of the host units control the width of the veins, the degree of development of sheeted zones, and variations in the dip of the veins due to refraction. Mineralized shoots typically are sub-horizontal, extending up to 1 km or more in length, with a vertical extent of as much as 200 m.

For a more detailed description of the regional, local and property geology, and mineralization of Cerro Bayo, refer to section 7 of the Cerro Bayo Technical Report.

## **Exploration**

### *Historical Exploration*

After Au and Ag mineralization was identified in the Cerro Bayo District in 1984, FCEC conducted exploration, including reconnaissance and detailed mapping, chip and channel sampling, trenching, geophysical surveys and drilled from 1986 to August 1989.

Exploration resumed in the district during the latter part of 1990, conducted by Coeur. From 1990 to 1993, exploration consisted of infill and step-out drilling as well as tunneling, identifying an open pit and underground reserve. A feasibility study was completed in 1994, resulting in the decision to produce from an open pit in the Laguna Verde area.

Exploration drilling conducted prior to the mine suspension in 2000 delineated a high-grade vein system near the Cerro Bayo Dome. Located 12 km east of the mill at Laguna Verde, this area was the focus of engineering and economic evaluations in 2001. During this period, infill drilling was completed in November and two underground ramps were collared to intercept the main Lucero vein at depth.

A full geological review of the Laguna Verde sector commenced in early 2007 to identify potential exploration targets. Detailed surface mapping and channel sampling resulted in the surface delineation of three main structures (Dagny, Fabiola and Coyita) characterized by exposures of altered fractures, scattered zones of narrow veinlets, and some isolated outcrops of narrow veins. Subsequent drilling and additional surface mapping identified six mineralized veins, including the three named above, plus the Delia, Dalila, and Yasna veins.

In 2010 and 2011, core drilling continued under Mandalay ownership. The program grew from two rigs in the fourth quarter of 2010 to seven rigs in 2011 and 2012. The program began by focusing on infill and extension of known mineralization in the Dagny, Fabiola, Yasna, Marcela Sur, Delia SW and SE, Coyita, Dalila, Trinidad, and Bianca veins. As the infill and extensional drilling on these targets was completed, focus gradually shifted to testing other veins, some of which contained already delineated resources, historic drilling but no resources or previous drilling. In the second half of 2013 exploration drilling was initiated under Laguna Verde, probing extensions of the Fabiola and Yasna veins.

In 2014, surface mapping was updated in the Laguna Verde zone. Three-dimensional modelling of the stratigraphic units was performed. Zircon U-Pb dating in ignimbrite rocks from Temer, Coigues, and Rodado Colorados units, and the Isla and Esperanza domes was executed. The ages of these units were all determined to be the Lower Jurassic. Also, argon-argon dating of adularia in Delia and Coyita SW veins at depth was carried out, indicating the hydrothermal event occurred in the Lower Cretaceous correlating with the dating of the Cerro Bayo, Guanaco, and Brillantes hydrothermal events. Surface grids were performed in Laguna Verde, Cerro Bayo and Mallines W producing a radiometric register (Uranium, Thorium, and Potassium) using a scintillometer and a mineralogical analysis, using an ASD spectrometer. As a result, new exploration targets were defined.

In 2015, detailed mapping was performed in the Brillantes zone. As a result, 20 new veins were defined on surface along a length of 10,500 m, and a new interpretation of the stratigraphy was completed. A magnetometer survey was performed under Laguna Verde to guide the 2016 drilling program, discover new targets, and define intrusive extensions. Also, hydrothermal pulse mapping was conducted for Coyita and Fabiola veins identifying the paragenesis in each mineralizing event and its relationship with Au and Ag concentrations.

In 2016, a detailed mapping program was undertaken for the Cerro del Viento, Elsa-Pilar, and Co. Azul zones. As a result, 20 new veins were defined on surface along a length of 10,500 m, and a new interpretation of the stratigraphy was completed. Magnetometer surveys were performed over Pampa La Perra, Pampa Mallines, and Pampa Marcela as aids to guide the 2017 drilling program, discover new targets, and define intrusive extensions. In addition, a number of vein and wall rock samples were taken for the manufacture of thin sections and study by reflected- and transmitted-light microscopy to clarify lithologic, alteration, and mineral paragenesis relations.

In 2017, exploration consisted of follow-up or confirmation drilling on known veins in the Antimonio, Nina, Raul and Branca systems, and new target testing in the Laguna Verde NE, Brillantes, Pampa La Perra, Elsa/Pilar, Meseta, and Sinter Hill sectors. New target selection was based on field mapping and sampling of outcropping veins with significant strike length, thickness, favorable quartz textures, and geochemistry (for possible high-grade, underground targets); or, broad zones of intense hydrothermal alteration possibly capping lower-grade but very large bulk-mineable disseminated mineralization (e.g., Sinter Hill).

## **Drilling**

Total exploration drilling in 2017 consisted of 5,177 diamond drill holes totaling approximately 686,787 m and 666 RC holes totaling approximately 57,271 m. A small number of exploration drill holes outside of the main mining areas are not included in these totals, including drilling done for mine service holes and in connection with the Inundation Event.

A drill summary is included in the table below, with Mandalay conducting the drilling from 2010 to 2017:

**Table: Drilling at Cerro Bayo**

Area	Year Drilled	Core Holes		RC Holes	
		No. Holes	No. Metres	No. Holes	No. Metres
Cerro Bayo Dome/Guanaco	Pre-2010	1,967	206,486	9	1,582
Mallines	Pre-2010	54	6,995	-	-
Cascada	Pre-2010	153	24,828	-	-
Laguna Verde (includes Coigues Este)	Pre-2010	1,583	195,087	657	55689
	2010	15	2,668	-	-
	2011	290	60,457	-	-
	2012	230	62,189	-	-
Laguna Verde Underground	2012	60	2,647	-	-
Horquetas	2012	14	3,743	-	-
Cerro Bayo	2013	43	10,525	-	-
Laguna Verde	2013	94	20,994	-	-
Laguna Verde Underground	2013	97	2,013	-	-
Mallines	2013	13	3,595	-	-
Cañadon	2013	12	2,329	-	-
Laguna Verde	2014	69	24,552	-	-
Laguna Verde Underground	2014	82	2,263	-	-
Mallines	2014	5	1,444	-	-
Cañadon Verde	2014	12	2,329	-	-
Laguna Verde	2015	68	25,206	-	-
Laguna Verde Underground	2015	85	1,749	-	-
Brillantes	2016	24	8,181	-	-
Cerro Bayo	2016	7	2,346	-	-
Laguna Verde	2016	65	24,390	-	-
Laguna Verde Underground	2016	61	1,424	-	-
Laguna Verde	2017	16	3,085	-	-
Brillantes	2017	1	421	-	-
Cañadon Verde	2017	5	1,465	-	-
Cerro Bayo	2017	6	1,035	-	-
Pampa La Perra / Elsa-Pilar	2017	7	1,680	-	-
Meseta	2017	5	1,597	-	-
Geotechnical and Mine Services	2017	34	2,527	-	-
<b>Total</b>		<b>5,177</b>	<b>686,787</b>	<b>666</b>	<b>57,271</b>

Three sizes of core holes have been drilled in the Cerro Bayo District:

- BQ (36 mm) drilled from surface and underground;
- NQ (47 mm) drilled from surface; and
- HQ (64 mm) drilled from surface.

The majority of the holes used in the evaluation of the current Mineral Resources and Reserves are BQ in size. Drilling has been carried out by contractors using various rigs and by Coeur/Mandalay personnel using Minera Cerro Bayo-owned rigs (Diamec 251 and Diamec 262, LM-90, LF-90).

RC drilling was carried out at the Laguna Verde area in the early stages of exploration in the district, between 1990 and 1992, and was later completed at Laguna Verde in late 2003 and early 2004. RC was drilled by contractors using 5.5 inch bits. Channel sampling is carried out by Minera Cerro Bayo geologists.

#### *Drilling Procedure – 2010 – 2017*

Mandalay drilled a total of 1,420 diamond drill holes totalling 253,391 m at Cerro Bayo between 2010 and 2017. All holes were collared and finalized using BQ, NQ and HQ diameter core. The 2010-2012 drill program was carried out by Mandalay drillers and by Master Drilling. Mandalay drilling was completed using Atlas Copco Diamec 262 and 252 drill rigs as well as Longyear LF-90 and LM-90 rigs. Master Drilling used Boart Longyear F90 and Max1000 drill rigs. All 2010, 2011 and 2012 drill core is stored at Granja Temer or the new core shed in Laguna Verde; older core is stored at Guanaco near Cerro Bayo.

In 2013, Mandalay completed 162 drill holes for 37,445 m, of which 41% was infill drilling, 35% was extensional definition drilling and 24% was exploration drilling for new targets.

In 2014, Mandalay completed 83 drill holes for 27,848 m, of which 47% was infill drilling, 34% was extensional infill drilling and 19% was exploration drilling for new targets.

In 2015, Mandalay completed 83 drill holes for 26,702 m, of which 83% was infill drilling, 8% was extensional definition drilling, and 2% was exploration drilling.

In 2016, Mandalay completed 96 drill holes (not including service and aborted holes) for a total of 34,916.25 m, of which 48% was new target testing, 41% was infill drilling, 8% was extensional definition drilling on veins, 11% was ore control drilling for longhole stope design definition and remaining drilling was done for mine infrastructure projects. A total of 1,424 m of underground drilling in 61 holes was performed. In addition, 2,027.6 m of underground channels were constructed, corresponding to 3,058 individual channel samples submitted for assay as of December 31, 2016 in the Laguna Verde sector.

In 2017, Mandalay completed 40 mineral exploration drill holes (not including service, aborted, or emergency bores) for a total of 9,283 m. Of this total, 44% comprised new target testing, 6% was infill drilling, 40% was extensional definition drilling on veins, and 10% was ore control drilling on long hole stope design definition. Mandalay also drilled 3,654 m in 31 holes between June and September 2017 in response to the Inundation Event and an additional 34 holes (2,527 m) as part of follow-up geotechnical evaluations and for mine services.

All core storage for 2013 through 2017 has been at the new core shed at Laguna Verde. Drill hole collars were surveyed by Mandalay surveyors using total station survey instruments. Down-hole surveys were completed by Mandalay and contract drillers after each hole was completed using Maxibor II instruments. Some of the down-hole surveys were corrected after the collars were reviewed and resurveyed.

For more information on drilling, reference is made to section 10 of the Cerro Bayo Technical Report.

## Sampling and Analysis

The Cerro Bayo Technical Report concluded that Minera Cerro Bayo's sampling protocols for RC and core drilling samples are appropriate for this operation and in line with acceptable best practice and industry standard norms. The Cerro Bayo Technical Report did not disclose any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

The diamond drill core is placed in appropriately labeled wooden core trays at the drill rig prior to transport. Core is carefully transported by Mandalay personnel to the on-site Granja Temer core logging facility by truck. Since late 2011, core logging information has been entered digitally into Geovectra's GVMapper® logging software program. All diamond drill core has been photographed and the images are stored in the master database. Geological information recorded includes lithology, veins, core recovery, description of specific structures and alteration styles, along with their width, intensity and associated mineral assemblage. In addition, rock quality designation was undertaken to record the number and nature of natural breaks in the core for subsequent geotechnical assessments.

All mineralized intervals have been sampled and assayed using geological criteria. Mineralized intervals are sampled for assaying of Au and Ag content. In cases where the holes are aimed at a specific target, sampling is carried out only in selected intervals of geological interest (veins, veinlets or stockworks), as well as in the adjacent footwall and hangingwall host rocks.

Sampling interval size varies from a minimum of 0.1 m to a maximum of 3.0 m. The mean length is 0.60 m. Intervals that are not assayed remain in storage at the mine site. An electric diamond saw is used to cut the core lengthwise, which is then placed correctly back into the tray. The half-core is then sampled by Mandalay personnel, ensuring that the same side is consistently sampled, and placed into bags with the assigned sample number, then closed and sealed with staples. The samples are then securely transported by truck to the on-site laboratory. Each sample is assayed in-house at the Minera Cerro Bayo laboratory on site. Coarse rejects and pulps are retained for future test work or further mineralogical and metallurgical works.

In addition to the drilling samples, underground channel samples are included in the database. The minimum sample length is 0.10 m and the maximum length is 1.00 m. The width of the channel ranges from 0.20 to 0.40 m and the depth is typically 0.20 m. The overall length, number of individual samples and weight of the channel sample(s) is determined by the width of the mineralized structure and associated "stockwork".

Sampling of cuttings obtained from RC drilling was performed on 0.5 and 1.0 m increments with a targeted total sample size of 20 to 22 kg in the first case and 40 to 45 kg in the latter case. The drill hole cuttings were logged by geologists for lithological, structural, and mineralogical information. Boxes with splits of the sampled intervals are stored. The reject material for any area was bagged and stored until the drilling campaign, interpretation and modeling were complete for that area, in order to review or resample if needed.

Assaying is done by fire assaying methods with a gravimetric finish. A complete assay laboratory owned by Minera Cerro Bayo and located at the mill site near Laguna Verde contains the facilities for sample preparation, fire, wet and atomic absorption assays. Both mine and exploration samples are assayed at this facility. Outside consultants established testing procedures in accordance with industry standards. SGS Lakefield Research Chile S.A. carried out an audit in 2011 and results showed that the laboratory meets international standards. Prior to this, Snowden and Jacobs Engineering reviewed the lab in 2001. Although the lab was not certified, Snowden and Jacobs Engineering found that the laboratory met international standard operating procedures. All exploration and production sampling at Cerro Bayo is done by Minera Cerro Bayo Geology Department personnel.

### *Data Verification*

RPA verified the accuracy of data entry for geologic and assay information to the database.

### *Security of Samples*

Mandalay's security procedure involves direct drill and sample management, secure transportation methods, sampling, sawing, and logging areas. Each sample is identified with a unique sample number that is tracked throughout the assaying process. Except for check assays, there is no shipment of samples to offsite or to third party facilities.

### *Sample Quality*

Quality control procedures have included routine check assays of sample pulps, and check assays of duplicate pulps prepared from coarse rejects and use of blanks to assess the quality of the sample preparation procedures. Original assays and duplicates have been statistically analyzed by estimating relative variances and errors.

In their review of the Mandalay database practices and the laboratory QA/QC program, RPA reported in the Cerro Bayo Technical Report that the methods used by Mandalay meet industry best practices and no significant discrepancies were identified during the verification process. The Cerro Bayo Technical Report further considered that the surface drill hole and underground channel databases are valid and suitable to estimate Mineral Resources at Cerro Bayo.

### **Mineral Resources and Reserves at Cerro Bayo**

An acQuire Technology Solutions Pty. Ltd. (“acQuire”) geologic data management system was implemented at Cerro Bayo in 2007-2008. As of late 2011, core logging is entered digitally into Geovectra's GVMapper logging software program. Since Mandalay assumed ownership of Minera Cerro Bayo, it has purchased its own Vulcan software and all Mineral Resource estimation has been performed using this software.

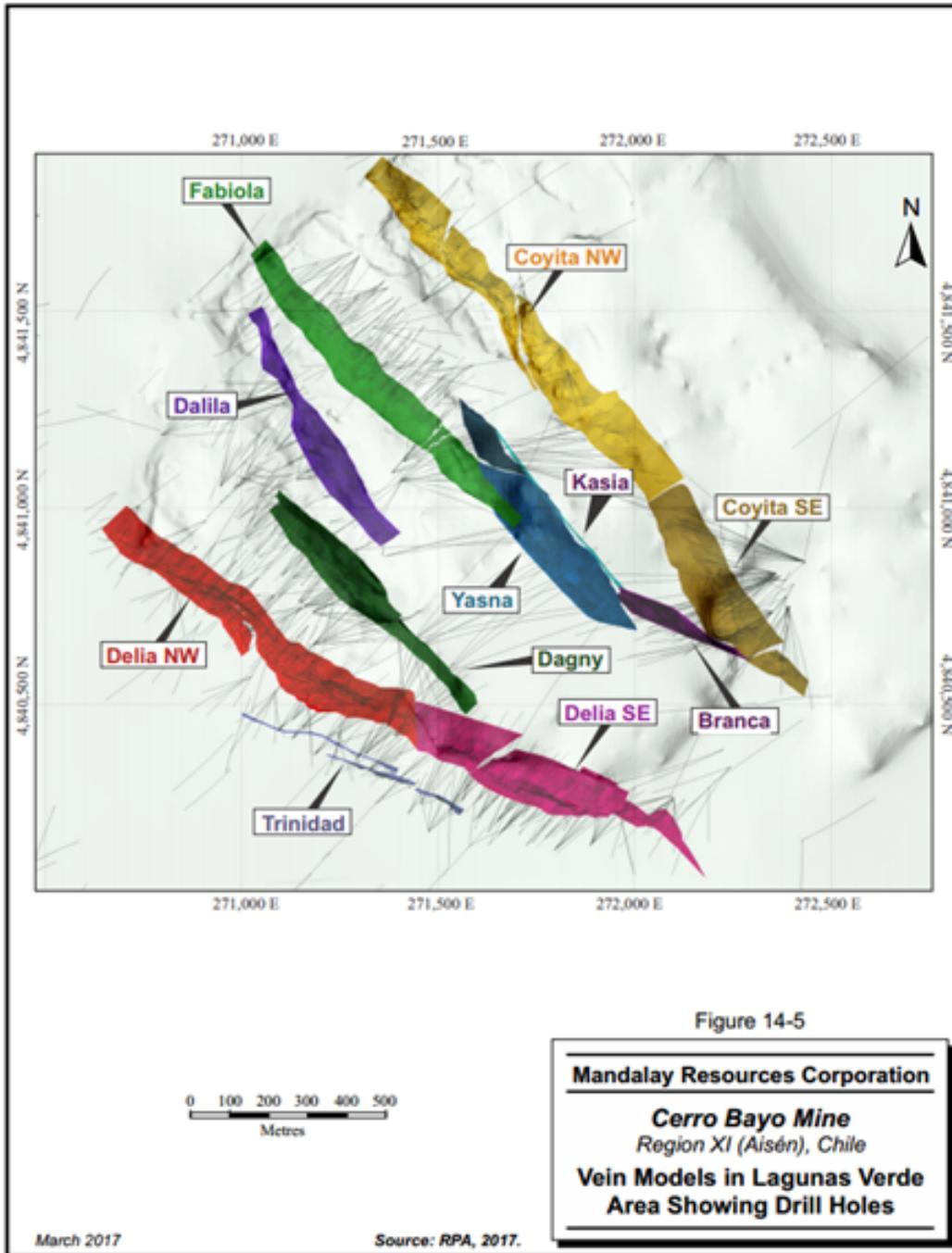
The Cerro Bayo Technical Report estimated Mineral Resources as of December 31, 2016 for 8 veins: Yasna (Yasna Sur Zone), Coyita (Coyita NW and Coyita SE), Delia (Delia NW and Delia SE), Trinidad, Marcela, Branca, Kasia, and Raul. The drill hole and channel sample database used in this estimation is summarized below:

**Table: Drill Hole and Channel Sample Database, Cerro Bayo**

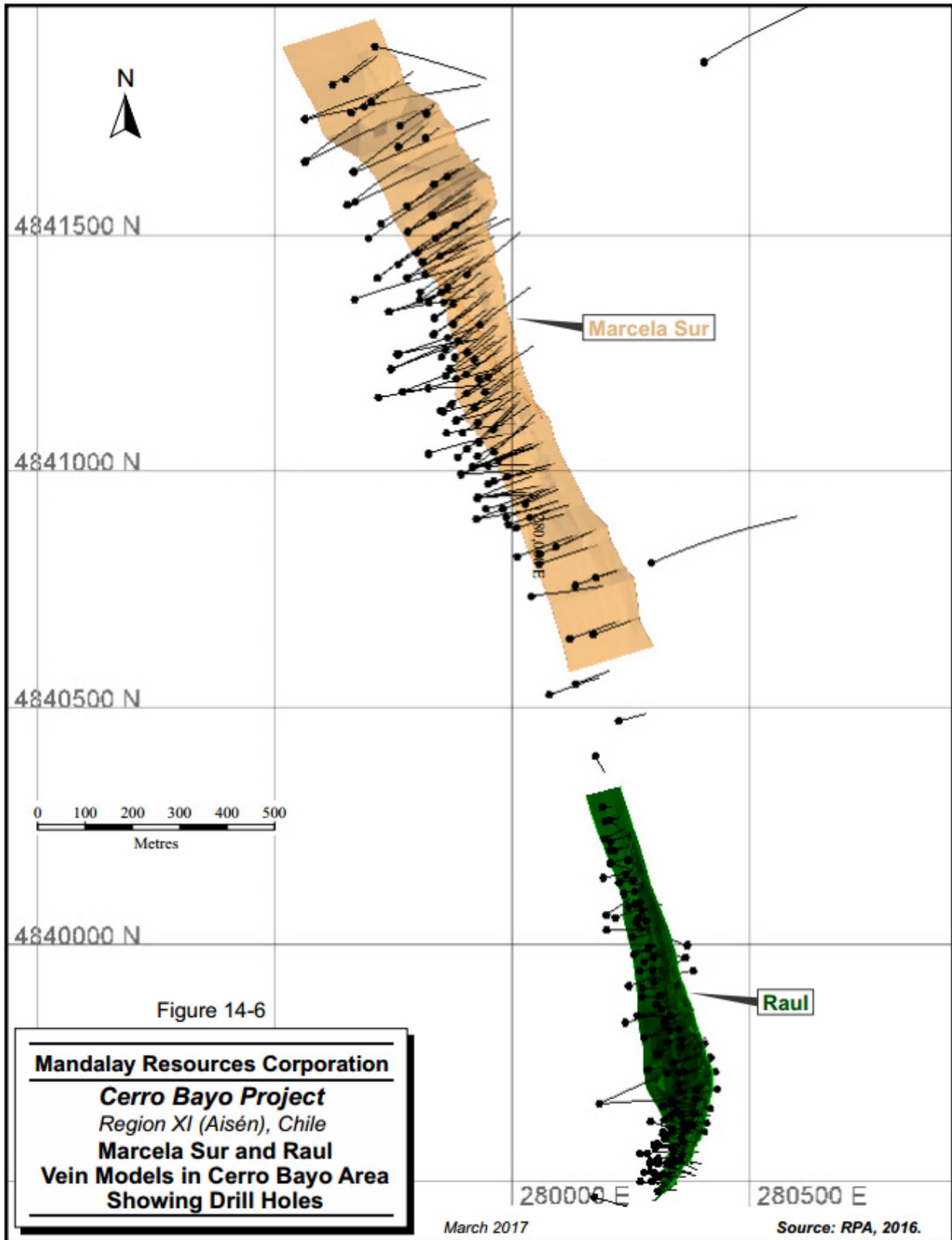
<b>Vein</b>	<b>No. of Drill Holes</b>	<b>No. of Core Samples</b>	<b>No. of Channels</b>	<b>No. of Channel Samples</b>
Coyita NW	97	355	695	1,368
Coyita SE	97	403	-	-
Branca	43	218	-	-
Delia NW	353	1,346	2,915	7,478
Delia SE	171	833	572	1,346
Yasna	28	86	-	-
Trinidad	117	271	236	433
Kasia	50	65	-	-
Marcela Sur	128	489	693	1,840
Raul	136	569	616	1,725

RPA concluded in the Cerro Bayo Technical Report that Mineral Resources have been defined from geological models prepared on the basis of adequately-spaced cross sections and plan views. Mandalay provided drill hole and density databases, interpreted wireframe mineralization models, and lithologic and structural interpretations.

The wireframes and drill hole databases for veins in the Laguna Verde area are illustrated below:



The wireframes and drill hole databases for the Marcela Sur and Raul veins are illustrated below:



The Au and Ag grades were estimated using an anisotropic Inverse Distance Cubed model and were validated by several methods, including visual inspection and statistical comparisons with composite assay statistics and wireframed volumes. Domain models were used as hard boundaries to limit the extent of influence of composite grades within the domains.

The Mineral Resources are stated at a cut-off grade of 162 g/t Ag Equivalent (AgEq) based on \$1,400/oz gold and US\$24.00/oz silver; the cut-off grade accounts for concentrate transportation, treatment, and refining costs. A rock density of 2.63 t/m<sup>3</sup> was used for all areas in the Mineral Resource estimation. The Mineral Resources are stated as of December 31, 2016, and are inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

**Table: Mineral Resources of the Cerro Bayo Mine as of December 31, 2016, inclusive of Mineral Reserves**

Category	Tonnage (kt)	Ag Grade (g/t)	Au Grade (g/t)	Contained Ag (koz)	Contained Au (koz)
Measured	105	352	2.47	1,189	8
Indicated	915	349	3.05	10,266	90
<b>Measured + Indicated</b>	<b>1,020</b>	<b>349</b>	<b>2.99</b>	<b>11,455</b>	<b>98</b>
Inferred	543	206	2.49	3,592	43

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at a cut-off grade of 162 g/t AgEq. The AgEq was calculated using the formula  $AgEq = Ag + (Au \times 58.25)$  where Ag and Au are in grams per tonne after transport, treatment, and refining costs are deducted.
3. Mineral Resources are estimated using a long-term gold price of US\$1,400 per ounce and a long-term silver price of US\$24 per ounce.
4. A minimum mining width of 1.2 m was used.
5. Bulk density is 2.63 t/m<sup>3</sup>.
6. Mineral Resources are inclusive of Mineral Reserves.
7. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
8. Numbers may not add due to rounding.

Cerro Bayo Mineral Reserves were calculated using metal prices of \$1,200/oz gold and \$18.00/oz silver. Mining recovery of 95% was used, with a minimum mining width of 2.4 m. Veins of widths greater than 2.4 m were diluted by an extra 0.4 m. Dilution grades varied by vein, as determined by wall rock grades. Given estimated metallurgical recoveries, LOM costs derived from actual experience, and typical commercial terms for concentrate including deductions for transport, treatment and refining costs led to a primary cut-off grade of 219 g/t AgEq.

**Table: Mineral Reserves of the Cerro Bayo Mine as of December 31, 2016**

Category	Tonnage (kt)	Ag Grade (g/t)	Au Grade (g/t)	Contained Ag (koz)	Contained Au (koz)
Proven	103	282	1.91	931	6
Probable	876	282	2.33	7,932	66
<b>Proven + Probable</b>	<b>979</b>	<b>282</b>	<b>2.29</b>	<b>8,864</b>	<b>72</b>

Notes:

1. CIM definitions were followed for Mineral Reserves.
2. Mineral Reserves are estimated at a cut-off grade of 219 g/t silver equivalent (AgEq). AgEq is calculated using the formula  $AgEq = Ag + (Au \times 66.44)$  where Ag and Au are in grams per tonne. Metal prices for determining cut-off grades were US\$1,200/oz Au and \$18/oz Ag.
3. Veins are diluted to 2.4 m minimum mining width and a mining extraction factor of 95% was applied to stope tonnages.
4. A bulk density of 2.63 t/m<sup>3</sup> was used.
5. Dilution grades vary by vein.
6. Numbers may not add due to rounding.

Subsequent to the effective date (December 31, 2016) of the Mineral Resources and Reserves estimates published in the Cerro Bayo Technical Report, mining operations at Cerro Bayo were suspended following the Inundation Event on June 9, 2017.

The Corporation expects mining will resume at Cerro Bayo in 2019, subject to receipt of all necessary permits. Geotechnical analysis, mine planning and permitting for the restart are in progress, and Mineral Resource and Mineral Reserves estimates will be updated with the results of these studies.

Following the Inundation Event, the Corporation's in-house technical staff compiled revised estimates of Mineral Resources and Reserves by depleting block model estimates supported by the Cerro Bayo Technical Report for production in 2017 and for the total depletion of Mineral Resources and Reserves in the Delia NW mine (the only mine directly impacted by the Inundation Event). The total depletion of Mineral Resources and Reserves in the Delia NW mine as a result of the Inundation Event did not have a material impact on the Mineral Resources and Reserves at Cerro Bayo. Estimation parameters used by the in-house technical staff, including cut-off grades, were unchanged from those used in the Cerro Bayo Technical Report. The ongoing technical evaluations may eventually affect estimates of Mineral Reserves, involving changes to pillar sizing or other mine design parameters in some areas.

The tables and long-sections below depict the outcomes of an internally prepared re-estimate of Mineral Reserves and Reserves as at December 31, 2017:

**Table: Mineral Resources of the Cerro Bayo Mine as of December 31, 2017, inclusive of Mineral Reserves**

Category	Tonnage (kt)	Ag Grade (g/t)	Au Grade (g/t)	Contained Ag (koz)	Contained Au (koz)
Measured	47	279	2.15	421	3
Indicated	854	352	3.07	9,671	84
<b>Measured + Indicated</b>	<b>901</b>	<b>348</b>	<b>3.02</b>	<b>10,092</b>	<b>87</b>
Inferred	513	204	2.52	3,355	42

Notes:

1. Mineral Resources estimated as of December 31, 2016 and depleted for production through December 31, 2017.
2. Mineral Resources stated according to CIM definitions (2014) and include Mineral Reserves.
3. Tonnes, contained Ag, and contained Au are rounded to the nearest thousand.
4. Totals may be different from the sum of their components due to rounding.
5. A 162 g/t Ag Eq. cut-off grade over a minimum mining width of 1.2 m is applied where Ag Eq. is calculated at an Ag price of US\$24/oz and Au price of US\$1,400/oz. The Ag Eq. value is calculated using the formula:  $Ag\ Eq. = Ag\ g/t + (58.25 \times Au\ g/t)$ .
6. The Qualified Person for the internally-prepared Cerro Bayo Mineral Resource estimate is Chris Gregory, Mandalay Resources Vice President of Operational Geology and Exploration, who is a Qualified Person as defined by NI 43-101.
7. A bulk density of 2.63 t/m<sup>3</sup> was used.

**Table: Mineral Reserves of the Cerro Bayo Mine as of December 31, 2017**

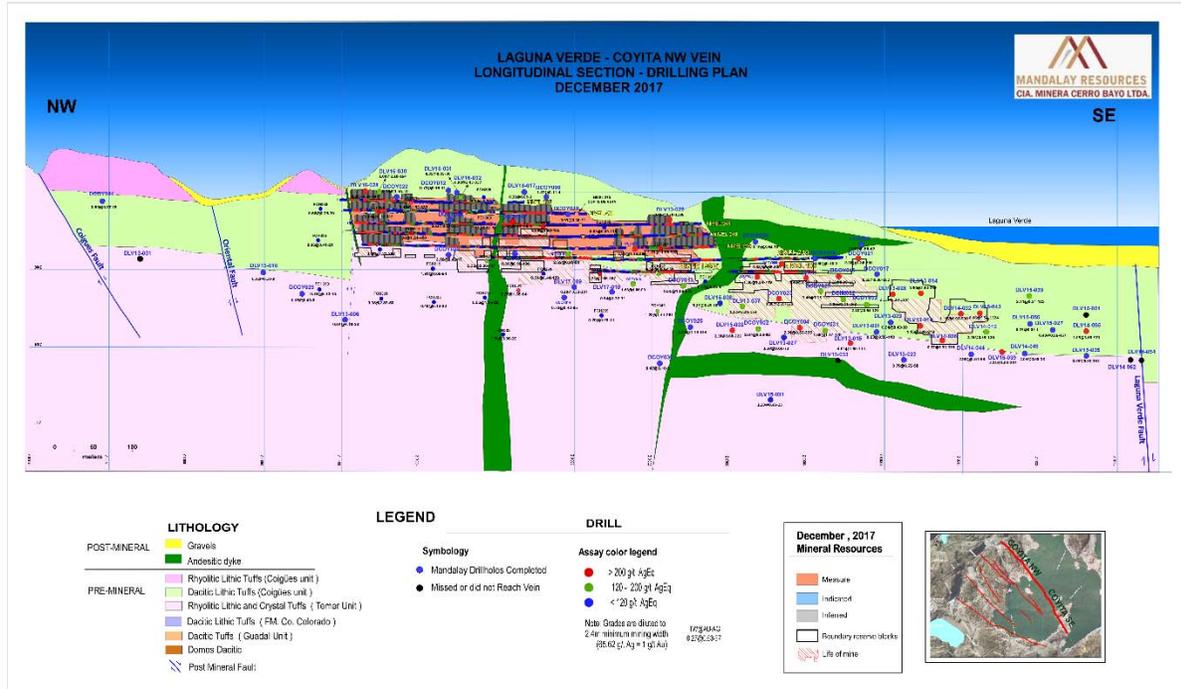
Category	Tonnage (kt)	Ag Grade (g/t)	Au Grade (g/t)	Contained Ag (koz)	Contained Au (koz)
Proven	40	227	1.72	292	2
Probable	816	286	2.37	7,511	62
<b>Proven + Probable</b>	<b>856</b>	<b>284</b>	<b>2.34</b>	<b>7,803</b>	<b>64</b>

Notes:

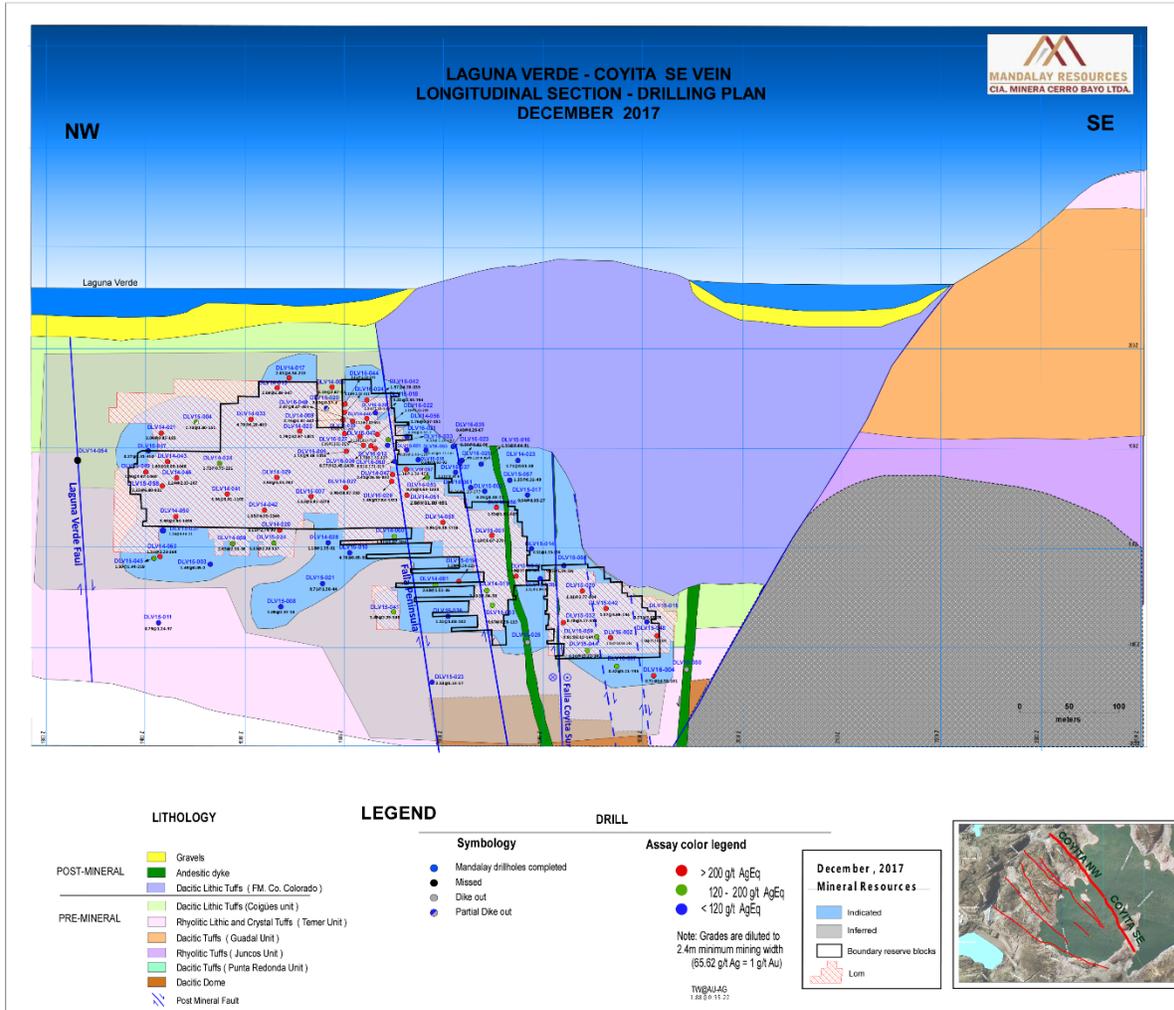
1. Mineral Reserves estimated as of December 31, 2016, and depleted for production through to December 31, 2017.
2. Mineral Reserves stated according to CIM (2014) definitions.
3. Tonnes and contained Au and Ag are rounded to the nearest thousand.
4. Totals may appear different from the sum of their components due to rounding.
5. Veins have been diluted to a minimum mining width of 2.4 m for stoping and 3.0 m for ore development.
6. A 219 g/t Ag Eq. cut-off grade was applied, using the formula:  $Ag\ Eq. = Ag\ g/t + (66.44 \times Au\ g/t)$ .
7. Mineral Reserves are estimated using an average long-term Ag price of \$18/oz and Au price of \$1,200/oz.
8. The Cerro Bayo Mineral Reserve estimate was prepared by the Corporation's in-house technical staff at Cerro Bayo and is unchanged from 2017.

Longitudinal sections relating drill intercepts, mine samples, 2010-2017 stopping, and the Mineral Resources and Reserves, appear below:

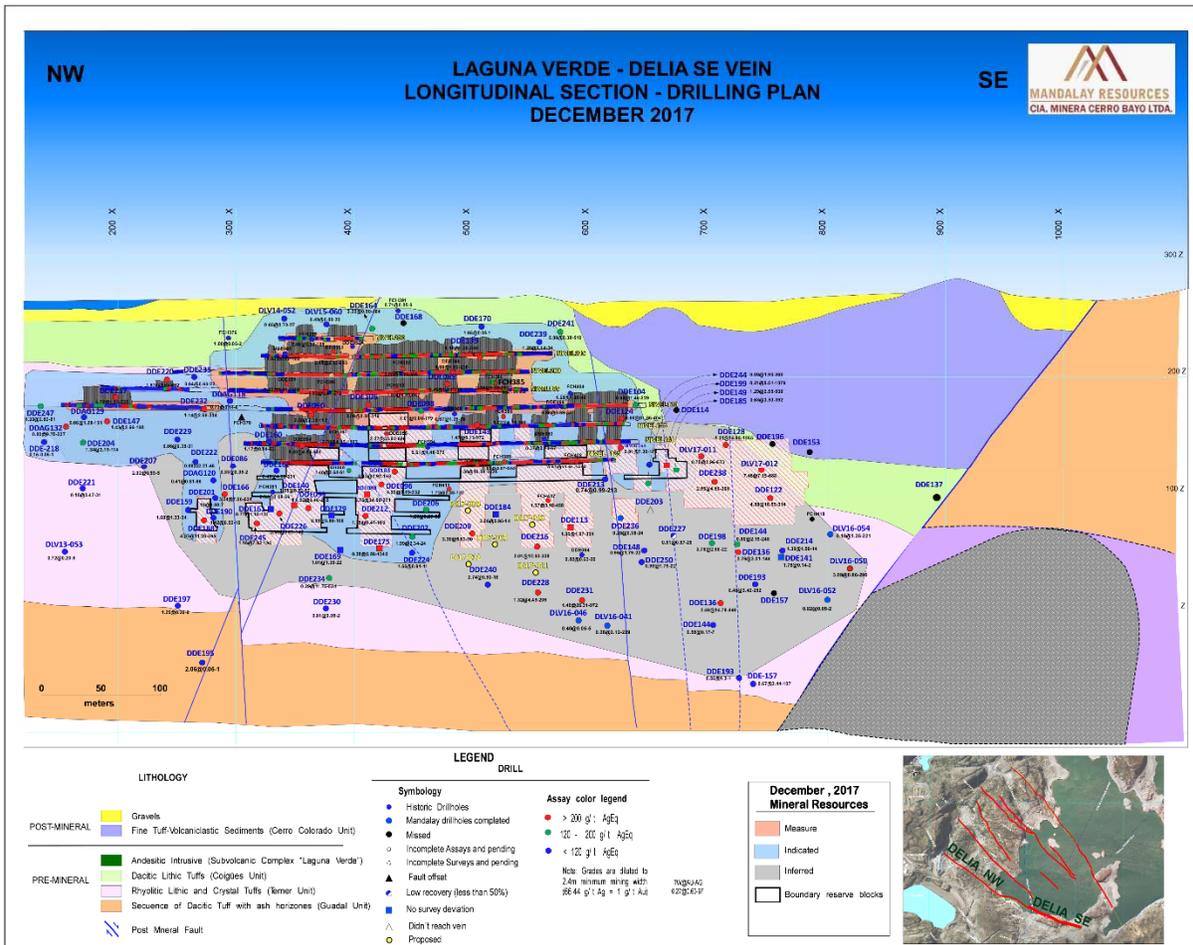
**Coyita NW vein**



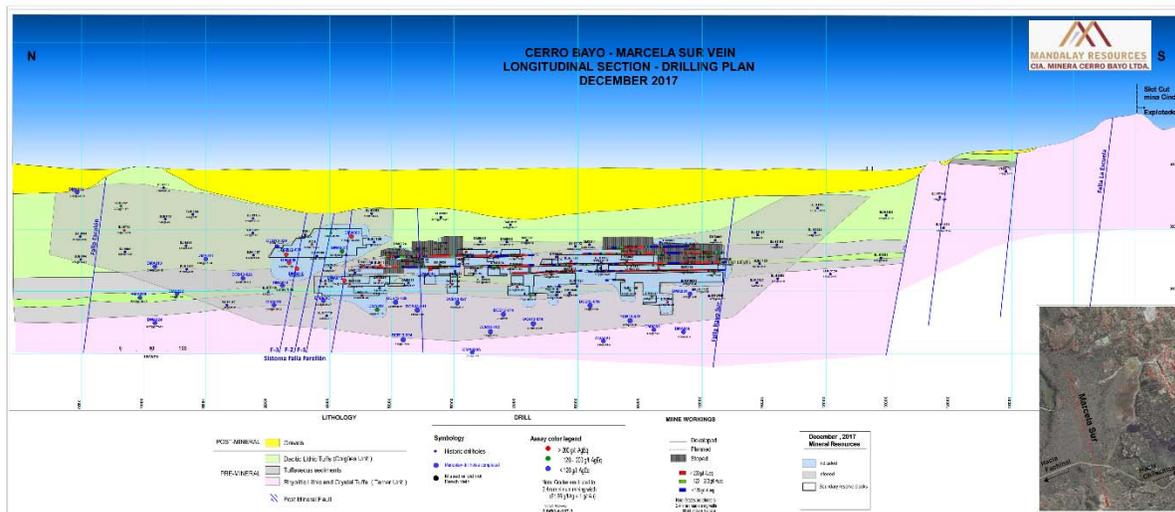
Coyita SE Vein



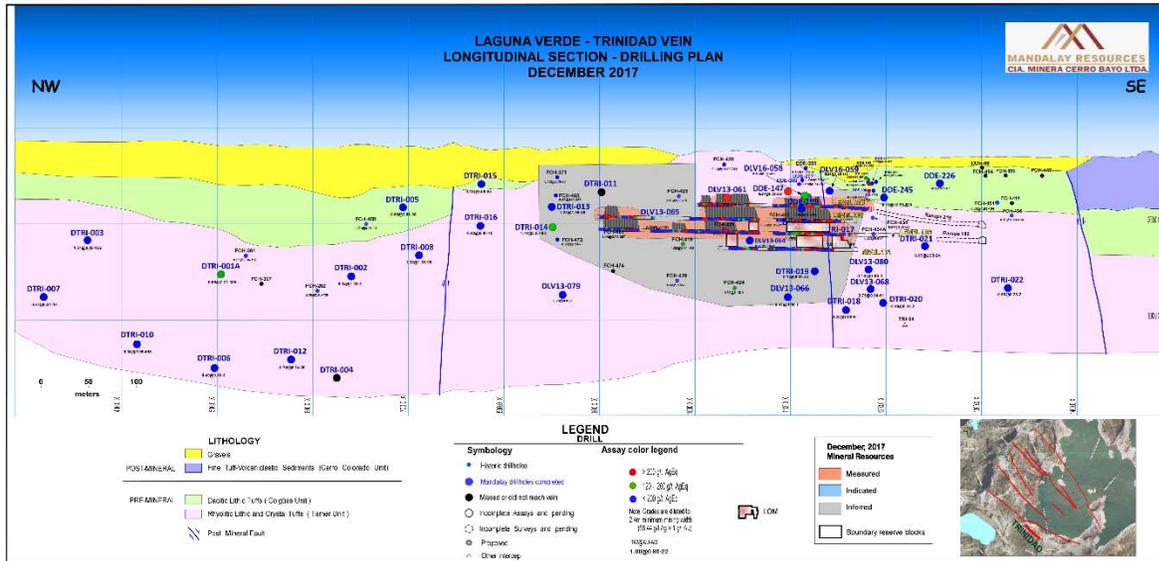
Delia SE vein



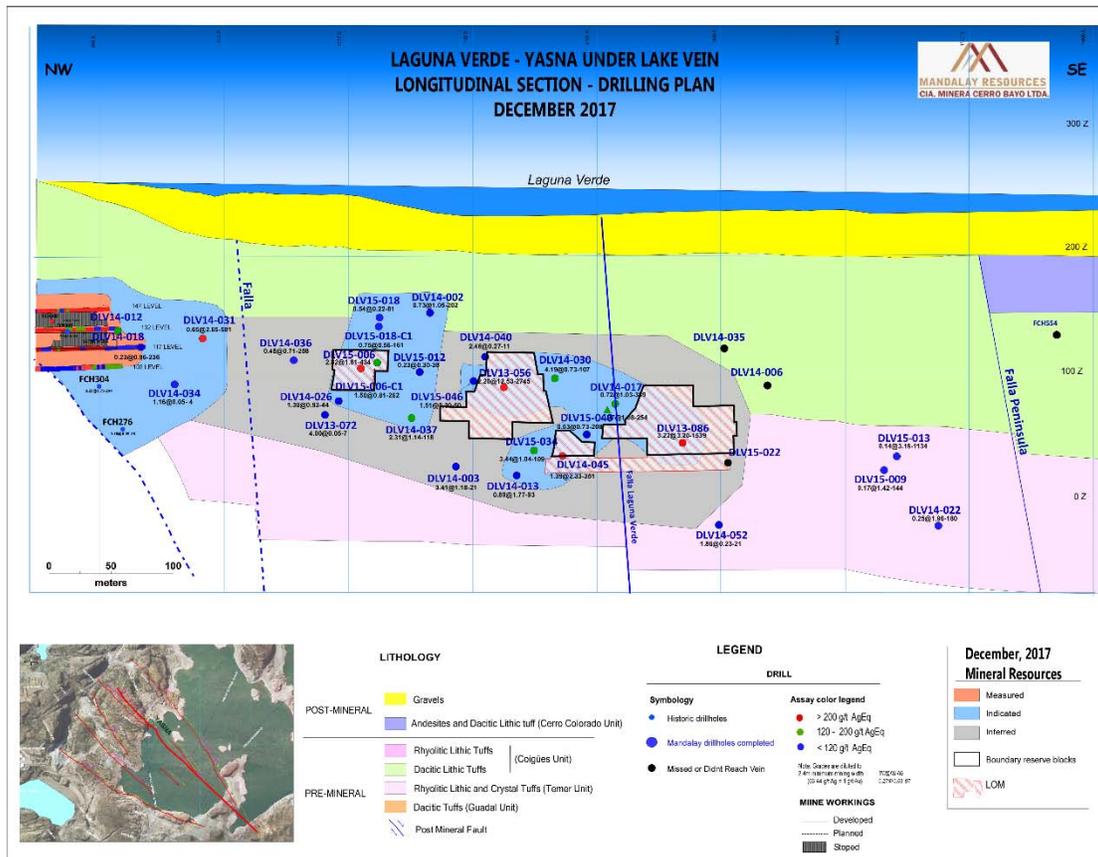
Marcela Sur vein



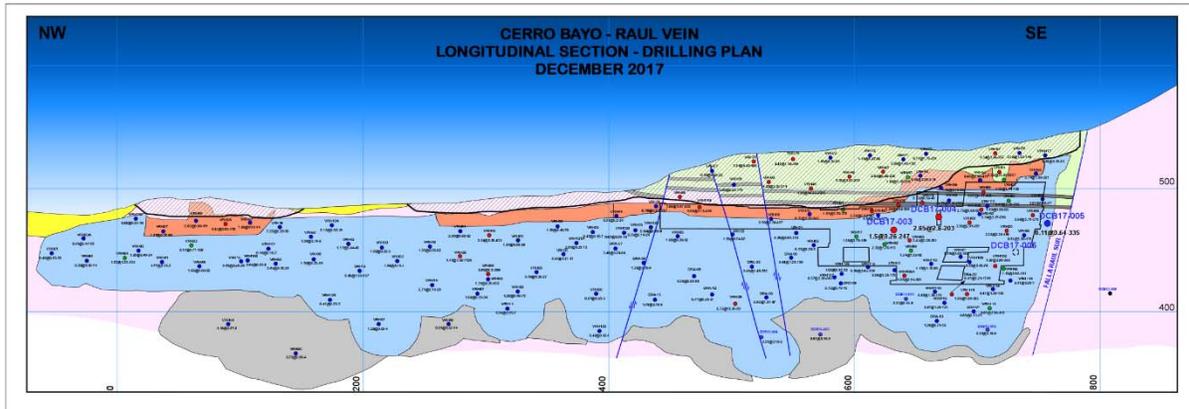
Trinidad vein



Yasna vein



Raul vein



**LITHOLOGY**

POST-MINERAL	Gravels
PRE-MINERAL	Dacitic Lithic Tuffs (Coigues unit)
	Oneritic (Coigues unit)
	Rhyolitic Lithic and Crystal Tuffs (Temer Unit)
	Post Mineral Fault

**DRILL**

<b>Symbology</b>	<b>Assay color legend</b>
Historic Drillholes	> 200 g/t AgEq
Mandalay drillholes completed	120 - 200 g/t AgEq
Incomplete Surveys and pending	< 120 g/t AgEq
Cindy Pit	Note: Grades are diluted to 2.4m minimum mining width (66.44 g/t Ag = 1 g/t Au)

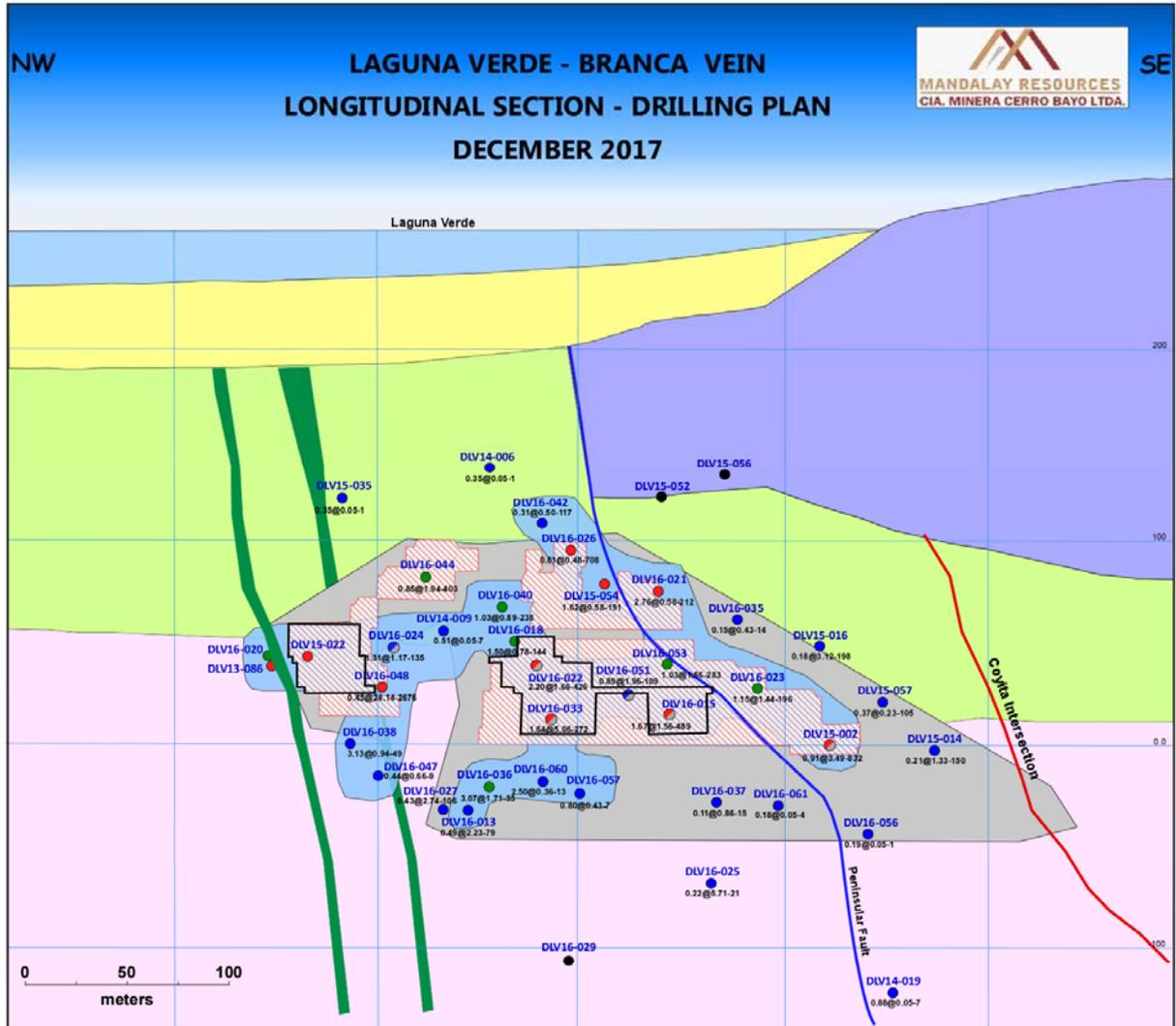
TREGUAG 9.27.09.03.07

**December, 2017 Mineral Resources**

Measured
Indicated
Inferred
Boundary reserve blocks



Branca vein



**LITHOLOGY**

POST-MINERAL	Gravels
	Fine Tuff-Volcaniclastic Sediments (Cerro Colorado Unit)
PRE-MINERAL	Dacitic Lithic Tuffs (Coigües Unit)
	Rhyolitic Lithic and Crystal Tuffs (Temer Unit)
	Dike
	Post Mineral Fault

**Assay color legend**

- > 200 g/t AgEq
- 120 - 200 g/t AgEq
- < 120 g/t AgEq

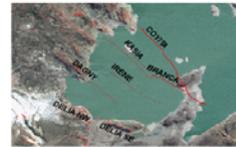
Note: Grades are diluted to 2.4x minimum mining width (0.44 g/t Ag = 1 g/t Au)      70gAu AG      0.27800 G-97

**Symbology**

- Mandalay drillholes completed
- Missed
- Partial Dike out

**December 2017 Mineral Resources**

- Indicated
- Inferred
- Boundary reserve blocks
- Lom





The Mandalay Mineral Reserves update as of December 31, 2014, replaced mined depletion to maintain the approximately six-year mine life.

The Mandalay Mineral Reserves update as of December 31, 2015, replaced approximately half the mined depletion resulting in a mine life of approximately five years.

The Mandalay Mineral Reserves update as of December 31, 2016, showed a mine life of approximately three years based on the LOM plan.

On the basis of the internally prepared Mandalay Mineral Reserves update as of December 31, 2017, there are approximately three years of mine life remaining.

### *Mining Methods and Plan*

The Corporation decided for safety and productivity reasons to resume its underground mining solely with the long hole retreat open stoping method.

The restart plan initiated in the third quarter of 2010 was to ramp up to approximately a 1,200 tpd peak production rate and sustain this rate by having three mines in operation and one in development at any time. The Dagny (and nearby Dalila), Fabiola (and nearby Yasna) and Delia NW mines reached production at steady state of approximately 1,300 tpd, however increased development requirements for production in Delia SE and Coyita resulted in diminished mining rates through 2016, averaging 920 tpd in 2017. The current life-of-mine plan from the Cerro Bayo Technical Report shows approximately 3 years of production from Delia SE, Coyita, Raul and Marcela Sur.

The basic design of each mine is similar. Each mine is accessed by a single 4 m x 4.5 m spiral ramp with a ventilation/secondary escape raise of 3 m x 3 m. Production sublevel drifts are developed along the strike of the vein with a minimum width of 3.0 m by 3.0 m high. If the vein is wider than the minimum 3.0 m, the width of the drift is the same as the width of the vein. Stoping is by the long hole retreat open stoping method, with mucking by remote control scooptrams and with no backfill required. No footwall or hangingwall access drifts or draw points are used as the stopes retreat, from both extremities of the ore on a level, back towards the main access drift coming off of the main ramp.

Ore and waste are hauled to each mine portal by underground dump truck, where they are stockpiled for later haulage to either the crusher or waste dumps by surface equipment.

### *Metallurgical Processing and Recoverability*

Run of mine ore is crushed to minus 6 inches (“in”) in a 24 in x 48 in Allis Chalmers jaw crusher and then conveyed directly to a 1,500 t crushed ore silo. Crushed ore is withdrawn from the silo with vibrating feeders at the rate of up to 65 t/hour (“h”) to feed an 18 foot (“ft”) x 9.25 ft Svedala Allis Chalmers SAG mill that is fitted with rubber liners and charged with 5 in grinding balls. The SAG mill discharges to a cyclone pump box and is classified in a bank of two Warman D-15 cyclones at 65% passing 200 mesh. The cyclone underflow is subjected to flash flotation to recover coarsely liberated Au and Ag into a flotation concentrate that is sent directly to final concentrate. The flash flotation tailing is reground in an 11.5 ft x 18 ft Marcy ball mill operated in closed circuit with the D-15 cyclones. The cyclone overflow is subjected to a second stage of classification in a 42 in diameter spiral classifier prior to advancing to rougher flotation. In 2011, Mandalay rehabilitated a concentrate regrind circuit and has the option to use it when required to achieve high recoveries.

Rougher-scavenger flotation is conducted in a bank of seven WEMCO 500 ft<sup>3</sup> flotation cells. The rougher concentrate is advanced to three stages of cleaner flotation in a bank of eight WEMCO 150ft<sup>3</sup> flotation cells

followed by a final stage of cleaner flotation in a 42 in x 33 ft high column flotation cell. The final flotation concentrate is thickened in a 30 ft diameter Envirotech high rate thickener and then filtered in two Larox concentrate filters to produce filter cake having 8% to 9% moisture content, suitable for transport by ocean freight.

The capacity of the concentrator is approximately 1,650 tpd, whereas the capacity utilization of the base case three-mine plan is a maximum of approximately 1,400 tpd. Therefore, there is substantial spare capacity available in the plant in the event that exploration discovers additional Mineral Reserves in existing veins and/or discovers additional veins such that four veins can be producing at the same time.

In the first quarter of 2013, Mandalay commissioned the automation of grinding and flotation of the processing plant. As a result of the automation, recovery has improved by approximately 2% for both Au and Ag.

#### *Markets*

Minera Cerro Bayo has agreements for the sale of concentrate with Pan Pacific Copper Co., Ltd., in Japan. The terms and conditions of commercial sale are not disclosed pursuant to confidentiality requirements. This agreement is currently suspended as a result of the force majeure declared by Mandalay in June 2017 following the Inundation Event.

#### *Contracts*

From 2010-2016, underground mining was carried out solely by Minera Cerro Bayo personnel. In mid-2016, the Corporation hired underground mining contractor Constructora Gardilic to complete 3,671 m of underground development by June 2017. Contractor development was suspended following the Inundation Event and Constructora Gardilic completed demobilization in the third quarter of 2017. As at December 31, 2017, negotiations were ongoing with Constructora Gardilic to settle a claim made by Cerro Bayo against Constructora Gardilic for civil damages of \$1.2 million incurred due to the suspension of mining operations following the fatal accident in the Coyita Mine on September 10, 2016, and final payments totaling \$580,000, withheld by Cerro Bayo, for works completed under the contract.

As at December 31, 2017, supply and services contracts remained in effect with Atlas Copco (consignment for drilling consumables), SISPA (site security), SODEXO (site food services to terminate in January 2018), Orica (explosives) and Cerro Coihue SpA (wind farm power generation). As at the date of this AIF, supply and services contracts remain in effect with SISPA (site security), Orica (explosives) and Cerro Coihue SpA (wind farm power generation).

Cerro Bayo signed a Power Purchasing Agreement with Cerro Coihue in 2014 pursuant to which Cerro Coihue agreed to supply power to the Cerro Bayo operation commencing in October 2015 and ending on October 1, 2020. On June 30, 2017, Cerro Bayo gave notice to Cerro Coihue of a force majeure event as a consequence of the Inundation Event and the contract is currently suspended.

#### *Environmental*

The Corporation has environmental permits in place to mine all the veins in the base case mine plan. The Marcela vein requires only permission to discharge water as the existing mine is pumped out. Minera Cerro Bayo anticipates the permit will be obtained in sufficient time to deliver the mine plan.

During the second quarter of 2012, the Corporation completed the reclamation project at Furioso. The remainder of the project consists solely of three years of monitoring. Post-closure environmental monitoring obligations were completed in 2016, with no further obligations for CMCB.

In 2015, the Corporation completed the closure of the Cascada project. Closure works at Cascada are pending the final inspection and acceptance by SERNAGEOMIN and then the property will enter the phase of post-closure monitoring.

In November 2017, Cerro Bayo submitted a Temporary Closure Plan to SERNAGEOMIN for evaluation; approval is expected in 2019. Under Chilean legislation, temporary closure measures to secure the operation during the current suspension phase must be submitted for approval. Works in relation to the plan were largely completed during 2017. Once approved, the Temporary Closure Plan will be valid for 2 years. An extension can be requested for up to 3 additional years, provided that a new Temporary Closure Plan is submitted within the first 2 years. After the initial extension, the Corporation can request an exceptional extension of the suspension from SERNAGEOMIN. In order to obtain an exceptional extension, the Corporation must submit a new Temporary Closure Plan and an additional guarantee equivalent to 30% of the initial amount. The exceptional extension cannot exceed the useful life of the mining project stated in the General Closure Plan approved by SERNAGEOMIN.

#### *Taxes*

A Chilean company's profit is subject to a 27% first category tax in 2018. The Corporation currently has an estimated \$18.8 million of carry-forward tax losses.

#### *Capital Costs*

For the LOM plan, the expected capital investment totals approximately \$50 million, including \$19 million for mine infrastructure, equipment and rebuilds and \$31 million in mine development. Closure costs are estimated to be \$12 million.

#### *Operating Costs*

For the LOM economic test model, the operating costs used are \$63.64/t for mining, \$22.66/t for processing and \$17.69/t for general and administration. These are based on actual costs for the 2017 year.

**Table: Cerro Bayo Operation – Operating Cost Estimate**

	Avg. US\$/Yr. (millions)	US\$/t processed
Mining	21.4	63.64
Processing	7.6	22.66
General and Administration	5.8	17.69
<b>Total</b>	<b>34.8</b>	<b>103.99</b>

Numbers may not add due to rounding

#### *Economic Analysis*

This section was not required in the Cerro Bayo Technical Report as the property was in production, Mandalay was a producing issuer, and no material expansion was planned beyond the production rates preceding the publishing of the Cerro Bayo Technical Report. In their 2016 Technical Report, RPA verified the economic viability of the Mineral Reserves via cash flow modelling, using the inputs discussed in the

Technical Report. RPA has also independently verified that the cash flow analysis provides positive economics at the reserve cut-off grade prices of \$1,200/oz for Au and \$18/oz for Ag.

### *Exploration and Development*

Since the transition to care and maintenance in June 2017, exploration activities have been curtailed.

## **6.15 Risk Factors**

The Corporation is exposed to a variety of risks in the normal course of operations that could significantly affect its performance and could cause its actual results to differ in material respects from its anticipated results. These risks are discussed below and are in addition to those outlined elsewhere in this Annual Information Form and in the Corporation's public filings with the Canadian securities regulatory authorities, including the Corporation's management's discussion and analysis of financial condition and results of operations for the years ended December 31, 2017 and 2018 and the Corporation's prospectus supplement dated February 12, 2019 (the "**Prospectus Supplement**"), all available on SEDAR at [www.sedar.com](http://www.sedar.com) under the Corporation's profile.

As a result of any one or more of these risks, the Corporation's operating results and Common Share price may be subject to a significant level of volatility.

### *Risks Factors of the Business*

The Corporation's operations are subject to all of the hazards and risks normally incidental to exploring, developing and exploiting natural resources. These risks include, but are not limited to: environmental hazards; industrial accidents; labour disputes; unusual or unexpected geologic formations or other geological or grade problems; unanticipated changes in metallurgical characteristics and metal recovery; unanticipated ground or water conditions, rock falls, seismic activity, cave-ins, pit wall failures, flooding (including the Inundation Event discussed below), rock bursts; periodic interruptions due to bad or hazardous weather conditions and other acts of God; unfavourable operating conditions; social unrest; and market conditions and customer performance to which management can react but which management cannot control.

Any of these risks and hazards could adversely affect the Corporation's exploration activities or mining activities resulting in any of the following: an increase in the cost of exploration, development or production to a point where it is no longer economically feasible to continue; the Corporation writing down the carrying value of one or more properties or mines; delays or a stoppage in the exploration, development or production of the projects; suspensions of contracts with customers; damage to or destruction of mineral properties or processing facilities; environmental damage; and personal injury, death and legal liability. Although precautions to minimize risk will be taken, operations are subject to hazards that may have a material adverse impact on the business, operations and financial performance of Mandalay.

### *Inundation Event*

The Inundation Event at Cerro Bayo has resulted in the cessation of operations since June 9, 2017. Although the Corporation is attempting to minimize the effect of the Inundation Event on the Corporation, it may have a negative impact on the business, operations and financial performance of the Corporation. In particular, the Inundation Event and the ongoing cessation of operations at Cerro Bayo has resulted in the inclusion of an impairment charge against Cerro Bayo in the Corporation's annual financial statements for the year ended December 31, 2017 and the year ended December 31, 2018. For the year-ended December 31, 2017, the costs to the Corporation equal \$32.6 million, consisting of a \$19.8 million impairment or

write-off of assets and \$12.8 million of incident-related expenses. For the year-ended December 31, 2018, the Corporation recognized \$10.5 million of expenses relating to care and maintenance and other costs. In 2018, the amount included \$5.1 million of impairment of consumables at the mine and also a \$0.8 million insurance credit from mining equipment received relating to the Inundation Event. The Inundation Event also exposed the Corporation to potential liability for third party claims and fines imposed by governmental authorities. During 2018, the Company settled with the families of the deceased. Although the Corporation has included reserves in its financial statements for the payment of any such claims and fines and believes that such reserves will be adequate, the final amount of the Corporation's liability in respect of such claims and fines has not yet been determined and may exceed the amount of the reserves. The Corporation currently anticipates that Cerro Bayo will remain on care and maintenance through 2019, and, the Corporation would only restart Cerro Bayo upon the receipt of all necessary permits. However, there can be no assurance that the Corporation will receive all necessary permits to restart Cerro Bayo. Accordingly, there is a risk that the Corporation may never resume operations at Cerro Bayo. See also "Risk Factors – *Licenses and Permits Necessary for Operations*".

### *Mining Industry Risks*

The exploration for and development of mineral deposits involves a high degree of risk, which even a combination of careful evaluation, experience and knowledge may not eliminate. Few properties that are explored are ultimately developed into producing mines. Substantial expenses may be required to locate and establish ore reserves, to develop metallurgical processes and to construct mining and processing facilities at a particular site. There is no certainty that the exploration programs planned by the Corporation will result in a profitable commercial mining operation. Whether a mineral deposit will be commercially viable depends on a number of factors such as the following: the particular attributes of the deposit, including size, grade and proximity to infrastructure; metal prices, which fluctuate widely and cannot be predicted with certainty; and government regulations, including regulations relating to prices, taxes, royalties, land tenure, land use, importing and exporting of minerals and environmental protection. As a result, it is possible that the financial performance of mineral properties will differ from plans and forecasts made in advance by the Corporation.

In addition, it is also common for mining operations to experience unexpected problems both during the start-up and during ongoing operations. To the extent that unexpected problems occur that affect production in the future, the Corporation's revenues may be reduced, costs may increase and the Corporation's profitability and ability to continue its mining operation may be adversely affected.

### *Fluctuations in the Market Price of Mineral Commodities*

The profitability of Mandalay's operations is dependent in part upon the market price of mineral commodities and precious metals, particularly Au, Ag, and Sb. Mineral and metal prices fluctuate widely and are affected by numerous factors beyond the control of the Corporation. The level of interest rates, the rate of inflation, the world supply of and demand for mineral commodities, and exchange rate fluctuations can all cause significant commodity price fluctuations. Such external economic factors are in turn influenced by changes in international investment patterns, monetary systems and political developments. The price of mineral commodities has fluctuated widely in recent years, and future price declines could cause commercial production to be uneconomic, thereby having a material adverse effect on the Corporation's business, financial condition and results of operations. Fluctuations in market prices of mineral commodities subsequent to the date of any estimate of mineral reserve or mineral resource may require revision of such estimate. An adverse fluctuation in the market price of mineral commodities may cause a re-evaluation of the economic feasibility of any project. If the economic feasibility of a project is subsequently questioned, the Corporation may be adversely affected and may have to write off costs previously incurred.

### *Licenses and Permits Necessary for Operations*

The operations of the Corporation require licenses and permits from various governmental authorities. Obtaining necessary permits and licenses can be a complex and time-consuming process. Although all current operations are conducted under valid licenses and permits, the Corporation cannot be certain that it will be able to obtain necessary new licenses or permits on acceptable terms, in a timely manner or at all. The costs and delays associated with obtaining necessary permits and complying with these permits and applicable laws and regulations could stop, delay or restrict the Corporation from proceeding with the development of an exploration project or the development and operation of a mine. Any failure to comply with applicable laws and regulations or permits could result in interruption or closure of exploration, development or mining operations, or fines, penalties or other liabilities being assessed against the Corporation. The Corporation could also lose its mining concessions under the terms of its existing agreements.

In particular, legislative changes in Chile have resulted in a revised licensing and permitting process. In the near future, the Corporation will be required to go through the new permitting process in respect of the Corporation's Challacollo project in Chile. The Corporation completed a water exploration program at Challacollo in the second quarter of 2017, finding sufficient supply of groundwater to support a potential operation. The Corporation is currently in the process of permitting both the next round of resource expansion drilling and the development of a water source for the aforementioned potential operation.

In addition, following the Inundation Event at the Cerro Bayo mine, the Chilean Government has required the Corporation to undertake extensive geotechnical studies and risk assessments and to re-permit the mining areas under Laguna Verde. In total, seven permits are currently required to restart mining under Laguna Verde and to complete mining the current Mineral Reserves, including in the Marcela and Raul veins located several kms from the lake. Activities are underway by Cerro Bayo to seek these permits. The Cerro Bayo mine will remain on care and maintenance until all necessary permits are received. There is a risk that one or more of the required permits will not be granted. Accordingly, there is a risk that the Corporation may never resume operations at Cerro Bayo.

### *Project Development, Expansion Targets and Operational Delays*

There can be no assurance that Mandalay will be able to effectively manage the expansion of its operations or that Mandalay's current personnel, systems, procedures and controls will be adequate to support Mandalay's operations. Some of Mandalay's projects may be operated and managed by contractors. Any failure of management to effectively manage Mandalay's growth and development could have a material adverse effect on Mandalay's business, financial condition and results of operations.

Mandalay's operational targets are subject to the completion of planned operational goals on time and according to budget and are dependent on the effective support of Mandalay's personnel, systems, procedures and controls. Any failure of Mandalay's personnel, systems or procedures and controls may result in delays in the achievement of operational targets with a consequent material adverse impact on the business, operations and financial performance of Mandalay.

The location of Mandalay's current activities, particularly Cerro Bayo, dictate that climatic and geologic conditions may have an impact on operations and, in particular, severe weather, earthquakes, or volcanic eruptions could disrupt the delivery of supplies, equipment and fuel or the export of saleable product. It is, therefore, possible that exploration and mining activity levels may fluctuate. Unscheduled interruptions in Mandalay's operations due to mechanical or other failures, geotechnical events, industrial relations issues, local social unrest, or problems or issues with the supply of goods or services or the sale of product could have a negative impact on the financial performance of those operations.

### *Acquisition Strategy*

As part of Mandalay's business strategy, the Corporation has sought and will continue to seek new mining and development opportunities in the mining industry. In pursuit of such opportunities, the Corporation may fail to select appropriate acquisition targets or to negotiate acceptable arrangements, including arrangements to finance acquisitions or integrate the acquired businesses and their personnel into Mandalay. Ultimately, any acquisitions would be accompanied by risks. For example: there may be a significant change in commodity prices after the Corporation has committed to complete the transaction and established the purchase price or exchange ratio; a material ore body may prove to be below expectations; Mandalay may have difficulty integrating and assimilating the operations and personnel of any acquired companies, realizing anticipated synergies and maximizing the financial and strategic position of the combined enterprise, and maintaining uniform standards, policies and controls across the organization; the integration of the acquired business or assets may disrupt Mandalay's ongoing business and its relationships with employees, suppliers, contractors and other stakeholders; the acquired business or assets may have unknown liabilities which may be significant; there may be delays as a result of regulatory approvals; and Mandalay may be exposed to litigation (including actions commenced by shareholders) in connection with the transaction.

The Corporation may choose to finance an acquisition through its existing resources, a raise of debt capital or the issuance of equity. In the event that Mandalay chooses to raise debt capital to finance any such acquisition, its leverage will be increased. If Mandalay chooses to use equity as consideration for such acquisition, existing shareholders may suffer dilution.

Mandalay cannot assure that it can complete any acquisition or business arrangement that it pursues, or is pursuing, on favourable terms, or that any acquisitions or business arrangements completed will ultimately benefit its business. Furthermore, there can be no assurance that Mandalay would be successful in overcoming the risks identified above or any other risks or problems encountered in connection with such acquisitions.

### *Environmental Risks and Hazards*

All phases of the Corporation's operations are subject to environmental regulation in the jurisdictions in which the Corporation operates. While the Corporation's operations are currently in compliance with local environmental regulations, 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. There is no assurance that existing or future environmental regulations will not materially adversely affect the Corporation's business, financial condition and results of operations. Environmental hazards may exist on the properties where the Corporation holds interests that are unknown to the Corporation at present and which have been caused by previous or current owners or operators of the properties. Government approvals and permits are currently, or may in the future be, required in connection with the Corporation's operations. To the extent that such approvals are required and not received, the Corporation may be curtailed or prohibited from proceeding with planned exploration or development of mineral properties.

Failure to comply with applicable laws, regulations and requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions. Parties engaged in mining operations, including the Corporation, may be required to compensate those suffering loss or damage by reason of mining activities and may be subject to civil or criminal fines or penalties imposed for violations of applicable laws or regulations. Amendments to current laws, regulations and permits governing operations and activities of mining companies, or more

stringent implementation thereof, could have a material adverse impact on the Corporation and cause increases in exploration expenses, capital expenditures or production costs, reduction in levels of production at producing properties, or abandonment or delays in development of new mining properties.

#### *Requirement of Additional Financing*

The exploration and development of the Corporation's properties, including continued exploration and development projects, the construction of mining facilities and the commencement of mining operations in the future, may require substantial additional financing. Failure to obtain sufficient financing may result in a delay or indefinite postponement of exploration, development or production on any or all of the Corporation's properties and may lead to a loss of an interest in a property. Additional financing may not be available when needed. Even if such additional financing is available, the terms of such financing might not be favourable to the Corporation and might involve substantial dilution to existing shareholders or sale or other dispositions of an interest in any of the Corporation's assets or properties. Failure to raise capital when needed could have a material adverse effect on the Corporation's business, financial condition and results of operations.

#### *Health and Safety*

Mandalay's activities are and will continue to be subject to health and safety standards and regulations in the jurisdiction within which it operates. While the Corporation is currently in compliance with these standards and regulations, failure to comply with such requirements going forward may result in fines and/or penalties being assessed against Mandalay or its officers.

#### *Uncertainty as to Mineral Resource and Reserve Estimates*

There is a significant degree of uncertainty attributable to the estimation of size and grade of Mineral Resources and Reserves. Until the mineralized material is actually mined and processed, Mineral Resources and Reserves must be considered as estimates only. Consequently, there can be no assurance that any mineral deposit size or grade information contained herein (including in the documents incorporated herein by reference) will prove accurate. In addition, the value of mineral deposits may vary depending on mineral prices and other factors. Any material change in size or grade, stripping ratio or other mining and processing factors may affect the economic viability of the Corporation's projects. Furthermore, mineral deposit estimate information should not be interpreted as any assurance of mine life or of the potential profitability of existing or future projects.

#### *Dependence upon Key Management Personnel and Executives*

The Corporation will be dependent upon the continued support and involvement of a number of key management personnel. The loss of the services of one or more of such personnel could have a material adverse effect on the Corporation. The Corporation's ability to manage its exploration and development activities and, hence, its success, will depend in large part on the efforts of these individuals. The Corporation faces competition for qualified personnel and there can be no assurance that the Corporation will be able to attract and retain such personnel.

#### *Customer Concentration*

The mining industry is characterized by a relatively small number of customers worldwide. A loss of, or a significant reduction in, purchases by one or more of Mandalay's largest customers could have a material adverse impact on the financial performance of Mandalay. The Corporation has several large customers for its concentrates, the loss of any of which could have a material adverse effect on the financial position,

results of operations and liquidity of the Corporation. For the year ended December 31, 2018, eight customers accounted for 100% of the Corporation's total sales.

#### *Title Matters*

The acquisition of title to mineral properties is a very detailed and time-consuming process. Title to, and the area of, mineral concessions may be disputed. Although the Corporation believes it has taken reasonable measures to ensure proper title to its properties, there is no guarantee that title to any of its properties will not be challenged or impaired. Third parties may have valid claims underlying portions of the Corporation's interests. Any such claims could have a material adverse effect on the Corporation's business, financial condition and results of operations.

#### *Governmental Regulation of the Mining Industry*

The mineral exploration and production activities of the Corporation are subject to various laws governing prospecting, development, production, taxes, labour standards, employment and occupational health, mine safety, use of water, toxic substances and waste disposal, environmental and other matters. Mining and exploration activities are also subject to various laws and regulations relating to protection of the environment. Although the Corporation believes that its exploration and production activities are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner that could limit or curtail production or development. Amendments to current laws and regulations governing the operations and activities of the Corporation or more stringent implementation thereof could have a material adverse effect on the business, financial condition and results of operations of the Corporation.

#### *Currency Risk*

The Corporation's operations will incur most of its expenditures in Australian dollars, Chilean pesos and Swedish krona, while its products are priced, and its financial performance is reported, in US dollars. As a result of the use of different currencies, the Corporation may be subject to foreign currency fluctuations, which may materially affect the financial position and results of the Corporation. The Corporation occasionally engages in currency hedging to offset the risk of currency fluctuations.

#### *Uninsured Risks*

The Corporation does not carry insurance to protect against certain risks. Risks that are not insured include, but are not limited to: business interruption insurance, labour disruption, certain environmental losses and acts of war and terrorism; and other hazards against which the Corporation, and in general, mining corporations, cannot insure or against which the Corporation may elect not to insure due to high premium costs or for other reasons. Failure to have insurance coverage for any one or more of such risks or hazards could have a material adverse effect on the Corporation's business, financial condition and results of operations.

Please refer to page 10 in this Annual Information Form for disclosure on the Corporation's global insurance program.

#### *Competition*

The mining industry is intensely competitive in all of its phases and the Corporation competes with many companies possessing greater financial and technical resources. Competition in the mining industry is primarily for the following: mineral-rich properties which can be developed and produced economically;

technical expertise to find, develop, and manage such properties; labour to operate the properties; and capital for the purpose of funding such properties. Many competitors not only explore for and mine precious metals, but also conduct refining and marketing operations on a world-wide basis. Such competition may result in the Corporation being unable to: acquire desired properties (due to the auction process involved in some property acquisitions); recruit or retain qualified employees; or obtain the capital necessary to fund its operations and develop its properties. Existing or future competition in the mining industry could materially adversely affect the Corporation's prospects for mineral exploration and success in the future. Furthermore, increased competition could result in increased costs and lower prices for metal and minerals produced which, in turn, could reduce profitability. Consequently, the Corporation's revenues, its operations and financial condition could be materially adversely affected.

#### *Repatriation of Earnings*

There is no assurance that Chile, Australia, Sweden or any other foreign country in which the Corporation or its subsidiaries may operate in the future will not impose restrictions on the repatriation of earnings to foreign entities.

#### *Properties without Known Mineable Reserves*

The activities of the Corporation will continue to be directed towards the search for, evaluation, and development of mineral deposits. There is no assurance that the expenditures of the Corporation will result in discoveries of commercial ore bodies. Furthermore, there can be no assurance that the Corporation's estimates of future exploration expenditures will prove accurate, and actual expenditures may be significantly different than currently anticipated.

#### *Marketability*

The marketability of the minerals owned by Mandalay, or which may be acquired or discovered by Mandalay, will be affected by numerous factors beyond Mandalay's control. These factors include, but are not limited to: market fluctuations; the proximity and capacity of markets; and governmental regulations, including regulations relating to prices, taxes, royalties, land tenure, land use, importing and exporting and environmental protection. A combination of one or more of these factors may result in Mandalay not receiving an adequate return on invested capital.

#### *Infrastructure*

Development and exploration activities depend on adequate infrastructure, including reliable roads, power sources and water supply. The Corporation's inability to secure adequate water and power resources, as well as other events outside of its control, including unusual weather, geologic events such as earthquakes or volcanic eruptions, sabotage, government or other interference in the maintenance or provision of such infrastructure, could adversely affect the Corporation's operations and financial condition.

#### *Litigation*

Legal proceedings may arise from time to time in the course of Mandalay's business. There have been a number of cases where the rights and privileges of mining and exploration companies have been the subject of litigation. Such litigation may be brought against Mandalay in the future or Mandalay may be subject to another form of litigation.

### *Difficulty in Enforcement of Judgements*

Substantially all of the Corporation's assets are located outside of Canada. Accordingly, it may be difficult for investors to enforce within Canada any judgements obtained against the Corporation, including judgements predicated upon the civil liability provisions of applicable Canadian securities laws. Consequently, investors may be effectively prevented from pursuing remedies against the Corporation under Canadian securities laws.

The Corporation has subsidiaries incorporated in Australia, Chile and Sweden. Certain directors and officers, including our Executive Chairman, President and Chief Executive Officer, and our Chief Financial Officer, reside outside of Canada and substantially all of the assets of these persons are located outside of Canada. It may not be possible for shareholders to effect service of process against the Corporation's directors and officers who are not resident in Canada. In the event a judgement is obtained in a Canadian court against one or more of our directors or officers for violations of Canadian securities laws, it may not be possible to enforce such judgement against those directors and officers not resident in Canada. Additionally, it may be difficult for an investor, or any other person or entity, to assert Canadian securities law claims in original actions instituted in Australia, Chile or Sweden. Courts in these jurisdictions may refuse to hear a claim based on a violation of Canadian securities laws on the grounds that such jurisdiction is not the most appropriate forum to bring such a claim. Even if a foreign court agrees to hear a claim, it may determine that the local law, and not Canadian law, is applicable to the claim. If Canadian law is found to be applicable, the content of applicable Canadian law must be proven as a fact, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by foreign law.

### *Potential Volatility of Market Price of Common Shares*

Securities traded on the TSX have, from time to time, experienced significant price and volume fluctuations unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the market price of the Common Shares. In addition, the market price of the Common Shares is likely to be highly volatile. Factors such as metals prices, the average volume of shares traded, announcements by competitors, changes in stock market analyst recommendations regarding the Corporation, and general market conditions and attitudes affecting other exploration and mining companies may have a significant effect on the market price of the Common Shares. During future quarterly periods, the Corporation's results and exploration activities may fluctuate significantly or may fail to meet the expectations of stock market analysts and investors and, as a result, the market price of the Common Shares could be materially adversely affected. In the past, securities class action litigation has often been initiated following periods of volatility in the market price of a company's securities. Such litigation, if brought against the Corporation, could result in substantial costs and a diversion of management's attention and resources, which could have a material adverse effect on the Corporation's business, financial condition and results of operations.

### *Possible Conflicts of Interest of Directors and Officers of the Corporation*

Certain of the directors and officers of the Corporation also serve as directors, officers and/or advisors of and to other companies involved in natural resource exploration and development. Consequently, there exists the possibility for such directors and officers to be in a position of conflict. The Corporation expects that any decision made by any of such directors and officers involving the Corporation will be made in accordance with their duties and obligations to deal fairly and in good faith with a view to the best interests of the Corporation and its shareholders, but there can be no assurance in this regard. In addition, each of the directors is required to declare and refrain from voting on any matter in which such directors may have a conflict of interest.

### *Risk of Dilution*

Under applicable Canadian law and the rules of the TSX, shareholder approval is not required for the Corporation to issue Common Shares in a number of circumstances. Moreover, the Corporation has a substantial number of stock options to acquire Common Shares under the Stock Option Plan (as defined below). The future business of the Corporation may require substantial additional financing which could involve the sale of equity capital. The Corporation can also be expected to issue additional options, warrants and other financial instruments, which may include debt. Future issuances of equity capital may have a substantial dilutive effect on existing shareholders. The Corporation is not able at this time to predict the future amount of such issuances or dilution.

### *Instability of Political and Economic Environments*

The mining interests of the Corporation may be affected in varying degrees by political or economic stability. Associated risks include, but are not limited to: temporary or extended loss of access to properties due to social unrest; terrorism; military repression; and extreme fluctuations in currency exchange rates and high rates of inflation. Any change in regulations or shifts in political attitudes are beyond the control of the Corporation and may materially adversely affect its business, financial condition and results of operations. Operations may also be affected in varying degrees by such factors as government regulations (or changes thereto) with respect to the restrictions on production, export controls, income taxes, expropriation of property, repatriation of profits, land use, environmental legislation, water use, land claims of local people, and mine safety. The effect of these factors cannot be accurately predicted.

Two of the Corporation's material properties are currently located in Chile, exposing a substantial portion of the Corporation's business to various degrees of political, economic and other risks and uncertainties. Although Chile has a mature and stable political system and enjoys one of the best country risk ratings of the region, there is always the potential for changes in mining policies or shifts in political attitude towards foreign investment in natural resources. Changes, even if minor in nature, may adversely affect the Corporation's operational and/or financial performance. See "Emerging Market Disclosure for Chile".

### *Loan with GEL*

The Corporation, through its wholly owned subsidiary, Mandalay Finance, is party to a loan agreement and related funding agreement with GEL which together mirror the principal terms of the Bonds (see "Intercorporate Relationships" and "General Development of the Business – Three Year History – 2017"). As the Bonds are exchangeable at the option of holders of the Bonds for shares of SPDR Gold Trust (or such other shares as provided under the loan agreement) (the "**Gold Shares**"), the holders of the Bonds may choose to exchange the Bonds and receive Gold Shares. Upon being notified by GEL of the exercise by a holder of Bonds of such holder's exchange right, pursuant to the loan agreement and the funding agreement, Mandalay Finance will be required, as agent for GEL, to purchase such Gold Shares on the open market in the name of GEL and transfer such Gold Shares to the relevant Exchange Agent (as such term is defined in the Bonds) for transfer and delivery to the Bondholders, and the amount of the loan from Mandalay Finance will be accordingly reduced. If a significant amount of the Bonds are exchanged by Bondholders, the amount of funds available to the Corporation under the loan will be materially reduced. If Mandalay Finance is unable to make the required deliveries of the Gold Shares, the Corporation will be in default under the loan agreement and may need to obtain alternative sources of financing, which may not be available to the Corporation on terms acceptable or at all. Mandalay Finance's obligations under the loan agreement are guaranteed by the Corporation and are secured by a charge and security interest in all of the shares of MRA, the Corporation's wholly-owned subsidiary that indirectly holds the Corporation's interest in the Costerfield property. In 2017, a covenant was added to the Bonds which requires GEL to offer to repurchase a proportion of the Bonds outstanding at the relevant time if and to the extent that the contained

gold equivalent (in ounces) at Costerfield falls below (initially) 232,000 gold equivalent ounces. See “General Development of the Business – Three Year History – 2017”.

#### *HSBC Facility*

On July 25, 2017, the Corporation announced that it had entered into the Facility. The Facility matures on July 24, 2020. The Facility is secured by a first ranking security interest over substantially all of the Corporation’s assets, excluding the Corporation’s Australian subsidiaries and its Costerfield mine. The Facility has customary representations and warranties and positive and negative covenants which, if breached, could lead to a default under the Facility and the acceleration of the outstanding debt.

As at December 31, 2018, the Corporation was in breach of the financial covenants under the Facility. On February 20, 2019, and associated with the Financing, the Company has received a waiver for all of these financial covenants for the quarters ending December 31, 2018 and March 31, 2019. See “General Development of the Business – Three Year History – 2019”.

#### *Negative Operating Cash Flow*

Beginning in the fourth quarter of 2018, the Corporation began experiencing negative cash flow from operating activities. Cash flow from operating activities may continue to decline in certain circumstances, many of which are beyond the Corporation’s control, such as a decline in gold prices.

There can be no assurance that any of the Corporation’s current properties or properties the Corporation may hereafter acquire or obtain an interest in will generate earnings, operate profitably or provide a return on investment in the future. There can also be no assurance that the underlying assumed levels of expenses will prove to be accurate. There can be no assurance that significant additional losses will not occur in the near future or that the Corporation will be profitable in the future. The Corporation’s operating expenses and capital expenditures may increase in subsequent years as consultants, personnel and equipment associated with advancing exploration, development and commercial production of its properties are added. The amount and timing of expenditures will depend on the progress of ongoing exploration and development, the results of consultants’ analyses and recommendations, the rate at which operating losses are incurred, the execution of any joint venture agreements with strategic partners, the Corporation’s acquisition of additional properties and other factors, many of which are beyond the Corporation’s control. If the Corporation continues to have negative cash flow in future periods, the Corporation may need to deploy a portion of its cash reserves including the net proceeds of the Offering to fund such negative cash flow. These uncertainties cast significant doubt upon the Corporation’s ability to continue as a going concern and realize its assets and pay its liabilities as they become due.

#### *The Significant Shareholders Exercise Significant Control Over the Corporation*

Upon completion of the Offering (without giving effect to any exercise of the over-allotment option) and assuming the Escrow Release Conditions have been satisfied and the Bridge Loan has been converted into Common Shares in accordance with its terms, it is anticipated that approximately 66.5% of the issued and outstanding Common Shares will be held by the four largest shareholders of the Corporation (the “**Significant Shareholders**”). In addition, pursuant to the terms of the Bridge Loan, CE Mining will have the right to nominate two individuals for election as members of the Mandalay Board for as long as it owns at least 10% of the outstanding Common Shares. As a result of their shareholdings, the Significant Shareholders will have the ability, among other things, to significantly influence the approval of significant corporate transactions and delay or prevent a change of control of the Corporation that could otherwise be beneficial to minority shareholders. The Significant Shareholders will generally have the ability to control the outcome of any matter submitted for the vote or consent of the Corporation’s shareholders and to determine the outcome of any election of the Mandalay Board. In some cases, the interests of the Significant

Shareholders may not be the same as those of the Corporation's other shareholders or each other, and conflicts of interest may arise from time to time that may be resolved in a manner detrimental to the Company or its minority shareholders.

### *Subscription Receipt Structure*

Holders of the Subscription Receipts will be entitled to receive Common Shares upon the satisfaction of the Escrow Release Conditions on or before 5:00 p.m. (Toronto time) on April 30, 2019 (the "**Escrow Release Deadline**"). There can also be no assurance that the Escrow Release Conditions will be satisfied on or prior to the Escrow Release Deadline. Each subscriber's subscription proceeds will be held in escrow pending satisfaction of the Escrow Release Conditions or certain termination events and accordingly, subscribers will not be able to use such funds to take advantage of other investment opportunities.

## **7. EMERGING MARKET DISCLOSURE FOR CHILE**

### **7.1 Ownership of Property Interests and Assets**

With respect to the Corporation's exploration activities, the mining conventions and exploration permits described in this Annual Information Form, as well as other customary and routine permits obtained from time to time in the ordinary course, are required for the Corporation to be able to carry on business in Chile. With respect to exploitation and mine development, the mining conventions, mining licenses and environmental and social impact statements and approvals described herein, as well as certain other customary and routine permits obtained and held from time to time in the ordinary course, are required by the Corporation for the permitting process.

In order to satisfy itself of its ownership of its property interests in Chile, the Corporation has, among other things: (i) obtained and reviewed title opinions from certain local law firms in Chile; (ii) obtained and reviewed certificates of compliance issued by the appropriate governmental officials in Chile; (iii) conducted searches in Chile; and (iv) reviewed, negotiated and executed various agreements with the Government of Chile relating to the acquisition and/or transfer of certain mining titles and concessions.

The Corporation has a Chilean Legal and Land department headed by a lawyer with extensive experience working with mining properties in Chile and who is abreast of all current Chilean legal requirements. The Corporation maintains a permit data base and performs an annual risk assessment at each of its operations to review permit condition adherence. The Corporation also relies on the oversight by Qualified Persons (as such term is defined in NI 43-101) who have done a review of the Chilean operations and external consultants who are engaged by the Corporation in connection with the Corporation's permitting, licensing and regulatory approval application process, to confirm it has all material permits, licenses and other regulatory approvals needed to carry on business in Chile. The Corporation also consults regularly with external legal advisors in Chile, including confirming that all applicable permitting requirements for its operations have been obtained. In addition, the Government of Chile audits all major sites and their various operating permits at least once per year. The Corporation has never been advised of any material deficiencies resulting from these audits.

### **7.2 Laws and Customs of Chile**

As noted from the corporate structure chart under "Intercorporate Relationships", the Corporation has subsidiaries in Chile (the "**Chilean Subsidiaries**"). Chilean law requires foreign companies operating in Chile to have local operating subsidiaries.

According to a recent survey, Chile ranks ahead of Ontario and British Columbia and just behind Nova Scotia on a list of politically favourable mining jurisdictions. Chile operates under a claim patent system,

similar to Canada and the United States. Once a mining exploitation claim is perfected, the claim becomes real property. All of the Corporation's properties in Chile have been perfected and can now be held indefinitely as long as annual "patente" fees are paid. Therefore, the laws and customs of Chile have no materially different impact on the Corporation's ownership of its property interests or assets than the similar laws and customs in North America.

The Corporation is not aware of any material restrictions against foreign investment in Chilean mining companies, nor any material legal requirements imposed on foreign ownership of Chilean mining companies.

### **7.3 Control by the Corporation over its Chilean Subsidiaries**

All of the Chilean Subsidiaries of the Corporation are wholly-owned subsidiaries over which the Corporation has complete control. In order to ensure that the Corporation has appropriate control and direction over its Chilean Subsidiaries, the directors on the boards and officers of the Chilean Subsidiaries are all members of the Corporation's management team. The Mandalay Board also receives monthly operational, technical and financial reports with respect to its operations in Chile.

The Corporation also maintains and uses corporate controls to ensure that a process and mechanism of approvals is maintained and followed for the disbursement of corporate funds and operating capital and to ensure that investment decisions are reviewed and approved by the Mandalay Board.

All of the minute books and corporate records of the Chilean Subsidiaries are kept at the offices of the Corporation's local counsel.

Based on the foregoing and the disclosure herein, the Corporation is of the view that there are no material risks associated with its corporate structure and that any risks are effectively managed based on the controls described above and elsewhere.

### **7.4 Banking Matters in Chile**

The Corporation conducts its banking in Chile through banks of international repute, which are subject to international standards. All material disbursements of corporate funds and operating capital to the Chilean Subsidiaries are reviewed and approved by the Mandalay Board or its designees and are based upon pre-approved budget expenditures.

The Corporation adheres to Canadian and Chilean laws. The Corporation has a Business Code of Conduct that specifically addresses the *Corruption of Foreign Public Officials Act (Canada)* that is required to be followed by all directors, officers and employees. The Corporation also has a formal continuing education program for its directors which seeks to ensure that directors are informed about issues affecting the Corporation's business, industry, governance and other related issues, including matters affecting its Chilean operations.

### **7.5 Board and Management Experience in Chile and Board and Management Visits to Chile**

A number of members of the Mandalay Board and management have experience doing business and operating in Chile. Many of the current members of the Mandalay Board have been on the Mandalay Board since at least August 2010 and, as such, have a minimum of approximately four years of experience in conducting business in Chile. Many directors of the Corporation have visited the Corporation's mining operations in Chile.

The directors and executive officers have a deep familiarity with the legal and regulatory requirements of Chile through their history with the Corporation and certain of the directors and executive officers also have previous experience working and conducting business in Chile. The directors have met with all of the senior local management in Chile on numerous occasions. Furthermore, the directors are made aware of the local business practices in Chile as part of their annual board level risk management reviews. The Corporation's directors and executive officers are also advised by a prominent law firm in Chile and are made aware of new developments in the legal regime and new requirements that come into force from time to time. Any material developments are then discussed by the Corporation's senior management and at the board level.

## 7.6 Language Considerations

A number of the Corporation's directors and executive officers are either fluent or conversant in Spanish. Local business in Chile is conducted largely in Spanish and the members of the Corporation's management team located in Chile who deal directly with the operating staff and outside consultants communicate in Spanish with such individuals. In addition to certain of the directors and executive officers being fluent or conversant in Spanish, the senior operations team and the Corporation's advisors in Chile are fluent in English. Therefore, there is no material language barrier.

## 7.7 The Corporation's Communication Strategy in Chile

The Corporation's communication strategy in Chile includes having representatives of the Corporation formally meet with the community and other local stakeholders on a regular basis and also more frequently as needed when potential issues arise. Regular contact with stakeholders takes place at various levels within the organization, including by the mine General Manager and officers of the Corporation. The Chilean Subsidiaries are also members of the Chilean Chamber of Mines and stakeholder contact is also initiated in that forum.

## 8. DIVIDENDS

On May 14, 2013, the Corporation announced that the Mandalay Board had modified the dividend policy from a quarterly discretionary cash dividend based on financial results and the future cash requirements of the Corporation to a quarterly dividend policy pursuant to which the Corporation intends to pay quarterly dividends in an aggregate amount equal to 6% of the trailing quarter's gross revenue, defined as revenue before royalty payments.

On July 25, 2017, the Corporation announced that in connection with the entering into the Facility, it had agreed to suspend its dividends until it has greater clarity on its future cash flows, including the cost, timing and financial impact of restarting operations at Cerro Bayo. Future payments of dividends will require HSBC Bank of Canada's consent as long as the Facility remains outstanding. The Mandalay Board will evaluate the Corporation's financial position on an ongoing basis with a view to potentially reinstating dividends when feasible.

The following table sets forth the dividends paid by the Corporation for each of the three most recently completed financial years:

Dividends Paid	2018	2017	2016
Per Common Share (\$)	-	0.0104	0.0263
In aggregate (\$)	-	4,703,000	11,873,000

## 9. CAPITAL STRUCTURE

### Common Shares

The authorized capital of Mandalay is an unlimited number of Common Shares, of which 451,595,877 were issued as at March 28, 2019. The holders of Common Shares are entitled to receive notice of and attend all meetings of shareholders, with each Common Share entitling the holder to one vote on any resolution to be passed at such shareholder meetings. The holders of Common Shares are entitled to dividends if and when declared by the Mandalay Board. The holders of Common Shares are entitled, upon the liquidation, dissolution or winding up of Mandalay, to receive the remaining assets of Mandalay available for distribution to shareholders.

As at March 28, 2019, 359,400,000 Subscription Receipts convertible into Common Shares pursuant to the terms of the Offering were issued and outstanding. Delivery of the Common Shares pursuant to the Subscription Receipts is conditional on satisfaction of the Escrow Release Conditions. Additionally, if the Escrow Release Conditions are satisfied, the Bridge Loan will automatically be converted into Common Shares concurrently with the exchange of Subscription Receipts for Common Shares at a conversion price of \$0.108 per Common Share.

### Stock Options

The Corporation successfully renewed the second amended and restated stock option plan (the “**Stock Option Plan**”) at the Corporation’s Annual and Special Meeting of Shareholders held on May 11, 2017. Pursuant to the Stock Option Plan, the Mandalay Board is authorized to grant options for up to 10% of the issued and outstanding Common Shares. As at the date of this Annual Information Form, the following options were outstanding under the Stock Option Plan, each option exercisable to purchase one Common Share:

Issue Date	Exercise Price CD\$	Number of Options	Expiry Date
Jun 15, 2018	0.20	925,000	Jun 25, 2025
Apr 2, 2018	0.20	4,080,000	Jun 25, 2025
Mar 27, 2017	0.60	3,449,900	Jun 30, 2024
Mar 23, 2016	0.91	3,578,000	Mar 23, 2021
Mar 24, 2015	0.91	2,235,000	Mar 24, 2020

For additional information on the Stock Option Plan, see the Corporation’s management information circular dated April 11, 2017, on the Corporation’s SEDAR profile. The total number of outstanding options as at March 28, 2019, is 14,867,900.

### Share Purchase Warrants

As at the date of this Annual Information Form, there are no outstanding warrants.

### Rights Plan

On April 13, 2018, the Corporation amended and restated its shareholder rights plan, which was initially adopted on April 13, 2015 and subsequently ratified at the Corporation’s annual and special meeting of shareholders held on May 13, 2015 (the “**Rights Plan**”). The amended and restated Rights Plan was ratified at the Corporation’s annual and special meeting of shareholders held on May 16, 2018.

The Rights Plan has the following purposes: (i) to prevent creeping acquisitions of control of the Corporation; (ii) to provide adequate time for Shareholders to properly assess a take-over bid without undue pressure; (iii) to provide the Mandalay Board adequate time to consider value-enhancing alternatives to a take-over bid and to allow competing bids to emerge; and (iv) to ensure that Shareholders are provided equal treatment under a take-over bid.

A summary of the principal terms and conditions of the Rights Plan is set out below. This summary is qualified in its entirety by reference to the complete text of the Rights Plan, which is available on the Corporation's SEDAR profile at [www.sedar.com](http://www.sedar.com). Capitalized terms that are used in the following summary that are not otherwise defined have the meanings given to them in the Rights Plan.

#### *Issuance of Rights*

The Rights Plan provides that one right (a "**Right**") be issued to Shareholders of record as of the close of business on April 13, 2015 in respect of each of the outstanding Common Shares, as well as in respect of each Common Share issued after the effective date of the Rights Plan and prior to the earlier of the Separation Time or the Expiration Time.

#### *Trading of Rights*

Notwithstanding the effectiveness of the Rights Plan, the Rights are not exercisable until the Separation Time and certificates representing the Rights will not be sent to the Shareholders. Certificates for the Common Shares issued after the effective date of the Rights Plan will contain a notation incorporating the Rights Plan by reference. Until the Separation Time, or earlier termination or expiry of the Rights, the Rights are evidenced by and transferred with the associated Common Shares and the surrender for transfer of any certificate representing Common Shares also will constitute the surrender for transfer of the Rights associated with those Common Shares. After the Separation Time, the Rights will become exercisable and begin to trade separately from the associated Common Shares. The initial "**Exercise Price**" under each Right in order to acquire a Common Share is five times the Market Price per Voting Share at the Separation Time. "**Market Price**" is generally defined as the average of the daily closing prices per Common Share on each of the 20 consecutive trading days through and including the trading day immediately preceding the Separation Time.

#### *Separation of Rights*

The Rights will become exercisable and begin to trade separately from the associated Common Shares at the "**Separation Time**", which, unless deferred by the Mandalay Board in the instances permitted by the Rights Plan, is generally the close of business on the tenth trading day after the earliest to occur of: (i) a public announcement that a person or a group of affiliated or associated persons (including persons known to be non-arm's length for the purposes of the Tax Act) has acquired beneficial ownership of 20% or more of the outstanding Common Shares (i.e. become an Acquiring Person), other than as a result of, among other things, (A) a reduction in the number of Voting Shares outstanding (a "**Voting Share Reduction**"), (B) a Permitted Bid or a Competing Permitted Bid, (C) certain specified Exempt Acquisitions, (D) an acquisition by a person of Voting Shares pursuant to a stock dividend, stock split or other Pro Rata Acquisition, or (E) an acquisition by a person of Voting Shares upon the exercise, conversion or exchange of a security convertible, exercisable or exchangeable into a Voting Share received by a person pursuant to (B), (C) or (D), above (a "**Convertible Security Acquisition**"); (ii) the date of commencement of, or the first public announcement of an intention of any person (other than the Corporation or any of its Subsidiaries) to commence a take-over bid (other than a Permitted Bid or a Competing Permitted Bid) where the Voting Shares that are subject to the bid together with the Voting Shares beneficially owned by that person (including affiliates, associates and others acting jointly or in concert therewith) would constitute 20% or more of the then outstanding Voting Shares; and (iii) the date upon which a Permitted

Bid or a Competing Permitted Bid ceases to be such. An “**Exempt Acquisition**” would include the acquisition of Voting Shares or securities convertible into Voting Shares: (i) in respect of which the Mandalay Board has waived the application of the Rights Plan; or (ii) pursuant to a distribution made under a prospectus or private placement provided that the person does not acquire a greater percentage of the securities offered in the distribution than the percentage of Voting Shares beneficially owned by that person immediately prior to the distribution; or (iii) pursuant to an amalgamation, merger or other similar procedure requiring shareholder approval.

As soon as practicable following the Separation Time, separate certificates evidencing rights will be mailed to the holders of record of the Common Shares as of the Separation Time; certificates alone will evidence the Rights.

#### *When Rights Become Exercisable*

After the Separation Time, each Right entitles the holder thereof to purchase one Common Share at the Exercise Price. Following a transaction that results in a person becoming an Acquiring Person (a “**Flip-in Event**”), the Rights entitle the holder thereof to receive, upon exercise, such number of Common Shares that have an aggregate market value (as of the date of the Flip-in Event) equal to twice the then Exercise Price for an amount in cash equal to the Exercise Price. In such event, however, any Rights beneficially owned by an Acquiring Person (including affiliates, associates and others acting jointly or in concert therewith), or certain transferees of any such person, will be void. By permitting holders of Rights other than an Acquiring Person to acquire Common Shares at a discount to the Market Price, the Rights have the potential to cause substantial dilution to an Acquiring Person. Accordingly, the Rights Plan acts as a deterrent to potential Acquiring Persons and forces them to either make a Permitted Bid or negotiate with the Mandalay Board to avoid application of the Rights Plan.

#### *Permitted Bids*

The Rights Plan includes a “Permitted Bid” concept whereby a take-over bid will not trigger a separation of the Rights (and will not cause the Rights to become exercisable) if the bid meets certain conditions. A “**Permitted Bid**” is defined as an offer to acquire Voting Shares made by means of a take-over bid circular where the Voting Shares (including Voting Shares that may be acquired upon conversion of securities convertible into Voting Shares) subject to the offer, together with Voting Shares beneficially owned by the offeror at the date of the offer (including its affiliates, associates and others acting jointly or in concert therewith), constitute 20% or more of the outstanding Voting Shares and that also complies with the following additional provisions: (i) the bid must be made to all the holders of Voting Shares as registered on the books of the Corporation, other than the offeror; and (ii) the bid must also contain the following irrevocable and unqualified conditions: (A) no Voting Shares will be taken up or paid for prior to the close of business on the 105th day following the date of the bid or such shorter minimum initial deposit period that a take-over bid (that is not exempt from the general take-over bid requirements contained in Part 2 Division 5 [Bid mechanic] of National Instrument 62-104 *Take-Over Bids and Issuer Bids* (“NI 62-104”)) must remain open for deposits of securities thereunder, in the applicable circumstances at such time, pursuant to NI 62-104, and then only if more than 50% of the Voting Shares held by Independent Shareholders have been deposited or tendered to the bid and not withdrawn, (B) Voting Shares may be deposited pursuant to the bid, unless it is withdrawn, at any time prior to the date Voting Shares are first taken up or paid for under the bid, (C) Voting Shares deposited pursuant to the bid may be withdrawn until taken up or paid for, and (D) if the deposit condition referred to in (ii)(A) above is satisfied, the offeror will extend the bid for deposit of Voting Shares for at least 10 business days from the date such extension is publicly announced and, if such bid is a partial bid, not take up any Voting Shares under the bid until the expiry of such 10 business day period. “**Independent Shareholders**” is defined generally as holders of Voting Shares other than (i) an Acquiring Person, (ii) any offeror making a take-over bid, (iii) any affiliate or associate of an Acquiring Person or offeror, (iv) persons acting jointly or in concert with an Acquiring

Person or offeror, and (v) employee benefit, stock purchase or certain other plans or trusts for employees of the Corporation unless the beneficiaries of such plans or trusts direct the voting or tendering to a take-over bid of the Voting Shares.

#### *Competing Permitted Bids*

A “**Competing Permitted Bid**” is defined generally as a take-over bid made after a Permitted Bid has been made and prior to the expiry, termination or withdrawal of such Permitted Bid that satisfies all of the provisions of a Permitted Bid, except that it must remain open for acceptance until the close of business on the last day of the minimum initial deposit period that such take-over bid must remain open for deposits of securities thereunder pursuant to NI 62-104 after the date of the take-over bid, and only if at that date more than 50% of the Voting Shares owned by Independent Shareholders have been deposited to the Competing Permitted Bid and not withdrawn.

#### *Redemption and Waiver*

Under the Rights Plan, the Mandalay Board can (i) waive the application of the Rights Plan to enable a particular take-over bid to proceed, in which case the Rights Plan will be deemed to have been waived with respect to any other take-over bid made prior to the expiry of any bid subject to such waiver, or (ii) with the prior approval of the holders of Voting Shares or Rights, as the case may be, redeem the Rights at a redemption price of \$0.000001 per Right at any time prior to a Flip-in-Event. Rights are deemed to have been redeemed if a bidder successfully completes a Permitted Bid or a Competing Permitted Bid.

#### *Protection Against Dilution*

The Exercise Price, the number and nature of Common Shares that may be purchased upon the exercise of Rights and the number of Rights outstanding are subject to adjustment from time to time to prevent dilution in the event of stock dividends, subdivisions, consolidations, reclassifications or other changes in the outstanding Common Shares, pro rata distributions to holders of Common Shares and other circumstances where adjustments are required to appropriately protect the interests of the holders of Rights.

#### *Supplements and Amendments*

The Corporation may, without the approval of the holders of Common Shares or Rights, make amendments to (i) correct clerical or typographical errors, and (ii) to maintain the validity and effectiveness of the Rights Plan as a result of any change in applicable law, rule or regulatory requirement. Any amendment referred to in clause (ii) must, if made before the Separation Time, be submitted for approval to the holders of Voting Shares at the next meeting of shareholders and, if made after the Separation Time, must be submitted to the holders of Rights for approval.

At any time before the Separation Time, the Corporation may with prior written consent of the shareholders amend, vary or rescind any of the provisions of the Rights Plan or the Rights, whether or not such action would materially adversely affect the interests of the Rights generally, in order to effect any amendments, variations or rescissions of any of the provisions of the Rights Plan which the Mandalay Board, acting in good faith, considers necessary or desirable. At any time after the Separation Time, the Corporation may with prior written consent of the holders of Rights amend, vary or rescind any of the provisions of the Rights Plan or the Rights, whether or not such action would materially adversely affect the interests of the Rights generally.

*Reconfirmation*

The Rights Plan must be reconfirmed at every third annual meeting following the Corporation’s annual and general meeting held on May 16, 2018, or the Rights Plan and the Rights will otherwise terminate on the date of the meeting if the Rights Plan is not reconfirmed or presented for reconfirmation.

**10. MARKET FOR SECURITIES**

The Common Shares trade on the TSX under the symbol “MND”. Information concerning the trading prices and volumes of the Common Shares on the TSX and Over-the-Counter Markets (OTCs) during fiscal 2018 is set out below.

<b>Month</b>	<b>High CDN(\$)</b>	<b>Low CDN(\$)</b>	<b>Close CDN(\$)</b>	<b>Total Monthly Volume</b>
Jan-18	\$0.30	\$0.25	\$0.28	19,307
Feb-18	\$0.28	\$0.23	\$0.25	5,119
Mar-18	\$0.25	\$0.19	\$0.20	4,769
Apr-18	\$0.25	\$0.19	\$0.21	17,491
May-18	\$0.24	\$0.20	\$0.21	19,077
Jun-18	\$0.21	\$0.19	\$0.20	3,780
Jul-18	\$0.24	\$0.18	\$0.18	8,761
Aug-18	\$0.19	\$0.15	\$0.17	7,130
Sep-18	\$0.17	\$0.14	\$0.15	30,149
Oct-18	\$0.16	\$0.07	\$0.07	49,201
Nov-18	\$0.09	\$0.05	\$0.07	27,743
Dec-18	\$0.08	\$0.06	\$0.08	14,207

**11. ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTION ON TRANSFER**

Other than as described elsewhere in this Annual Information Form or in the Prospectus Supplement, the Corporation does not have any securities subject to regulatory escrow, or any securities subject to any contractual restriction on transfer.

## 12. DIRECTORS AND OFFICERS

The following table sets forth the name, province or state, country of residence, position held with the Corporation and principal occupation of each of the directors and executive officers of the Corporation as of the date of this Annual Information Form:

Name, Province/State and Country of Residence	Position with the Corporation	Principal Occupation <sup>(1)(2)</sup>	Director/Officer Since
Abraham Jonker <sup>(3)(6)</sup> British Columbia, Canada	Lead Independent Director	Corporate Director Chief Financial Officer, Nevada Copper	August 2010
Bradford A. Mills <sup>(5)</sup> Texas, United States	Chair	Chair of the Mandalay Board <sup>(7)</sup>	September 2009
Robert Doyle <sup>(3)(4)</sup> Ontario, Canada	Director	Corporate Director	April 2010
Peter Rhys Jones <sup>(4)(5)</sup> Ontario, Canada	Director	Corporate Director	Director: August 2010
Amy Freedman <sup>(3)</sup> Ontario, Canada	Director	Chief Executive Officer, Kingsdale Advisors <sup>(8)</sup>	Director: May 2016
Dominic Duffy Toronto, Canada	President, Chief Executive Officer and Director	President and Chief Executive Officer of the Corporation <sup>(9)</sup>	Officer: March 2013 Director: May 2018
Nick Dwyer Toronto, Canada	Chief Financial Officer	Chief Financial Officer of the Corporation <sup>(10)</sup>	Officer: August 2018
Belinda Labatte Ontario, Canada	Chief Development Officer	Chief Development Officer of the Corporation <sup>(11)</sup>	Corporate Secretary: March 2010 to March 2017 Officer: January 2015
Jasmine Virk Ontario, Canada	Director of Corporate Affairs and Corporate Secretary	Director of Corporate Affairs and Corporate Secretary of the Corporation	Corporate Secretary: March 2017

Notes:

- The information in this table is supplied by the directors and officers of the Corporation.
- The information provided reflects the principal occupation of the individual over the preceding five years.
- Member of the Corporation's audit committee (the "**Audit Committee**").
- Member of Compensation, Corporate Governance and Nominating Committee.
- Member of Safety, Health and Environmental Committee.
- Abraham Jonker was appointed Lead Independent Director on March 23, 2016.
- Brad Mills transitioned from Executive Chairman of the Corporation to Chair of the Mandalay Board on March 27, 2017.
- Amy Freedman was promoted from President, Canada to the role of Chief Executive Office, Kingsdale Advisors and Wes Hall on January 10, 2017.
- Dominic Duffy transitioned from Chief Operating Officer to President and Chief Executive Officer on May 14, 2018.
- Nick Dwyer transitioned from Group Financial Controller to Chief Financial Officer on August 15, 2018.
- Belinda Labatte transitioned from Head of Stakeholder Engagement and Corporate Affairs to Chief Development Officer on March 27, 2017.

The term of office for each director of the Corporation will expire upon the completion of the next annual meeting of shareholders of the Corporation.

As of March 28, 2019, the directors and executive officers of the Corporation, as a group, beneficially owned, or controlled or directed, directly or indirectly, approximately 31,003,605 Common Shares,

representing approximately 6.9% of the outstanding Common Shares. The information as to the number of Common Shares beneficially owned, directly or indirectly, or over which control or direction is exercised, by the directors and executive officers, but which are not registered in their names and not being within the knowledge of the Corporation, has been furnished by such directors and officers.

### **Cease Trade Orders, Bankruptcies, Penalties or Sanctions**

To our knowledge, no director or executive officer of the Corporation, or shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation: (a) is, as at the date hereof, or has been within the 10 years before the date hereof, a director or executive officer of any company (including the Corporation) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or (b) has, within the 10 years before the date hereof, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder, except for the following:

- Peter Rhys Jones was Chairman and CEO of Adanac Molybdenum Corporation (“**Adanac**”) from August 2008 to March 2009. Adanac voluntarily entered *Companies Creditors Arrangement Act* protection in December 2008 and emerged from creditor protection in February 2011 following the successful implementation of its plan of compromise and arrangement.
- Abraham Jonker was Director, President and Interim CFO of EastCoal Inc. (“**EastCoal**”) when EastCoal filed a Notice of Intention to Make a Proposal pursuant to the provisions of Part III of the *Bankruptcy and Insolvency Act* (Canada) on November 5, 2013. EastCoal emerged from creditor protection on May 21, 2014 following the successful implementation of a compromise agreement with creditors, in which the creditors agreed to reduce the claim amount providing for the full and final settlement of all the claims against the company.

To our knowledge, no director or executive officer of the Corporation is, as at the date hereof or has been, within the 10 years before the date hereof, a director, Chief Executive Officer or Chief Financial Officer of any company (including the Corporation), that:

- (a) was the subject of a cease trade or similar order or an order that denied the relevant company access to any exemption under securities legislation, for a period of more than 30 consecutive days that was issued while the director or executive officer was acting in the capacity as director, Chief Executive Officer or Chief Financial Officer; or
- (b) was subject to a cease trade or similar order or an order that denied the relevant company access to any exemption under securities legislation, for a period of more than 30 consecutive days that was issued after the director or executive officer ceased to be a director, Chief Executive Officer or Chief Financial Officer and which resulted from an event that occurred while that person was acting in the capacity as director, Chief Executive Officer or Chief Financial Officer.

To our knowledge, no director or executive officer of the Corporation, or shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation, has been subject to:

- (a) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or
- (b) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

### **Conflicts of Interest**

Certain of the directors and officers of the Corporation and its subsidiaries also serve as directors, officers and/or advisors of and to other companies involved in natural resource exploration and development. Consequently, there exists the possibility for such directors and officers to be in a position of conflict. The Corporation expects that any decision made by any director or officer involving the Corporation will be made in accordance with such director or officer's duties and obligations to deal fairly and in good faith with a view to the best interests of the Corporation and its shareholders. In addition, each director of the Corporation is required to declare and refrain from voting on any matter in which such director may have a conflict of interest in accordance with the procedures set forth in the BCBCA and applicable laws.

## **13. Audit Committee Information**

### **13.1 Description of the Audit Committee**

The Audit Committee assists the Mandalay Board in fulfilling its oversight responsibilities with respect to the following: (i) the quality and integrity of the financial statements of the Corporation; (ii) the compliance by the Corporation with legal and regulatory requirements in respect of financial disclosure; (iii) the qualification, independence and performance of the Corporation's independent auditor; (iv) the assessment, monitoring and management of the strategic, operational, reporting and compliance risks of the Corporation's business; and (v) the performance of the Corporation's Chief Financial Officer. The Audit Committee's charter is set out in Schedule "A" to this Annual Information Form.

As of the date of this Annual Information Form, the members of the Audit Committee are: (i) Robert Doyle; (ii) Abraham Jonker; and (iii) Amy Freedman. All members of the Audit Committee are, for the purposes of National Instrument 52-110 - *Audit Committees*, independent and financially literate. The following is a description of the education and experience of each member of the committee that is relevant to the performance of such member's responsibilities as a member of the Audit Committee.

#### **Robert Doyle**

Mr. Doyle has over 30 years of experience in all facets of international resource exploration, development and production. Currently, Mr. Doyle serves as a director of Golden Star Resources Ltd. Most recently, he was a director of Detour Gold Corporation until August 2018. He was Chief Executive Officer of Medoro Resources Limited, until October 2009, now known as Gran Colombia Gold, and was Executive Vice President prior to that. From 2005 to 2007, Mr. Doyle was the Executive Vice President of Pacific Stratus Energy. Previously, Mr. Doyle was Chief Financial Officer of a number of companies including Pacific Stratus Energy Corp., Coalcorp Mining Inc., Bolivar Gold Corp. and HMZ Metals Inc. In addition, he has held a number of financial and executive positions with Falconbridge Limited and LAC Minerals. Mr. Doyle is a designated Chartered Accountant and Chartered Director.

### **Abraham Jonker**

Mr. Jonker has more than 20 years of extensive management, accounting and corporate finance experience across five continents, mostly in the mining industry. Mr. Jonker currently serves as the Lead Independent Director of the Mandalay Board and CFO of Nevada Copper Corp. Previously he was the Chief Financial Officer of Western Coal Corp at the time of its take-over by Walter Energy for \$3.3 billion. He is a registered Chartered Accountant in British Columbia, (Canada), England and Wales as well as South Africa. He is also a member of the Chartered Institute of Management Accountants in the United Kingdom and holds a Masters degree in South African and International Tax from the Rand Afrikaans University.

### **Amy Freedman**

Ms. Freedman is CEO at Kingsdale Advisors, a firm that specializes in corporate governance and shareholder advisory matters with a focus on proxy battles and hostile takeovers. Prior to Kingsdale Ms. Freedman spent over 12 years as a capital markets professional with various roles within investment banking both in the US and Canada. Ms. Freedman obtained her JD/MBA from the University of Toronto.

## **13.2 External Auditor Service Fees**

Fees paid to Mandalay's auditor, Ernst & Young LLP for 2018 and 2017 were as follows:

	<b>2018 (CDNS)</b>	<b>2017 (CDNS)</b>
<b>Audit Fees</b>	\$658,000	\$658,000
<b>Audit-related Fees</b>	\$45,000	-
<b>Tax Fees</b>	\$162,000	\$177,000
<b>All other Fees</b>	\$9,000	\$54,000
<b>Total Fees</b>	<b>\$874,000</b>	<b>\$889,000</b>

1. "Audit Fees" include assurance and related services related to the performance of the audit or review of financial statements.
2. "Audit-related Fees" for 2017 include fees associated with the implementation of new accounting standards. For 2016, fees include costs associated with a short form prospectus and certification for incorporation of a new company in Swedish.
3. "Tax Fees" include tax compliance, tax advice and tax planning.

## **14. LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

As at the date of this Annual Information Form, there are no material legal proceedings against or by the Corporation and no regulatory actions against the Corporation.

## **15. INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

Other than as described elsewhere in this Annual Information Form or in the Prospectus Supplement, since January 1, 2018, no director, executive officer or 10% shareholder of the Corporation or any associate or affiliate of any such person or company, has or had any material interest, direct or indirect, in any transaction that has materially affected or will materially affect the Corporation or any of its subsidiaries.

## **16. TRANSFER AGENTS AND REGISTRARS**

The Corporation's transfer agent and registrar is Computershare Investor Services Inc., and its office is in Toronto, Ontario.

## **17. MATERIAL CONTRACTS**

Except for contracts entered into in the ordinary course of business and not required to be filed under Section 12.2 of National Instrument 51-102 – *Continuous Disclosure Obligations* (“**NI 51-102**”) or contracts described in the Prospectus Supplement, there are no contracts which are regarded as material and which were entered into by the Corporation within fiscal 2018 or before fiscal 2018 but are still in effect.

## **18. INTERESTS OF EXPERTS**

### **18.1 Names of Experts**

The persons referred to below have been named as having prepared or certified a statement, report or valuation described or included in a filing, or referred to in a filing, made under NI 51-102 during, or relating to, the Corporation’s financial year ended December 31, 2018.

Ernst & Young LLP is the auditor of Mandalay and is independent within the meaning of the CPA Code of Professional Conduct of the Chartered Professional Accountants of Ontario.

The Cerro Bayo Technical Report was prepared by Roscoe Postle Associates Inc., authored by Normand Lecuyer (P.Eng.) and Rosmary Julia Cárdenas Barzola (P.Eng.), both independent Qualified Persons under NI 43-101, and filed on March 31, 2017.

The internally-prepared Mineral Resource estimate for Cerro Bayo was prepared by Chris Gregory, Vice President of Operational Geology and Exploration at Mandalay Resources. Mr. Gregory is a Member of the Australian Institute of Geoscientists (AIG), and a Qualified Person as defined by NI 43-101.

The Costerfield Technical Report filed on February 6, 2019, was prepared by SRK, authored by Anne-Marie Ebbels, BEng (Mining), MAusIMM(CP), Principal Consultant; Simon Walsh, BSc (Extractive Metallurgy & Chemistry), MBA (Hons), MAusIMM (CP), GAICD, Associate Principal Consultant (Metallurgy) and Danny Kentwell, MSc Mathematics and Planning (Geostatistics), FAusIMM, Principal Consultant, all independent Qualified Persons under NI 43-101.

The Björkdal Technical Report was prepared by RPA and authored by Reno Pressacco, M.Sc.(A)., (P. Geo.), Jack Lunnon (CGeol.), David JF Smith (CEng.), Derek Holm (FSAIMM), Ian Weir (P.Eng), and Kathleen Ann Altman Ph.D., (P.E.), all independent Qualified Persons under NI 43-101, and filed on March 28, 2019.

### **18.2 Interests of Experts**

To the knowledge of the Corporation, the persons above, as a group, beneficially owned, or controlled or directed, directly or indirectly, less than 1% of the issued and outstanding Common Shares, at the time of or after such person prepared the statement, report or valuation, and none of the persons above is or is expected to be elected, appointed or employed as a director, officer or employee of the Corporation or of any associate or affiliate of the Corporation.

## **19. ADDITIONAL INFORMATION**

Additional financial information and information regarding directors’ and officers’ remuneration and indebtedness, principal holders of Common Shares and securities authorized for issuance under equity compensation plans, as applicable, is contained in the Corporation’s financial statements and management’s discussion and analysis for the fiscal year ended December 31, 2018, management information circular

dated April 13, 2018, and the Prospectus Supplement, which are available on the Corporation's SEDAR profile.

## **SCHEDULE A**

### **MANDALAY RESOURCES CORPORATION**

(the “Company”)

#### **AUDIT COMMITTEE CHARTER**

##### **PURPOSE**

The Audit Committee is appointed by the Board of Directors to assist the Board of Directors in its oversight and evaluation of:

- the quality and integrity of the financial statements of the Company,
- the compliance by the Company with legal and regulatory requirements in respect of financial disclosure,
- the qualification, independence and performance of the Company’s independent auditor,
- the performance of the Company’s internal auditor,
- the assessment, monitoring and management of the strategic, operational, reporting and compliance risks of the Company’s business (the “Risks”), and
- the performance of the Company's Chief Financial Officer.

In addition, the Audit Committee provides an avenue for communication between the independent auditor, the internal auditors, the Company’s Chief Financial Officer and other financial senior management, other employees and the Board of Directors concerning accounting, auditing and Risk management matters.

The Audit Committee is directly responsible for the recommendation of the appointment and retention (and termination) and for the compensation and the oversight of the work of the independent auditor (including oversight of the resolution of any disagreements between senior management and the independent auditor regarding financial reporting) for the purpose of preparing audit reports or performing other audit, review or attest services for the Company.

The Audit Committee is not responsible for:

- planning or conducting audits,
- certifying or determining the completeness or accuracy of the Company’s financial statements or that those financial statements are in accordance with generally accepted accounting principles.

Each member of the Audit Committee shall be entitled to rely in good faith upon:

- financial statements of the Company represented to him or her by senior management of the Company or in a written report of the independent auditor to present fairly the financial position of the Company in accordance with generally accepted accounting principles; and
- any report of a lawyer, accountant, engineer, appraiser or other person whose profession lends credibility to a statement made by any such person.

“Good faith reliance” means that the Audit Committee member has considered the relevant issues, questioned the information provided and assumptions used, and assessed whether the analysis provided by senior management or the expert is reasonable. Generally, good faith reliance does not require that the member question the honesty, competence and integrity of senior management or the expert unless there is a reason to doubt their honesty, competency and integrity.

The fundamental responsibility for the Company’s financial statements and disclosure rests with senior management. It is not the duty of the Audit Committee to conduct investigations, to itself resolve disagreements (if any) between senior management and the independent auditor or to assure compliance with applicable legal and regulatory requirements.

In discharging its obligations under this Charter, the Audit Committee shall act in accordance with its fiduciary duties.

## **REPORTS**

The Audit Committee shall report to the Board of Directors on a regular basis and, in any event, before the public disclosure by the Company of its annual financial results. The reports of the Audit Committee shall include any issues of which the Audit Committee is aware with respect to the quality or integrity of the Company’s financial statements, its compliance with legal or regulatory requirements, the performance and independence of the Company’s independent auditor and changes in Risks.

The Audit Committee also shall prepare, as required by applicable law, any audit committee report required for inclusion in the Company's publicly filed documents.

## **COMPOSITION**

The members of the Audit Committee shall be three or more individuals who are appointed (and may be replaced) by the Board of Directors on the recommendation of the Company's Corporate Governance and Nominating Committee. The appointment of members of the Audit Committee shall take place annually at the first meeting of the Board of Directors after a meeting of shareholders at which directors are elected, provided that if the appointment of members of the Audit Committee is not so made, the directors who are then serving as members of the Audit Committee shall continue as members of the Audit Committee until their successors are appointed. The Board of Directors may appoint a member to fill a vacancy that occurs in the Audit Committee between annual elections of directors. Any member of the Audit Committee may be removed from the Audit Committee by a resolution of the Board of Directors. Unless the Chair is elected by the Board of Directors, the members of the Audit Committee may designate a Chair by majority vote of the members of the Audit Committee.

Each of the members of the Audit Committee shall meet the Company’s Categorical Standards for Determining Independence of Directors and shall be financially literate (or acquire that familiarity within a reasonable period after appointment) in accordance with applicable legislation and stock exchange requirements. No member of the Audit Committee shall:

- accept (directly or indirectly) any consulting, advisory or other compensatory fee from the Company or any of its subsidiaries<sup>1</sup> (other than remuneration for acting in his or her capacity as a

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<sup>1</sup> A company is a subsidiary of another company if it is controlled, directly or indirectly, by that other company (through one or more intermediaries or otherwise).

director or committee member) or be an “affiliated person”<sup>2</sup> of the Company or any of its subsidiaries, or

- concurrently serve on the audit committee of more than three other public companies without the prior approval of the Board of Directors and their determination that such simultaneous service would not impair the ability of the member to effectively serve on the Audit Committee (which determination shall be disclosed in the Company’s annual management information circular).

## **RESPONSIBILITIES**

### **Independent Auditor**

The Audit Committee shall:

- Recommend the appointment and the compensation of, and, if appropriate, the termination of the independent auditor, subject to such Board of Directors and shareholder approval as is required under applicable legislation and stock exchange requirements.
- Obtain confirmation from the independent auditor that it ultimately is accountable, and will report directly, to the Audit Committee and the Board of Directors.
- Oversee the work of the independent auditor, including the resolution of any disagreements between senior management and the independent auditor regarding financial reporting.
- Pre-approve all audit and non-audit services (including any internal control-related services) provided by the independent auditor (subject to any restrictions on such non-audit services imposed by applicable legislation, regulatory requirements and policies of the Canadian Securities Administrators).
- Adopt such policies and procedures as it determines appropriate for the pre-approval of the retention of the independent auditor by the Company and any of its subsidiaries for any audit or non-audit services, including procedures for the delegation of authority to provide such approval to one or more members of the Audit Committee.
- Provide notice to the independent auditor of every meeting of the Audit Committee.
- Approve all engagements for accounting advice prepared to be provided by an accounting firm other than independent auditor.
- Review quarterly reports from senior management on tax advisory services provided by accounting firms other than the independent auditor.

### **Internal Auditor**

The Audit Committee shall:

- Review and approve the internal auditor’s audit plan and all major changes to the plan.

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<sup>2</sup> An “affiliate” of a person is a person that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with the first person.

- Review and discuss with the internal auditors the scope, progress and results of executing the internal audit plan.
- Review the charter, reporting relationship, activities, staffing, organizational structure and credentials of the internal auditors.
- Review and concur on the appointment, replacement, reassignment or dismissal of the personnel responsible for the internal audit function.
- Review the annual performance of the internal auditors.

### **The Audit Process, Financial Statements and Related Disclosure**

The Audit Committee shall:

- Meet separately and periodically with senior management, the internal auditor and/or the independent auditor to review and discuss,
  - the planning and staffing of the audit by the independent auditor,
  - before public disclosure, the Company's annual audited financial statements and quarterly financial statements, the Company's accompanying disclosure of Management's Discussion and Analysis and earnings press releases and make recommendations to the Board of Directors as to their approval and dissemination of the annual financial statements and accompanying disclosure,
  - financial information and earnings guidance provided to analysts and rating agencies: this review need not be done on a case by case basis but may be done generally (consisting of a discussion of the types of information disclosed and the types of presentations made) and need not take place in advance of the disclosure,
  - any significant financial reporting issues and judgments made in connection with the preparation of the Company's financial statements, including any significant changes in the selection or application of accounting principles, any major issues regarding auditing principles and practices, and the adequacy of internal controls that could significantly affect the Company's financial statements,
  - all critical accounting policies and practices used,
  - all alternative treatments of financial information within GAAP or IFRS, as applicable that have been discussed with senior management, ramifications of the use of such alternative disclosures and treatments, and the treatment preferred by the independent auditor,
  - the use of "*pro forma*" or "adjusted" non-GAAP or non-IFRS, as applicable information,
  - the effect of new regulatory and accounting pronouncements,
  - the effect of any material off-balance sheet structures, transactions, arrangements and obligations (contingent or otherwise) on the Company's financial statements,
  - any disclosures concerning any weaknesses or any deficiencies in the design or operation of internal controls or disclosure controls made to the Audit Committee in connection with

certification of forms by the Chief Executive Officer and/or the Chief Financial Officer for filing with applicable securities regulators, and

- the adequacy of the Company's internal accounting controls and management information systems and its financial, auditing and accounting organizations and personnel (including any fraud involving an individual with a significant role in internal controls or management information systems) and any special steps adopted in light of any material control deficiencies.
- Review disclosure of financial information extracted or derived from the Company's financial statements.
- Review with the independent auditor,

the quality, as well as the acceptability of the accounting principles that have been applied,

any problems or difficulties the independent auditor may have encountered during the provision of its audit services, including any restrictions on the scope of activities or access to requested information and any significant disagreements with senior management, any management letter provided by the independent auditor or other material communication (including any schedules of unadjusted differences) to senior management and the Company's response to that letter or communication, and

any changes to the Company's significant auditing and accounting principles and practices suggested by the independent auditor or other members of senior management.

### **Enterprise Risk Management**

The Audit Committee will oversee management's identification and monitoring of risks related to financial systems and reporting and recommending strategies to mitigate against such risks.

### **Compliance**

The Audit Committee shall:

- Review with senior management and the independent auditor any correspondence with regulators or governmental agencies and any employee complaints or published reports, which raise material issues regarding the Company's financial statements or accounting policies.
- Review senior management's written representations to the independent auditor.
- Review with the Company's General Counsel (or, if the Company does not have a General Counsel, its principal external legal advisors) legal matters that may have a material impact on the financial statements, the Company's compliance policies and any material reports or inquiries received from regulators or governmental agencies.
- Establish procedures for,
  - the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters, and
  - the confidential, anonymous submission by employees of the Company with concerns regarding any accounting or auditing matters.

## **Delegation**

To avoid any confusion, the Audit Committee responsibilities identified above are the sole responsibility of the Audit Committee and may not be allocated by the Board of Directors to a different committee without revisions to this Charter.

## **MEETINGS**

The Audit Committee shall meet at least quarterly and more frequently as circumstances require. All members of the Audit Committee should strive to be at all meetings. The Audit Committee shall meet separately, periodically, with senior management, the internal auditor and the independent auditor and may request any member of the Company's senior management or the Company's outside counsel or independent auditor to attend meetings of the Audit Committee or with any members of, or advisors to, the Audit Committee. The Audit Committee also may meet with the investment bankers, financial analysts and rating agencies that provide services to, or follow, the Company. The Audit Committee will also meet *in camera* at each of its regularly scheduled meetings.

Quorum for the transaction of business at any meeting of the Audit Committee shall be a majority of the number of members of the Audit Committee or such greater number as the Audit Committee shall by resolution determine. The powers of the Audit Committee may be exercised at a meeting at which a quorum of the Audit Committee is present in person or by telephone or other electronic means or by a resolution signed by all members entitled to vote on that resolution at a meeting of the Audit Committee. Each member (including the Chair) is entitled to one (but only one) vote in Audit Committee proceedings.

Meetings of the Audit Committee shall be held from time to time and at such place as a member of the Audit Committee may request upon 48 hours prior notice. The notice period may be waived by a quorum of the Audit Committee.

Except as otherwise provided in this Charter, the Audit Committee may form and delegate authority to individual members and subcommittees of the Audit Committee where the Audit Committee determines it is appropriate to do so.

## **INDEPENDENT ADVICE**

In discharging its mandate, the Audit Committee shall have the authority to retain (and authorize the payment by the Company of) and receive advice from special legal, accounting or other advisors as the Audit Committee determines to be necessary to permit it to carry out its duties.

## **ANNUAL EVALUATION**

Annually, or more frequently at the request of the Chief Executive Officer as a result of legislative or regulator changes, the Audit Committee shall, in a manner it determines to be appropriate:

- Conduct a review and evaluation of the performance of the Audit Committee and its members, including the compliance of the Audit Committee with this Charter.
- Review and assess the adequacy of its Charter and the position description for its Chair and recommend to the Board of Directors any improvements to this Charter or the position description that the Audit Committee determines to be appropriate, except for minor technical amendments to this Charter, authority for which is delegated to the Chief Executive Officer, who will report any such amendments to the Board of Directors at its next regular meeting.

**Appendix A**

- Review the experience and qualifications of the senior members of the independent auditor's team.
- Discuss with the independent auditor its internal quality-control procedures.
- Confirm with the independent auditor that it is in compliance with applicable legal, regulatory and professional standards relating to auditor independence.
- Confirm with the independent auditor that it is a participating audit firm of the Canadian Public Accountability Board in compliance with all restrictions or sanctions imposed on it (if any).
- Review and approve clear policies for the hiring by the Company of partners, employees and former partners and employees of the present and former independent auditor.
- Review periodic reports from the independent auditor regarding its independence and consider whether there are any non-audit services or relationships that may affect the objectivity and independence of the independent auditor and, if so, recommend that the Board of Directors take appropriate action to satisfy itself of the independence of the independent auditor.
- Obtain and review such report(s) from the independent auditor as may be required by applicable legal and regulatory requirements.