

# MANDALAY RESOURCES CORPORATION

Annual Information Form

March 31, 2017

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#### 1. ABOUT THIS ANNUAL INFORMATION FORM

The information in this Annual Information Form is presented as at December 31, 2016, unless otherwise indicated, and except for information in documents incorporated by reference that have a different date. All dollar amounts in this document 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"), copper ("Cu"), 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 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 describes 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**"), the Björkdal gold mine ("**Björkdal**") and the Challacollo silver-gold property ("**Challacollo**") 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 Costerfield, entitled "Costerfield Operation, Victoria, Australia, NI 43-101 Report" dated March 17, 2017 (the "**Costerfield Technical Report**"), was prepared by SRK Consulting (Australia) Pty Ltd. ("**SRK**"), authored by Peter Fairfield, Principal Consultant, BEng (Mining), FAusIMM (No: 106754); Simon Walsh, BSc (Extractive Metallurgy), MBA Hons, CP, MAusIMM, GAICD and Danny Kentwell, MSc Mathematics and Planning (Geostatistics), FAusIMM, Principal Consultant, all independent Qualified Persons under NI 43- 101, and filed on March 31, 2017.

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 Roscoe Postle Associates Inc. ("**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 report in respect of Björkdal entitled "Technical Report on the Björkdal Gold Mine, Sweden" and dated January 16, 2017 (the "**Björkdal Technical Report**") was prepared by RPA and the Mineral Resource Estimate was carried out under the supervision of Reno Pressacco, M.Sc.(A)., P.Geo., 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 David Robson, P.Eng. and Ian Weir, P. Eng., both employees of RPA and independent of Mandalay Resources Corporation. Both are Qualified Persons under NI 43-101. The report was filed on January 27, 2017.

The technical report in respect of Challacollo entitled "NI 43-101 Technical Report for the Challacollo Silver Project, Region I, Chile" dated March 31, 2015, (the "**Challacollo Technical Report**") was prepared by Mining Plus, authored by Marek Mroczek, P.Eng. Michael Collins, P.Geo. Sean P. Butler, P.Geo. and Juan Carlos Tapia, independent Qualified Persons under NI 43-101, and filed on March 31, 2015.

The technical information contained in this Annual Information Form with respect to Costerfield, Cerro Bayo, Björkdal and Challacollo 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.

# 4. CORPORATE STRUCTURE

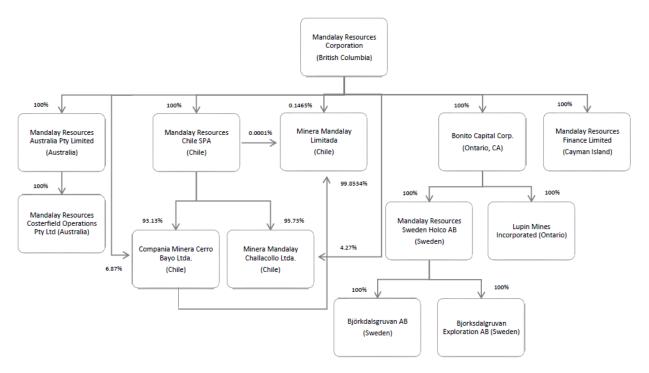
## 4.1 Name, Address and Incorporation

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 0.1465% interest in Minera Mandalay Limitada ("**MML**"), a private company, incorporated under the laws of Chile on April 12, 2010. Mandalay Chile owns a 0.0001% interest in MML with Compania Minera Cerro Bayo Ltda. ("**Minera Cerro Bayo**") owning 99.8534%. Minera Cerro Bayo, a private Chilean company that operates Cerro Bayo 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 93.13% by Mandalay Resources (Chile) SPA with the Corporation owning the remaining 6.87% interest. Minera Mandalay Challacollo Ltda. is owned 95.73% by Mandalay Chile with the Corporation owning the remaining interest of 4.27%.

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 a mining interest 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 AB and Björkdal Exploration AB, both of which 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 the debt financing with Gold Exchangeable Limited ("**GEL**") described further in "General Development of the Business – Three Year History".

# 5. GENERAL DEVELOPMENT OF THE BUSINESS

#### 5.1 Three Year History

Since 2011, the Corporation has been focused on production and exploration at its Cerro Bayo and Costerfield properties as well as acquiring new properties. By the fourth quarter of 2011, the ramp-up of production at Cerro Bayo was approximately 75% complete and the Corporation completed its first full calendar year of profitable operations. The Corporation began paying dividends in the third quarter of 2012. By the fourth quarter of 2012, the ramp-up of production at Cerro Bayo and Costerfield had reached their initial design levels. In 2013, both properties undertook expansions, Cerro Bayo to a 1,400 tonnes per day ("**tpd**") operating rate from 1,200 tpd, and Costerfield to a 400 tpd operating rate, from 325 tpd. In 2014, the Corporation acquired Challacollo in Chile, which is a development stage project, and the Björkdal producing gold mine in Sweden. In 2014, the Corporation secured \$60 million in debt financing, at a 5.875% interest rate, payable in 2019. This debt financing with GEL, was to help fund the acquisition of Elgin Mining, and to support the development of the Challacollo project.

## 2014

On February 7, the Corporation completed the purchase of Challacollo. Pursuant to the terms of the definitive purchase agreement, upon closing the Corporation delivered the following consideration: (i) \$7.5 million in cash; and (ii) 12 million Common Shares, valued at \$9,188,160 at a share price of CDN\$0.85/share and US\$/CDN\$ exchange rate of 0.9008. Contingent consideration included: (i) five million Common Shares to be issued at the end of the first quarter in which commencement of commercial production at Challacollo occurs; (ii) an aggregate cash payment equal to the equivalent of 240,000 troy oz of refined Ag, payable in eight quarterly installments equal to the cash equivalent of 30,000 troy oz of refined Ag per quarter, based on the average Ag price for each such quarter, beginning with the quarter immediately following the quarter in which commencement of commercial production at

Challacollo occurs; and (iii) a 2% Net Smelter Returns royalty on Ag sold or produced from Challacollo in excess of 36 million oz, with a cap/buyout of \$5 million.

On February 13, Mandalay announced its year-end 2013 Mineral Reserves and Resources. In the Proven and Probable Reserve category, contained Au increased by 41%, contained Ag declined by 2% and contained Sb increased by 108%. In the Measured and Indicated Resource category, contained Au increased by 37%, contained Ag increased by 18%, contained Sb increased by 52% and contained Cu was unchanged. In the Inferred Resource category, contained Au increased by 26%, contained Ag increased by 811%, contained Sb increased by 13%, and contained Cu was unchanged. All changes were net of mine depletion at year-end 2013. The large increases in Proven and Probable (and Measured and Indicated) Au and Sb were due to the conversion of much of the previously Indicated and Inferred Resource in the Cuffley lode at Costerfield to Proven and Probable. The large increase in Inferred Resource of Ag was due to the acquisition of the Challacollo Ag-Au property.

On May 14, Mandalay announced the completion of its five year, \$60 million 5.875% debt financing (the "**Debt Financing**"). The Debt Financing proceeds were raised by way of a concurrent offering (the "**Bond Offering**") of senior exchangeable bonds (the "**Bonds**") issued by GEL, an unaffiliated special purpose vehicle incorporated in Jersey. The Corporation, through its wholly owned subsidiary 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 Bond Offering was completed immediately prior to the closing of the Debt Financing. Following the completion of the Debt Financing, Mandalay cancelled the BMO Facility. No amount was outstanding under the BMO Facility at the time of cancellation.

On September 9, Mandalay announced the closing of a secondary offering by a fund advised by West Face Capital Inc. ("**West Face**") of 40 million Common Shares at a price of CDN\$1.10 per Common Share. The offering was underwritten by BMO Capital Markets and following their exercise of the over-allotment option to purchase 6 million Common Shares, the gross proceeds to West Face were CDN\$50,600,000.

On September 10, Mandalay completed the acquisition of Elgin Mining pursuant to a court-approved plan of arrangement. Pursuant to the terms an arrangement agreement dated June 3, as amended and restated as of July 25, Mandalay acquired all of the outstanding common shares of Elgin Mining for consideration consisting of CDN\$0.37 cash or 0.4111 of a Common Share per common share of Elgin Mining, subject to pro ration, for a total transaction value of approximately CDN\$86 million.

Following the completion of the acquisition of Elgin Mining and Challacollo, the Corporation's material properties were Costerfield, Cerro Bayo, Challacollo and Björkdal.

Mandalay allowed its NCIB to expire without renewal in October, 2014.

## 2015

On January 7, 2015 Mandalay announced changes to its senior management team. Belinda Labatte, previously Mandalay's Corporate Secretary, was appointed to the position of Head of Stakeholder Engagement and Corporate Affairs, effective January 1.

On February 17, Mandalay announced its year-end 2014 Mineral Reserves and Resources. In the Proven and Probable Reserve category, contained Au increased by 136%, contained Ag declined by 5% and contained Sb increased by 4%. In the Measured and Indicated Resource category, contained Au increased by 144%, contained Ag increased by 24%, contained Sb increased by 12% and contained Cu was unchanged. All changes were net of mine depletion at year-end 2014.

On April 13, the Corporation announced that it had adopted a shareholder rights plan (the "**Rights Plan**"). The Rights Plan was subsequently ratified by shareholders at the Corporation's annual and special meeting of shareholders held on May 13, 2015.

On June 19, Mandalay announced the closing of a secondary offering by a fund advised by West Face for 20 million Common Shares at a price of CDN\$0.92 per Common Share for gross proceeds to West Face of CDN\$18.4 million. The offering was underwritten by BMO Capital Markets.

On June 23, the Corporation announced that the union at its Cerro Bayo mine site initiated a legal strike action in the context of ongoing bargaining efforts to reach a new collective agreement. Mine production was temporarily suspended until July 2, when a new collective agreement was reached. Production resumed immediately.

## 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. In his new role, Mr. Mills continues 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 board, assumed the role of lead independent director. In connection with his appointment as President and CEO, Dr. Sander was also appointed to the board. The Corporation announced that Sanjay Swarup would not stand for re-election to the 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 board and stepped down from the board, effective March 23.

On May 24, 2016 Amy Freedman was appointed to the board to serve as independent director. Ms. Freedman was also named to the 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.

## 5.2 Significant Acquisitions

The Corporation made no significant acquisitions during the year ended December 31, 2016.

#### 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. Other jurisdictions in which the Corporation has recently considered investing include New Zealand, Canada, the United States, Mexico, Brazil, and Peru. Investment decisions and jurisdictions are reviewed on an ongoing basis.

#### 6.2 Material Properties

Mandalay currently owns 100% interests in three producing assets – Costerfield, Australia (producing Au and Sb), Cerro Bayo, Chile (producing Ag and Au) and Björkdal, Sweden (producing Au). The Corporation also owns a 100% interest in Challacollo, an Ag-Au development project at Challacollo. No additional drilling was undertaken in 2015. Therefore, the Mineral Resource estimate on this property remains unchanged. At Challacollo, the Corporation is developing new exploration targets based on surface mapping, sampling and geophysics.

The Corporation's material properties are Costerfield, Cerro Bayo, Challacollo 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. 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. Björkdal, acquired as an operating mine by the Corporation in September, 2014, started production in 1988 with a period of suspended production from 1999-2001 due to low gold prices. Challacollo is a development-stage project which produced ore in the early 1900's and is currently undergoing mineral exploration and water supply development in connection with a feasibility study for potential restart.

## 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 identifying, managing, and reducing overall operational, financial and strategic risks faced by the Corporation. The identified risks, risk managers and action plans are 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 registers across the Corporation as a whole and corporate departments, and integrated new management actions into

the strategic planning and budgeting process. The risk register continues to be reviewed and updated quarterly.

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 2016, KPMG conducted 4 internal audits. As of December 31, 2016, there were 21 internal audit actions with agreed timelines for implementation that arose from the audits. All established audit actions have been incorporated into the risk register at Mandalay.

#### Insurance

As part of its risk management system, the Corporation initiated a process 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.

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

As of the date of this Annual Information Form, the Corporation has over seven years of production and sales history at Costerfield since it was acquired on December 1, 2009. Costerfield produces two different concentrates: a 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 Focus Metals 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 sales history from Cerro Bayo. Cerro Bayo currently produces 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 two years of production history at Björkdal with over two years of sales. Björkdal produces four different products: a gravity Au concentrate, a Nelson 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 Comercial 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, 2014, was \$184,628,553. The increase in revenue during 2014 was due to higher volumes sold at both mines and the acquisition of Björkdal, partially offset by lower metal prices during 2014.

Revenue for the financial year ended December 31, 2015 was \$194,500,000. The increase in revenue was due to greater volumes of all metals sold at existing mines and the addition of the Björkdal gold mine, partly offset by lower metal prices during 2015.

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.

# 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 Cyclicality 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 hind-sight. See "*Risk Factors – Fluctuations in the Market Price of Mineral Commodities*" for more discussion.

# 6.8 Employees and Contractors

	Employees	Contractors	Total
Executive	15	0	15
Björkdal	178	120	298
Cerro Bayo	402	205	607
Costerfield	196	40	236
Challacollo	4	0	4
Santiago Shared Services	3	0	3
Total	798	365	1,163

As at January 1, 2017, the Corporation had a total of 798 employees and 365 contractors, as set out in the chart below.

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 – Costerfield Mine

From December 1, 2009, to the date of this Annual Information Form, the Corporation has been engaged in seven 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. ramping up production and sales as the new faces accessed by the decline are developed;

- 4. drilling exploration holes to delineate new resources below existing workings in the Augusta Lodes, the Cuffley Lode and to discover new veins nearby;
- 5. drilling exploration holes to delineate the Cuffley Lode;
- 6. driving primary development to access the Cuffley Lode and carrying out production in the lode;
- 7. exploration of the Cuffley Lode below the King Cobra fault.
- 8. restarting capital development to access near-mine shoots and support next several years of production;
- 9. tailings lift construction for current life of mine tailings; and
- 10. potential reserve increases at Brunswick

The following table summarizes 2016 production, sales, capital, and costs at Costerfield:

	Unit	Year ended December 31, 2016	Quarter ended December 31, 2016	Quarter ended September 30, 2016	Quarter ended June 30, 2016	Quarter ended March 31, 2016
Mining Production and Mining Cost						
Operating development	m	5,701	1,340	1,505	1,382	1,475
Mined ore	t	158,351	38,934	38,407	36,818	44,192
Ore mined Au grade	g/t	9.63	6.62	9.16	10.92	11.60
Ore mined Sb grade	%	3.41	2.96	3.21	3.49	3.93
Mined contained Au	oz	49,013	8,284	11,317	12,931	16,482
Mined contained Sb	t	5,407	1,153	1,234	1,285	1,735
Mining cost per tonne ore	\$/t	152	165	177	146	125
Processing and Processing Cost						
Processed ore	t	154,409	39,245	35,981	39,548	39,635
Mill head grade Au	g/t	10.27	7.71	9.94	11.59	11.79
Mill head grade Sb	%	3.74	3.31	3.75	3.83	4.08
Recovery Au	%	90.15	88.63	90.13	90.73	90.58
Recovery Sb	%	95.40	95.91	95.69	95.11	95.35
Concentrate produced	dry t	10,188	2,326	2,335	2,668	2,859
Concentrate grade Au	g/t	83.83	76.24	84.97	85.71	87.31
Concentrate grade Sb	%	54.15	53.61	55.09	54.02	53.94
Au produced in gravity concentrate	oz	18,316	2,889	3,948	5,956	5,523
Au produced in sulfide concentrate	oz	22,994	4,634	5,154	6,296	6,910
Saleable Au produced	oz	41,310	7,523	9,102	12,252	12,433

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Saleable Sb produced	t	3,597	792	843	962	1,000	
Saleable Au equivalent produced	OZ	60,076	12,403	13,684	17,023	16,966	
Processing cost per tonne ore	\$/t	37.60	38.47	41.50	37.44	33.36	
Sales							
Concentrate sold	dry t	10,365	2,553	2,325	2,898	2,589	
Concentrate Au grade	g/t	81.22	75.45	81.79	83.33	84.05	
Concentrate Sb grade	%	54.27	54.48	54.44	53.92	54.32	
Au sold in gravity concentrate	oz	18,339	3,188	3,967	6,075	5,109	
Au sold in sulfide concentrate	oz	21,822	4,852	4,899	6,365	5,707	
Au sold	oz	40,161	8,040	8,865	12,440	10,816	
Sb sold	t	3,573	883	804	993	893	
Benchmark Unit Cost							
Site cash operating cost/ tonne ore processed	\$/t	245	262	284	223	214	
Site cash operating cost/tonne concentrate produced	\$/t	3,709	4,417	4,373	3,298	2,973	
Adjusted EBITDA/tonne ore milled Adjusted EBITDA/tonne concentrate	\$/t	224	89	240	342	225	
produced	\$/t	3,395	1,507	3,704	5,063	3,120	
Cash cost per oz Au equivalent produced	\$/oz	640	837	755	530	512	
Site all-in cost/oz Au eq. oz produced	\$/oz	890	1,096	1,064	772	724	
Capital Spending							
Capital development	m	-	-	-	-	-	
Capital development cost	\$000	-	-	-	-	-	
Capital development cost/meter	\$/m	NA	NA	NA	NA	NA	
Capital purchases	\$000	3,407	1,033	779	1,290	305	
Capitalized exploration	\$000	4,551	1,010	1,429	1,155	958	

During the 12 months ended December 31, 2016, the Costerfield mine completed 5,701 m of operating development and produced 158,351 t of ore. Through the year, mined ore averaged 9.63 g/t Au and 3.41% Sb, with grades higher in the first two quarters of the year. Mining cost averaged \$152/t, which is comparable to the costs in 2015.

During the 12 months ended December 31, 2016, the Costerfield plant processed 154,409 t of ore, producing 41,310 oz of saleable Au and 3,597 t of saleable Sb. These numbers are slightly lower than record annual production volumes due to expected lower mined grades. Cost of processing ore was \$37.60/t in 2016, compared to \$37.41/t in 2015.

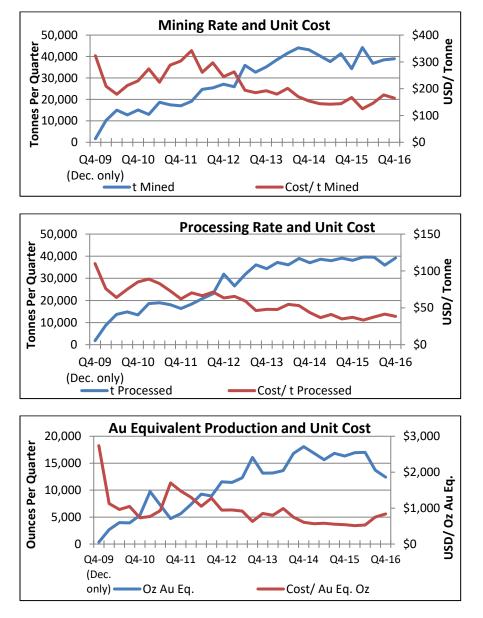
Sales of 40,161 oz of Au in 2016 were close to record levels. 2016 Sb sales of 3,573 t was a record amount.

During the year at Costerfield, the Corporation invested no amounts in capital development, \$3.4 million in property, plant and equipment and \$4.6 million in exploration. For the exploration spending, the

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Corporation's Au and Sb Mineral Reserves decreased by 17,000 oz and 1,400 t respectively, both net of 2016 depletion. The current mine life is approximately four years.

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 6.12 of this Annual Information Form.

# 6.9.2 Producing Stage – Cerro Bayo

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. obtain permitting for the recommencement of mining the Marcela vein

The following table summarizes 2016 production, sales, capital, and costs at Cerro Bayo:

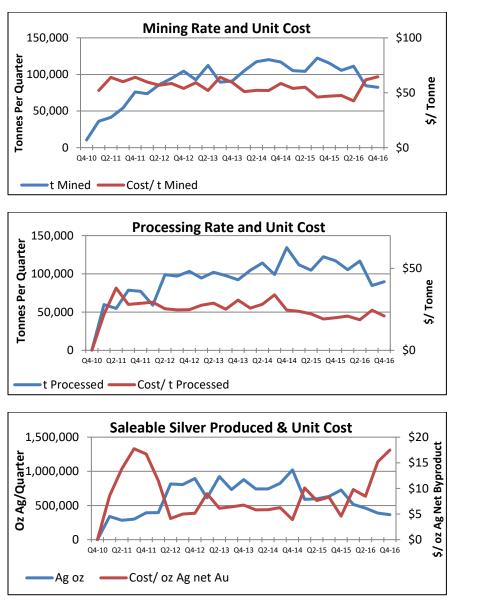
	Unit	Year ended December 31, 2016	Quarter ended December 31, 2016	Quarter ended September 30, 2016	Quarter ended June 30, 2016	Quarter ended March 31, 2016
Mining Production and Mining Cost						
Operating development	m	6,090	1,774	1,560	1,601	1,155
Mined ore	t	383,860	82,432	84,594	111,327	105,507
Ore mined Au grade	g/t	1.33	1.24	1.30	1.27	1.50
Ore mined Ag grade	g/t	166.39	163.27	182.42	150.73	172.50
Mined contained Au	ΟZ	16,473	3,299	3,545	4,548	5,081
Mined contained Ag	ΟZ	2,053,485	432,705	496,125	539,501	585,154
Mining cost per tonne ore	\$/t	52.88	64.55	61.76	42.54	47.56
Processing and Processing Cost						
Processed ore	t	396,508	89,811	84,660	116,690	105,347
Mill head grade Au	g/t	1.31	1.18	1.30	1.24	1.49
Mill head grade Ag	g/t	161.74	153.00	180.34	145.55	172.18
Recovery Au	%	84.93	84.54	82.32	84.00	87.89
Recovery Ag	%	87.40	86.74	82.93	87.62	91.46
Concentrate produced	dry t	6,093	1,497	1,589	1,507	1,500
Concentrate grade Au	g/t	72.16	59.93	56.99	80.59	91.94
Concentrate grade Ag	g/t	9,199	7,963	7,971	9,873	11,056
Saleable Au produced	OZ	13,792	2,807	2,831	3,818	4,336
Saleable Ag produced	OZ	1,731,031	365,214	388,139	462,462	515,216

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Saleable Au equivalent produced	OZ	37,279	7,956	8,526	9,982	10,814
Processing cost per tonne ore	\$/t	21.01	20.95	24.53	18.63	20.89
Sales						
Concentrate sold	dry t	6,206	1,364	1,702	1,356	1,785
Concentrate Au grade	g/t	79.16	56.83	61.30	86.83	107.42
Concentrate Ag grade	g/t	9,368	7,657	8,307	10,447	10,868
Au sold	OZ	15,419	2,426	3,265	3,699	6,030
Ag sold	OZ	1,796,693	320,175	433,904	439,993	602,621
Benchmark Unit Cost Site cash operating cost/ tonne ore processed Site cash operating cost/tonne concentrate produced Adjusted EBITDA/tonne ore milled Adjusted EBITDA/tonne concentrate produced Cash cost per oz Ag produced net of Au byproduct credit Site all-in cost net of gold credit /oz Ag produced	\$/t \$/t \$/t \$/t \$/oz \$/oz	84.44 5,495 22 1,431 12.29 20.87	94.71 5,683 (36) (2,134) 17.48 25.99	101.77 5,424 28 1,469 15.18 25.70	67.38 5,217 44 3,408 8.45 16.54	80.64 5,661 43 3,017 9.76 18.78
Capital Spending						
Capital development	m	2,884	759	767	885	473
Capital development cost	\$000	8,260	2,014	2,342	2,505	1,399
Capital development cost/meter	\$/m	2,864	2,654	3,055	2,829	2,959
Capital purchases	\$000	3,292	260	574	1,031	1,427
Capitalized exploration	\$000	3,040	762	972	787	519

Cerro Bayo production continued through 2016, with 6,090 m of total operating development and 383,860 t of ore mined. Mining costs and processing costs per tonne of ore were generally well-controlled throughout the year, with the mining costs rising to an average of \$52.88/t in 2016 versus \$50.37/t in 2015. Processing costs were reduced to \$21.01/t, compared to \$21.24/t in the previous year. Au recovery in 2016 declined to an average of 84.93% (87.30% in 2015) while Ag recovery also reduced to an average of 87.40% (90.92% in 2015). The decrease in Au and Ag recoveries in 2016 is related to the reduced feed grades of both Au and Ag and an increase in clay and pyrite contents in ore processed. Lower production resulted from the fatality that occurred in the third quarter and the resulting curtailment of production.

Sales of concentrate were 6,206 t in 2016, containing 15,419 oz of saleable Au and 1,796,693 oz of saleable Ag.

During 2016, the Corporation invested approximately \$8.26 million in capital development (achieving 2,884 m of advance), \$3.29 million in property, plant, and equipment, and \$3.04 million in exploration. The Corporation decreased its Proven and Probable Ag Mineral Reserves by 40% mainly due to reductions in estimated reserves along Delia SE vein in light of recent development sampling. While the limits of ore grades at shallow development levels of the vein approximated the drilling-based block model, the deepest three levels have exposed more internal waste in the mineralized shoot than was previously expected.



The performance of the Cerro Bayo mine since its acquisition and restart in 2010 is summarized in the charts below:

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

## 6.9.3 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 which is expected to reduce total exploration cost;

- 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. conducting brownfields exploration resulting in significant increases in Mineral Resources and Reserves in 2016;
- 6. implementing the first phase of low-grade ore sorting program (crushing and screening); and
- 7. initiated the construction of the flotation expansion project in 2016, to be completed in 2017

The following table summarizes 2016	production, sales,	capital, and co	osts at Björkdal:

	Unit	Year ended December 31, 2016	Quarter ended December 31, 2016	Quarter ended September 30, 2016	Quarter ended June 30, 2016	Quarter ended March 31, 2016
Mining Production and Mining Cost						
Operating development	m	5,384	1,604	1,292	1,349	1,140
Mined ore	t	1,138,742	302,363	281,714	302,397	252,268
Ore mined Au grade	g/t	1.39	1.57	1.26	1.37	1.32
Mined contained Au	oz	50,771	15,266	11,415	13,352	10,736
Mining cost per tonne ore	\$/t	25.07	24.86	25.04	25.51	24.57
Processing and Processing Cost						
Processed ore	t	1,288,927	317,553	329,494	317,951	323,929
Mill head grade Au	g/t	1.35	1.28	1.35	1.43	1.35
Recovery Au	%	87.80	86.02	88.08	88.40	88.44
Concentrate produced	dry t	3,557	1,024	842	864	826
Concentrate grade Au	g/t	421	332	457	455	459
Saleable Au produced	oz	48,143	10,934	12,376	12,648	12,185

Processing cost per tonne ore	\$/t	7.03	7.41	6.42	7.72	6.48
Sales						
Concentrate sold	dry t	3,498	815	889	814	979
Concentrate Au grade	g/t	426	343	446	528	392
Au sold	ΟZ	47,888	8,980	12,758	13,813	12,337
Benchmark Unit Cost						
Site cash operating cost/ tonne ore processed	\$/t	35.71	40.00	36.06	37.37	29.95
Site cash operating cost/tonne concentrate produced	\$/t	12,940	12,393	14,109	13,746	11,740
Adjusted EBITDA/tonne ore milled	\$/t	11.33	(4.15)	17.19	16.75	15.22
Adjusted EBITDA/tonne concentrate produced	\$/t	4,106	(1,286)	6,727	6,161	5,965
Cash cost per oz Au equivalent produced	\$/oz	956	1,160	897	967	821
Site all-in cost/oz Au eq. oz produced	\$/oz	1,190	1,374	1,135	1,212	1,059
Capital Spending						
Capital development (Underground)	m	2,044	351	519	563	611
Capital development (Open pit)	t	2,490,385	778,474	656,680	434,758	620,473
Capital development cost	\$000	9,611	2,144	2,564	2,138	2,767
Capital purchases	\$000	4,917	2,000	174	1,752	992
Capitalized exploration	\$000	3,980	948	1,530	1,017	485

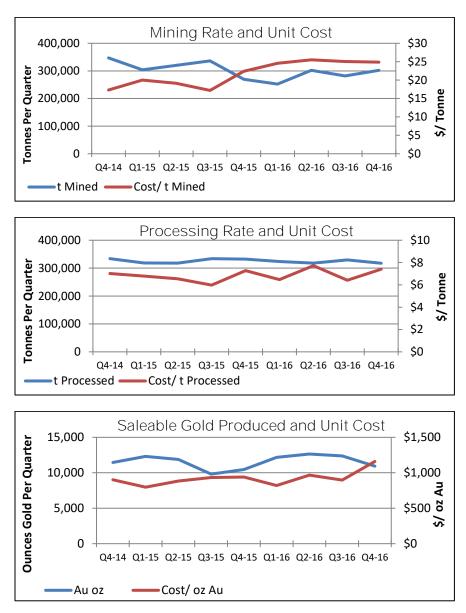
During the 12 months ended December 31, 2016, the Björkdal mine produced 1,138,742 t of ore from both the open pit and underground that averaged 1.39 g/t Au. Ore grades remained approximately constant through the year. Mining costs rose to \$25.07/t in 2016 versus \$19.52/t as mining cost per tonne increased in the underground mine as additional spending for grade control mapping, sampling and assaying and selective mining were incurred, as well as faster development spending. The actions combined resulted in higher-grade ore from the underground to the plant. Mining cost per tonne moved in the open pit was well-controlled.

During the 12 months ended December 31, 2016, the Björkdal plant processed 1,288,927 t of ore, producing 48,143 oz of saleable Au. Cost of processing ore was \$7.03/t in 2016. Sales in 2016 were 47,888 oz Au.

During the year at Björkdal, the Corporation invested approximately \$9.61 million in capital development, \$4.91 million in property, plant and equipment and \$3.98 million in exploration. Mineral Reserves estimated at September 30, 2016 for the property resulted in the addition of 168,000 oz Au net of depletion from December 31, 2015 to September 30, 2016.

The Corporation expects to see the results of its turnaround measures at Björkdal manifested in quarterly operating results throughout 2017. The Corporation's production and costs since Björkdal was acquired by the Corporation in 2014 are summarized in the charts below:

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For more information on Björkdal, refer to section 6.14 of this Annual Information Form.

## 6.9.4 Development Stage – Challacollo

The Corporation acquired Challacollo on February 7, 2014. During 2016, the Corporation accomplished the following at Challacollo:

- 1. completed a geophysical survey;
- 2. completed a diamond drilling program to test major geophysical anomalies found in the survey, without economically significant results
- 3. obtained permission to drill for water to supply an eventual processing plant

For more information on Challacollo, refer to section 6.15 of this Annual Information Form.

#### 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 2017

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, 2016, the Corporation had working capital of \$43.8 million, and cash and cash equivalents of approximately \$67.9 million. The Corporation began and ended 2016 with no metal price hedging instruments in place.

At Costerfield in 2017, 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:

Costerfield Plan	2016 Actual	2017 Estimate
Saleable Au Produced (koz)	41.3	30-37
Saleable Sb Produced (t)	3,598	3,200-3,700
Cash Cost/ oz Au Eq	640	690-780
Capital Expenditure - (\$M)	3.4	9-13
Capitalized Exploration (US\$M)	4.6	3

This plan is based on continuing operating development of the Cuffley Lode to allow for more production headings. Capital spending in 2017 is expected to focus on sustaining capital.

The Corporation plans to sell the following volumes of Ag and Au from Cerro Bayo at the estimated operating and capital costs summarized in the table below:

Cerro Bayo Plan	2016 Actual	2017 Estimate
Saleable Au Produced (koz)	13.8	12-16
Saleable Ag Produced (Moz)	1.7	1.7-2.0

Cash Cost/oz Ag net Au Credit (2016A) & Cash cost/oz Au Eq (2017E)	12.29	920-1,120
Capital Expenditure (\$M)	3.3	18-22
Capitalized Exploration (\$M)	3	2

The Corporation plans to spend \$2 million at Cerro Bayo in 2017 on core drilling to extend the current Mineral Reserves under Laguna Verde. The Corporation also plans to test the highest priority targets for entirely new veins with initial holes. The goal is to increase Mineral Resources and Mineral Reserves in 2017, as well as to stock the target portfolio with confirmed targets ready for continued infill drilling. The two main capital items for Cerro Bayo are a lift of the tailings storage facility and preparatory capital works for the mining of the Marcela vein.

At Björkdal, the Corporation plans to increase the production of saleable Au throughout the course of the year, with estimated volumes and costs summarized in the following table:

Björkdal Plan	2016 Actual	2017 Estimate
Saleable Au Produced (koz)	48.1	52-58
Cash Cost/ oz Au Eq	956	820-910
Capital Expenditure (\$M)	4.9	20-25
Capitalized Exploration (\$M)	4	2

The Corporation plans to spend \$2 million in 2017 on exploration at Björkdal looking to extend the near mine reserves in proximity to the current underground and open pit workings. The Corporation also plans to test known targets to stock the portfolio with infill drilling targets for 2018.

#### 6.12 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, approximately 10 kilometres ("**km**") northeast of the town of Heathcote.

The Augusta Mine is located at a latitude of 36° 52' 27" south and a longitude of 144° 47' 38" east. The Brunswick Processing Plant is located approximately 2 km north west of Augusta. The Cuffley Lode

is located approximately 500 m north-northwest of the Augusta workings and is accessed by an underground decline from Augusta.

#### Ownership

Tenure information for the two Mining Licences, four Exploration Licences and one application is shown in the following table:

Tenement	Name	Status	Company	Area	Grant date	Expiry date
MIN4644	Costerfield	Granted	AGD Operations P/L	1219.3 Ha	25/02/1986	30/06/2016 Renewal lodged
EL3310	Costerfield	Granted	AGD Operations P/L	59.0 GRATS	17/09/1993	17/09/2017
EL5519	Antimony Creek	Application	Mandalay Resources Costerfield Operations Pty Ltd	11.0 GRATS	28/05/2015	27/05/2018
EL5432	Peels Track	Granted	AGD Operations P/L	40.0 GRATS	23/08/2012	22/08/2017
MIN5567	Splitters Creek	Granted	Mandalay Resources Costerfield Operations Pty Ltd	30 Ha	20/02/2013	20/02/2023

## **Granted Tenement Details**

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. The Corporation has submitted an application to renew Mining Licence MIN4644 for a period of 10 years as opposed to the current renewal tenure of 2 years.

## **Royalties**

Royalties to the state of Victoria apply to the sales of Sb. This royalty is applied at a rate of 2.75% of the revenue realized from the sale of Sb produced at Costerfield, less the selling costs. There is no royalty payable on Au production. There are no private royalties on production of Au and Sb from Costerfield.

Royalties are also payable to the Victorian State Government through the Department of Economic Development, Jobs, Transport and Resources ("DEDJTR") if waste rock or tailings are sold (or provided to) to third parties, because they are deemed to be 'quarry products'. The royalty rate is AUD0.87/t.

## **Environmental Liabilities**

The Costerfield Operation is currently in compliance with all permits and authorizations.

The rehabilitation bond for MIN4644 was reviewed at the end of 2014 and AUD3.106M was set aside following the completion of the consultation period at the end of January 2015. The rehabilitation bond is reviewed by the DEDJTR every two years or when a substantive Variation to the Work Plan is approved.

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

The rehabilitation bond for MIN5567, and the lease on which the Splitters Creek Evaporation Facility has been constructed was calculated in October 2014 and AUD748,000 was set aside.

The total bond for MIN4464 and MIN5567 is AUD3.854M, with additional bonds to be linked to the Splitters Creek work plan that has been submitted for MIN5567.

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 utilize internal resources to complete rehabilitation.

#### Local Resources and Infrastructure

#### Power

Costerfield purchases electricity directly from the main national electricity grid. Costerfield has an existing arrangement for supply of 2,000 kW 22KV at the Augusta Mine and 1,000 kilovolt amperes kVA (240/215 V) at the Brunswick Processing Plant.

#### 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.

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.

There is no accommodation for employees in the mining license area. All employees live in the surrounding towns and commute to work in private vehicles.

#### 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.

All tailings are currently deposited in the Brunswick TSF, on which a 3.5 m embankment raise was completed in the second quarter of 2015. This expansion brings the total available storage capacity of the Brunswick TSF to 197,000 m<sup>3</sup>. This capacity will enable tailings to be deposited in the Brunswick TSF until the second quarter of 2017, at which time a further embankment raise will need to be completed on either the Brunswick TSF or Bombay TSF. In November 2016, construction of an additional 2.5 m raise for the Brunswick TSF commenced. This raise will provide an additional 150,000 m<sup>3</sup> of storage capacity and is expected to be completed in Q2 2017. It is expected this capacity will be fully utilized by December 2018.

Planning approval has been granted for the Bombay TSF for a 327,000 m<sup>3</sup> total increase comprising a 183,600 m<sup>3</sup> lift and a separate 143,400 m<sup>3</sup> lift. The total approved increase in tailings storage at Brunswick and Bombay allows for over three years' capacity at current milling rates.

The Bombay TSF lift of 183,600 m3 is the next to be built, and is expected to provide an additional 22 months of capacity.

#### 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

Costerfield is accessed off the Heathcote-Nagambie Road at a distance of 11 km from the junction with the main McIvor / Northern Highway, at a distance of approximately 100 km north of Melbourne.

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  $-2^{\circ}$ C in winter (May to August) to  $+40^{\circ}$ C in summer (November to February).

The operating season is year-round, although occasional significant high rainfall occurring between April and October may restrict surface construction activity for a small number of days.

## **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 about 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 – the R-B Zone, the Costerfield Zone (the host to the Augusta Lodes being mined today), the West Costerfield Zone and the Antimony Creek Zone (see Figure below).

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

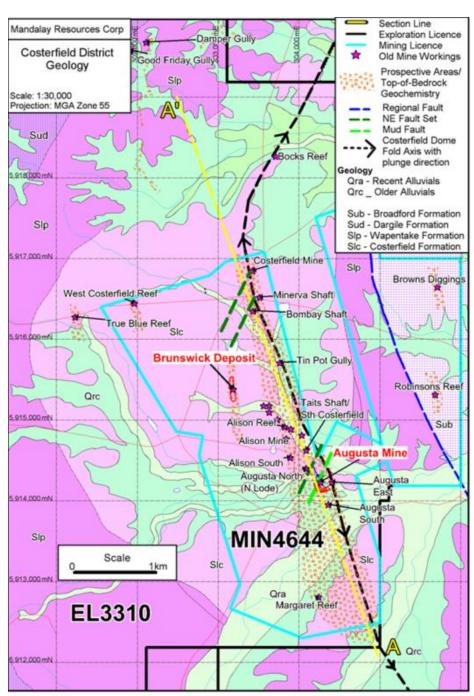
The Augusta Lodes occur within NNW-trending shear zones, which dip steeply to the west. They include E and W Lodes, previously mined; N Lode, currently being mined; and the smaller C-Lode. The E-Lode vein is approximately 0.4 m thick with a strike length of about 500 m. W-Lode averages approximately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

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

## **Figure: 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.

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. 2016 ore extraction was predominantly from the N Lode and Cuffley.

## Exploration

The Costerfield antimony-gold deposits were discovered in the 1860s. At that time, prospectors Coster, Field and Youlle 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 has 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 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, all of which encourage more drilling in 2017.

#### Mineralization

Veins at Costerfield typically comprise quartz (laminated to brecciated) and sulphides. The dominant sulphide mineral is stibuite (Sb<sub>2</sub>S<sub>3</sub>). In addition to stibuite, 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 stibuite infill and replacement of brecciated quartz- carbonate veins. The massive stibuite 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. The table below presents the drilling history at the Augusta deposit.

#### **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. The 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 hanging wall 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 hanging wall.

#### **Table: Drilling at Costerfield**

Company	Year	# Holes	Diamond (m)	Percussion/Auger (m)
Mid East Minerals	1966-1971	33	3,676	
Metals Investment Holdings	1971	12	1,761	
Victoria Mines Department	1975-1981	32	3,213	
Federation Resources N.L.	1983-2000	27		2,398
AGD/Planet Resources J.V.	1987-1988	23		1,349
AGD N.L.	1987-1988	14		1,681
	1994-1995	142	1,369	5,536
	1996	59	196	2,310
	1997	23		725
AGD	2001	27	3,361	
	2002	7	908	
	2003	30	1,522	
	2004	27	3,160	
	2005	31	4,793	
	2006-2007	67	4,763	
	2007-2008	11	2,207	
	2008-2009	19	2,586	
Total Pre-Mandalay		584	33,514	13,999
			170	
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

Total Mandalay		5,962	133,167	18,319
	2016	154	32,995	0
	2015	120	18,439	2,732
	2014	427	20,817	3,906
	2013	110	24,329	3,838
	2012	4,610	18,581	7,296
	2011	295	13,515	0
	2010	129	4,032	0
Mandalay	2009	11/	459	547

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 from underground face samples. 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 DrillKing® software. Data collected on paper prior to implementing this system has been digitally captured into the drill hole database.

Drill core is initially noted on core blocks by the drilling contractor. This is then verified by the geologist at the logging stage and recorded within the geotechnical 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 stock work 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 are no smaller than 3 cm in length and no greater than 2.7 m in length. Some drill holes were designed and drilled for metallurgical analysis where sample intervals exceed 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 and November 2016 to review current operations.

## **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. 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 private courier collects samples twice 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.

#### 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.

Assay results are returned to Costerfield Operations staff, who manage the database. The Onsite laboratory is not certified to NATA standards, but has ISO9001 accreditation. ALS is NATA-certified (825) for Au and Sb. Genalysis is NATA-certified (3244) for Au and Sb.

## **Assay Quality**

Five standards that are currently in use have been made from material collected underground at Augusta (AGD08-01, MR11-01, MR 0.2, MR04-06 and MR30-20), and are routinely submitted to Onsite. Mandalay also routinely uses a commercially available, gold-only standard (G310-6) sourced from Geostats Pty Ltd and provided to Onsite. 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 1 standard per 10 samples).

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 and Analysis, 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. 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 Cuffley Deeps and Alison South, in which inverse distance squared was used. The estimated grade is then back-calculated by dividing estimated Au accumulation and estimated Sb accumulation by estimated true thickness.

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 in 2014, 2015, and 2016.

- the Measured Resources are located within, and are defined by the developed areas of the mine. This criteria means that the estimate is supported by close spaced underground channel sampling and mapping;
- the Indicated Resources are 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 Resources have irregular or widely-spaced drill intercepts, are 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.

]	<b>Fable: Mineral</b>	<b>Resources a</b>	t the Costerf	ield mine as	of Decem	ber 31, 201	l <b>6, inclus</b> iv	ve of Mine	ral
ŀ	Reserves								
_	1							1	

	Lode Name	Resource Category	Tonnes	Au (g/t)	Sb (%)	Au (oz)	Sb (t)
		Measured	55,000	5.4	2.9	9,600	1,600
	E Lode	Indicated	54,000	4.1	2.4	7,000	1,300
		Inferred	72,000	3.6	2.7	8,400	2,000
	B Lode	Measured	8,000	7.0	2.9	1,900	200
	BLOUE	Indicated	28,000	6.6	1.9	5,900	500
	R Splay	Measured	2,000	3.0	2.2	200	100
A	B Splay	Inferred	10,000	1.9	1.8	600	200
snbr	W Lode	Measured	22,000	7.1	3.4	5,100	800
ta D		Indicated	25,000	5.3	2.8	4,300	700
Augusta Deposit		Inferred	30,000	5.1	2.3	4,900	700
sit	C Lode	Inferred	72,000	4.4	2.4	10,300	1,700
		Measured	69,000	10.7	4.7	23,600	3,200
	NM Lode	Indicated	141,000	6.3	2.8	28,700	3,900
		Inferred	89,000	4.1	1.1	11,800	1,000
		Measured	4,000	5.6	3.0	800	100
	NE Lode	Indicated	33,000	4.3	2.5	4,600	800
		Inferred	18,000	3.8	2.2	2,200	400

	Lode Name	Resource Category	Tonnes	Au (g/t)	Sb (%)	Au (oz)	Sb (t)
	Now View	Measured	1,000	3.9	2.2	200	0
	New Vein	Indicated	67,000	6.6	1.4	14,000	1,000
	NSW Lode	Indicated	13,000	3.8	2.5	1,500	300
	NW Lode	Measured	1,000	6.2	3.7	100	0
	NVV LODE	Indicated	3,000	4.9	3.3	400	100
	N Colov 1	Measured	1,000	8.8	2.5	200	0
	N Splay 1	Indicated	7,000	5.4	2.4	1,200	200
	N Splay 2	Indicated	2,000	3.4	1.2	200	0
	N Splay 3	Indicated	4,000	2.8	1.1	400	0
	N Splay 4	Indicated	11,000	3.5	3.0	1,300	300
	N Splay 5	Indicated	2,000	1.3	1.9	100	0
	P1 Lode	Measured	12,000	9.4	2.3	3,600	300
	FILOUE	Indicated	9,000	10.2	2.6	3,000	200
		Measured	4,000	6.2	3.4	700	100
	P2 Lode	Indicated	18,000	4.3	2.1	2,500	400
		Inferred	29,000	3.2	1.2	3,000	300
		Measured	2,000	2.8	2.5	200	0
	K Lode	Indicated	24,000	2.6	1.9	2,100	500
		Inferred	21,000	2.2	1.5	1,500	300
		Measured	75,000	13.6	5.2	32,900	3,900
	CM Lode	Indicated	64,000	6.7	2.6	13,900	1,700
		Inferred	8,000	4.9	1.3	1,300	100
	CE Lode	Measured	11,000	13.2	4.7	4,600	500
	CE LOUE	Indicated	13,000	6.5	2.1	2,600	300
Cuff	CS Lode	Indicated	10,000	2.2	1.9	700	200
		Inferred	2,000	2.1	1.0	100	0
ey Deposit	CSE Lode	Indicated	1,000	4.8	3.6	100	0
osit	CD Lode	Indicated	97,000	7.2	3.5	22,500	3,300
		Inferred	5,000	1.3	1.6	200	100
	CDW Lode	Inferred	1,000	2.8	0.9	100	0
	CDL Lode	Inferred	26,000	7.4	0.1	6,200	0
	AS Lode	Indicated	28,000	4.8	3.7	4,300	1,000
		Inferred	9,000	0.8	2.3	200	200
Brur	nswick Deposit	Indicated	157,000	6.5	2.4	32,800	3,800
		Inferred	59,000	4.5	1.6	8,600	1,000
Sub Co	SKC CE	Inferred	13,000	2.5	1.0	1,000	100
Sub King Cobra	SKC LQ	Inferred	11,000	9.5	0.2	3,400	0

	Lode Name	Resource Category	Tonnes	Au (g/t)	Sb (%)	Au (oz)	Sb (t)
	SKC C	Inferred	71,000	7.5	1.2	17,100	800
	SKC W	Inferred	64,000	13.3	0.0	27,400	0
Stock	Stockpile Measured		20,000	6.4	2.2	4,000	400
Measured and Indicated		1,098,000	6.9	2.9	242,400	32,000	
Inferred			611,000	5.5	1.5	108,300	9,000

Notes:

- 1. Mineral Resources estimated as of December 31, 2016, and depleted for production through December 31, 2016.
- 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 tonnes are rounded to the 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 and exchange rate USD:AUD of 0.75.
- 6. The AuEq value is calculated using the formula: AuEq = Au g/t + 1.76 \* Sb %.
- Geological modelling and sample compositing was performed by Cael Gniel, who is a full-time employee of Mandalay Resources, Chris Davis, MAusIMM, who is a full-time employee of Mandalay Resources and was independently verified by Danny Kentwell, FAusIMM, who is a full-time employee of SRK Consulting.
- 8. The Mineral Resource estimation was performed by Kirsty Sheerin, MAusIMM, who is a full-time employee of SRK Consulting, Cael Gniel, who is a full-time employee of Mandalay Resources and Chris Davis, MAusIMM, who is a full-time employee of Mandalay Resources. The resource models were verified by Danny Kentwell, FAusIMM, who is a full-time employee of SRK Consulting. Danny Kentwell, FAusIMM, a full-time employee of SRK Consulting is the Qualified Person under NI 43-101 and the Competent Person for the Resource.

From the Mineral Resource, a mine plan was designed based only on Measured and Indicated Resource blocks using predominantly the cemented rock fill blast hole stoping method presently employed at the mine. A cut-off grade of 4.0 g/t AuEq and minimum mining widths of 1.8 m for development and 1.2 m for stoping were used. Planned and unplanned dilution was applied at zero grade.

Category	Reserve (kt)	Gold grade (g/t)	Antimony grade (%)	Contained Gold (koz)	Contained Antimony (kt)
Proven	184	8.1	3.5	48	6.4
Probable	434	5.7	2.6	80	11.1
Proven + Probable	619	6.5	2.8	128	17.5

#### Table: Mineral Reserves at the Costerfield mine, as of December 31, 2016

Notes:

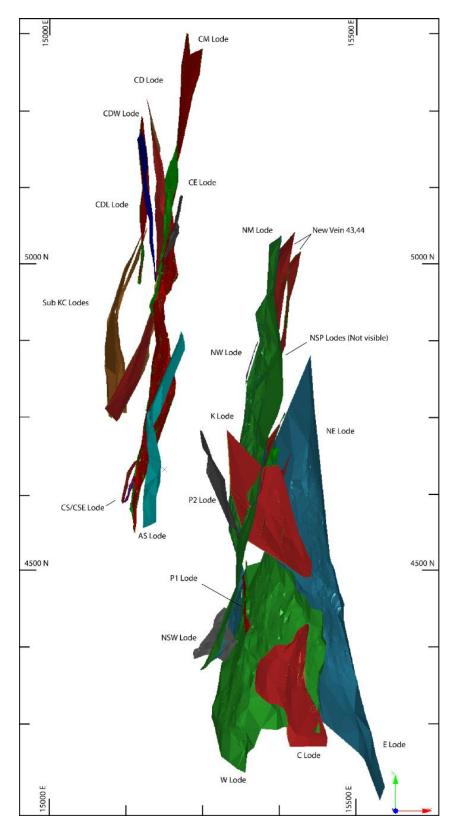
- 1. Mineral Reserve estimated as of 31 December 2016.
- 2. Tonnes are rounded to the nearest thousand; contained gold (oz) is rounded to the nearest thousand; contained antimony (kt) is rounded to the nearest hundred.
- 3. Totals are subject to rounding error.
- 4. Lodes have been diluted to a minimum mining width of 1.2 m for stoping and 1.8 m for ore development.
- 5. A 4.0 g/t Au Equivalent (AuEq) cut-off grade is applied.
- 6. Commodity prices applied are: gold price of USD1,200 /oz, antimony price of USD8,000 /t and USD:AUD exchange rate of 0.75.
- 7. The Au Equivalent value (AuEq) is calculated using the formula: AuEq = Au g/t + 1.64 \* Sb %.
- 8. The Mineral Reserve is a subset of the Measured and Indicated only schedule of a Life of Mine Plan that includes mining of Measured, Indicated and Inferred Resources.
- The Mineral Reserve estimate was prepared by Chloe Cavill, BSc, who is a full-time employee of Mandalay, and was independently verified by Peter Fairfield, FAusIMM, CP (Mining), who is a full-time employee of SRK Consulting and a Qualified Person under NI 43-101.

For more information in respect of the key assumptions, parameters and methods used to estimate the

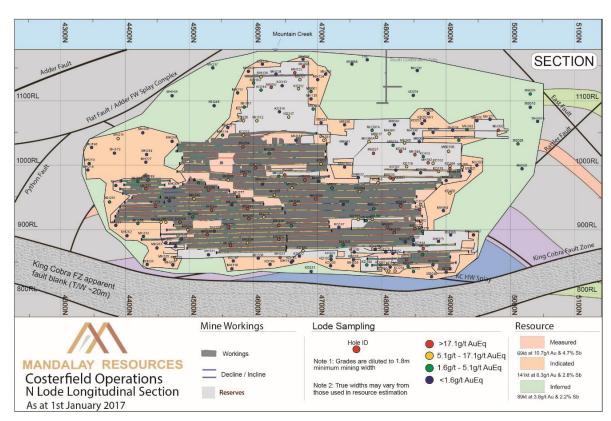
Mineral Resources and Mineral Reserves presented above, reference is made to sections 14 and 15 of the Costerfield Technical Report.

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** 

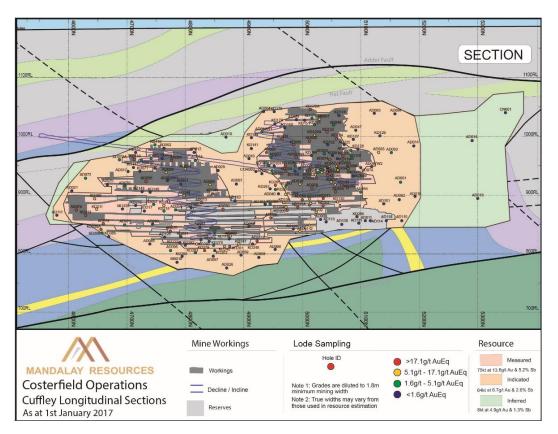




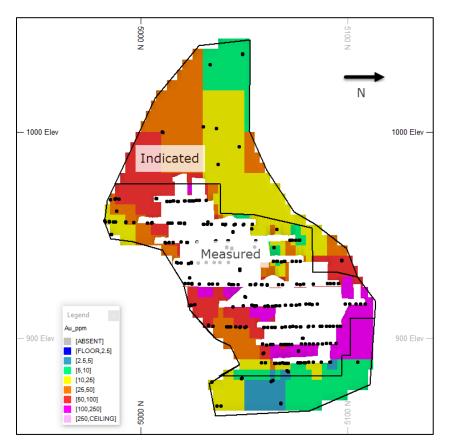


#### **NM Lode**

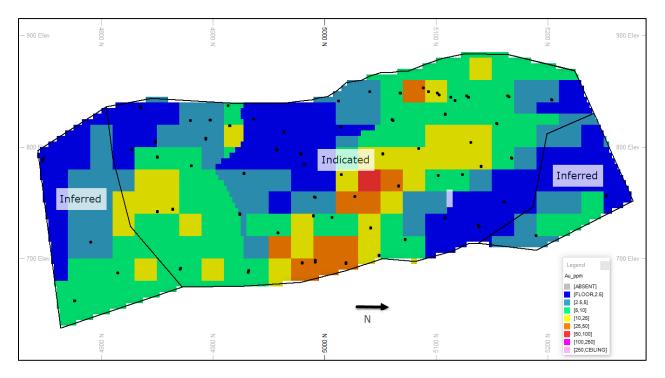
## **CM Lode**

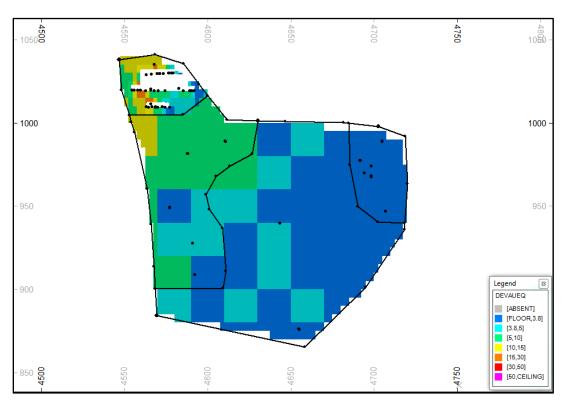


# CE Lode

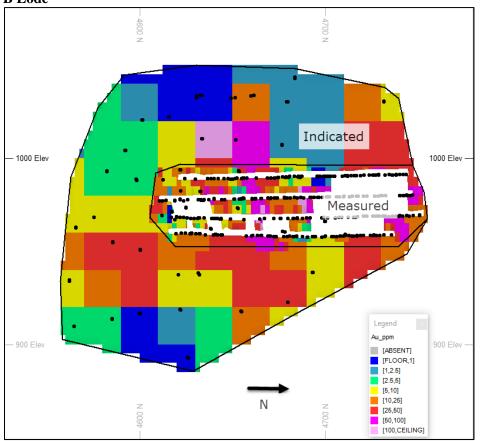


# **CD** Lode

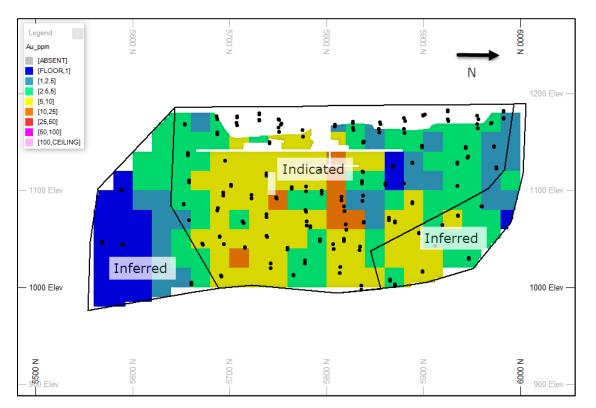








**Brunswick Lode** 



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. Over the period, the ounces of gold predicted by the model were 9% higher than produced by the plant. The tonnes of antimony predicted by the model were 1% lower than produced by the plant. Minor adjustments to the Resource estimation process for gold grades have been made to attempt to improve the reconciliation for 2017.

#### **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. These mining methods have been utilized throughout 2010 to 2014. 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 7.2 m - 10 m floor-to-floor sub-level spacing and implementing the following production cycle:

- develop access to the orebody;
- establish bottom sill drive and upper fill drive;
- drill airleg blastholes in a staggered 'Dice 5' pattern depending on ore width. Nominal stope design width is 1.2 m;
- blast 2.5 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 two-stage crushing process, two milling stages 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. 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.

## 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

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disclosed pursuant to confidentiality requirements. The marketing of the concentrate is conducted through the agency of Penfold Marketing Pty Ltd.

#### Contracts

The Costerfield mine currently does not have any significant contractors.

#### Environmental

The Costerfield operation 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, 2016, Costerfield had approximately AUD6.5 million of carried forward tax losses.

#### Capital Costs

The economic test of life-of-mine Proven and Probable Reserves through 2021 requires approximately AUD23.5 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	<b>Operating Cost (per t mined)</b>				
Description	AUD M	AUD/t	USD M	USD/t	
Mining	108	171	81	129	
Processing	30	48	23	36	
Site Services, General and Administration	47	74	35	56	
Total	185	293	139	221	

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 \$8,000/t for Sb.

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## **Exploration and Development**

In 2017, exploration at Costerfield will focus on three goals. The first is replacing depletion to maintain existing mine life by undertaking underground drilling to test orebody extensions and near-mine targets that have been generated through operational geological knowledge. The second is to infill and extend drilling along the Brunswick Lode to upgrade more resources to Indicated, yielding more benefit for required capital investment and resulting conversion to Mineral Reserves. The third is to drill for a significant increase in mine life by building on promising drilling results below the King Cobra Fault, which underlies the Cuffley and Augusta deposits.

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).

## 6.13 Mineral Projects – Cerro Bayo

Unless otherwise stated, information referenced in this section referring to the Cerro Bayo mine is based on the Cerro Bayo Technical Report.

## **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 six kilometres west of the border with Argentina.

## Ownership

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

Surface rights on a triangular plot of land, currently owned by the Chilean government, occupy part of the plant and tailings dam sites. All surface rights are located within the Cerro Bayo mining concessions Negotiations are underway to transfer the ownership of these surface rights to Minera Cerro Bayo and are expected to be finalized in 2017.

## **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 gold production over 50 thousand ounces and cumulative silver production over five million ounces sold from the property.

## **Environmental Liabilities**

## Cerro Bayo Closure Plan

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

Cost (US\$000)	Total	2019	2020	2021	2022	2023	2024
Closure/Reclamation	12,000	1,000	1,000	1,000	1,000	4,000	4,000

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

The closure plan for the site areas includes properly sealing of 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 pay upfront 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 of the closure plan and cost estimate by SERNAGEOMIN Cerro Bayo will be required to begin depositing funds into the bond. 30% 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.

#### 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 favorable, 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

All necessary permits to operate for the life of the projects have been requested and received. In the case of Cerro Bayo, the competent authority was *Comisiónes Medioambientales Regionales* of the Aysén Region. Cerro Bayo has been processing and updating the permits required for its operations as mining exploration has progressed and new areas have been incorporated into the mining operation. Current applications are through the SEIA (Environmental Impact Evaluation System) of the SEA (Environmental Evaluation Service).

## Tailings Dam

The Fachinal tailings dam is the part of Cerro Bayo that was approved by the environmental authority in 1994. The tailings capacity was increased by raising the dam in 2014. The tailings dam wall is planned to be raised from its current elevation of 317 m to its final height of 322 m by civil works, which were initially scheduled to begin in 2016 but were postponed to early 2017. Remaining tailings storage capacity, including what will be made available with the final expansion, is approximately 2.5 million tonnes.

## **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

Presently, the sectors where mining operations are authorized in the Laguna Verde area include the Delia NW, Dagny, and Fabiola veins, each accessed via its own portal and decline. The permit includes mining of the veins through underground mining methods. The Dagny and Fabiola veins were mined out in 2016. The waste material is stored in the existing waste dump (Los Juncos) and Tranque open pit, which together have enough capacity for storage. Mining will continue on the Delia NW, Delia SE, Coyita Norte, Coyita Sur, Yasna Sur, Branca, and Trinidad veins. These veins are accessed via the Coyita, Delia and Delia Sur portals.

#### Mining in the Cerro Bayo Area

The exploitation in the Cerro Bayo area includes the Marcela and Raul veins. In October, 2008, the operations were temporarily closed 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 Declaration of Environmental Impact (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 are required to be updated to obtain the authorization necessary for underground mining operations, including waste dumps, to resume in Marcela and Raul.

Based on the above, the Corporation believes that Minera Cerro Bayo has requested or is able to obtain the necessary permits and licenses required to operate the Cerro Bayo Property.

#### 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 (4) Caterpillar generators (1995) with 1,150 KVA driven by 3,516 motors and eight (8) Atlas Copco (2012-2015) QA1000 units. The total diesel generating capacity is supplemented by a 1.8 MVA windpower 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 to the sedimentation basins, where the suspended solids are allowed to settle out. Water is recycled back 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 ("**1**/**s**") from the Lago General Carrera and several additional smaller rights in different areas of the property totaling 135 l/s. The plant uses about 60 l/s of fresh water plus water recovered from tailings.

#### 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 and with all equipment properly stored and available for use when needed. 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. Tools and workbenches are in place and available for use. 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. Meeting rooms, file storage systems and furniture are available and well equipped. The building is in good condition.

## Tailings Storage

The tailings dam was raised to a 317 m elevation in 2014. The tailings dam wall is planned to be raised from its current elevation to its final height of 322 m by civil works, which were initially planned to start in 2016 but were rescheduled to early 2017. Remaining tailings storage capacity, including that which will be made available with the final expansion, is approximately 2.5 million tonnes, which will satisfy 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, 2016, the operation had a total of 402 employees and 205 contractors on site.

## 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, 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 the 50% mark 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 soils 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 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, restarted the plant with stockpiled ore in the first quarter of 2011, and ramped-up production to 1,200 tpd from the Dagny, Fabiola, and Delia NW mines by the end of 2012. 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 are expected to replace production from the Fabiola mine, which was completed during 2016.

## **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 gold-silver 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 copper, lead, and zinc. 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 in-filled 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 events and its relationship with gold and silver 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.

## Drilling

Total drilling through 2016 on the project consisted of 5,103 diamond drill holes totaling approximately 698,439 m and 666 RC holes totaling 57,271 m. A small number of exploration drill holes outside of the main mining areas are not included in these totals. A drill summary table by year is included in the table below, with Mandalay conducting the drilling from 2010 to 2016:

		Core Holes		<b>RC Holes</b>	
Area	Year	No.	No.	No.	No.
	Drilled	Holes	Metres	Holes	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	-	-

## Table: Drilling at Cerro Bayo

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	-	-
Total		5,103	698,439	666	57,271

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 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 on carried out 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 – 2016

Mandalay drilled a total of 1,346 diamond drill holes totalling 265,043 m at Cerro Bayo between 2010 and 2016. 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.

All core storage for 2013 through 2016 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 Reverse Circulation (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 using a digital camera 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 hanging-wall 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

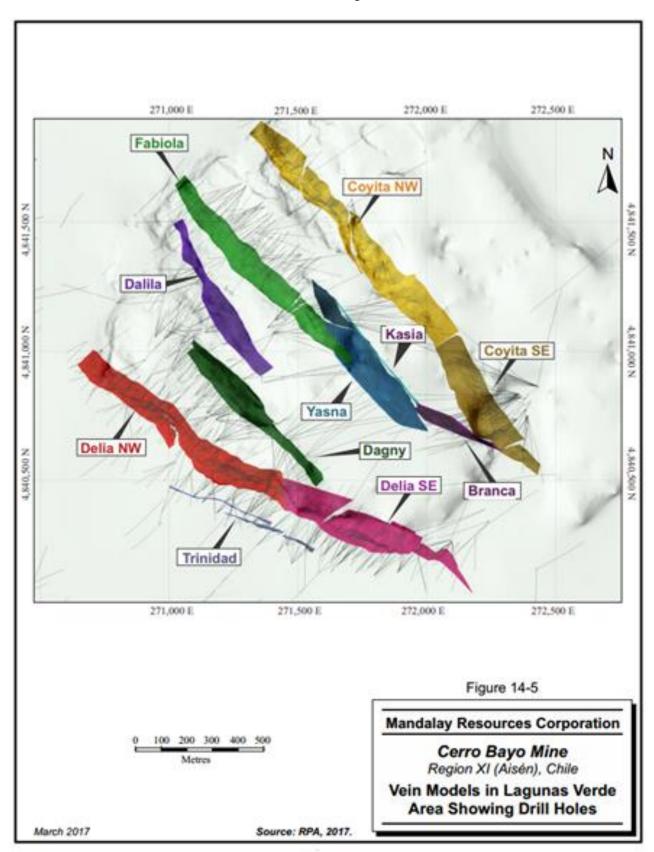
An acQuire Technology Solutions Pty. Ltd. ("acQuire") geologic data management system was implemented at Cerro Bayo in 2007-2008. As of late 2011, core logging is entered digitally into Geovectra's CVMapper logging software program. Since Mandalay assumed ownership of Minera Cerro Bayo, it has purchased its own Vulcan software and going forward, all Mineral Resource estimation will be 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:

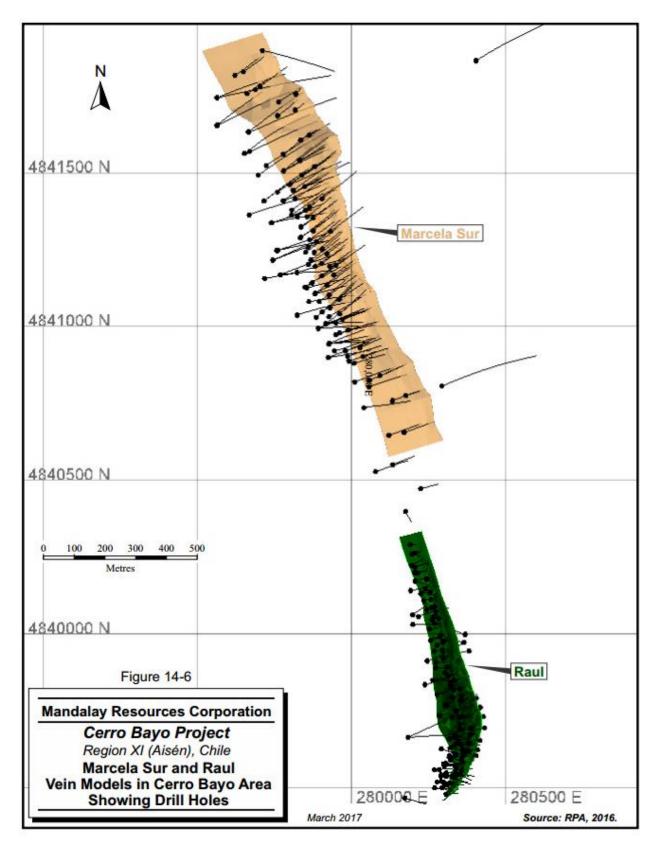
## Table: Drill Hole and Channel Sample Database, Cerro Bayo

Vein	No. of Drill Holes	No. of Core Samples	No. of Channels	No. of Channel Samples
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 gold and silver grades were estimated using an anisotropic Inverse Distance Cubed model and were validated by several methods, including by visual inspection and by 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 cutoff 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 resource estimation. The 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
Measured + Indicated	1,020	349	2.99	11,455	98
Inferred	543	206	2.49	3,592	43

Notes:

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 x 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  $2.63 \text{ t/m}^3$ .

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 width 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, life-of-mine costs derived from actual experience, and typical commercial terms for concentrate and including deductions for transport treatment, and refining costs this 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
Proven + Probable	979	282	2.29	8,864	72

Notes:

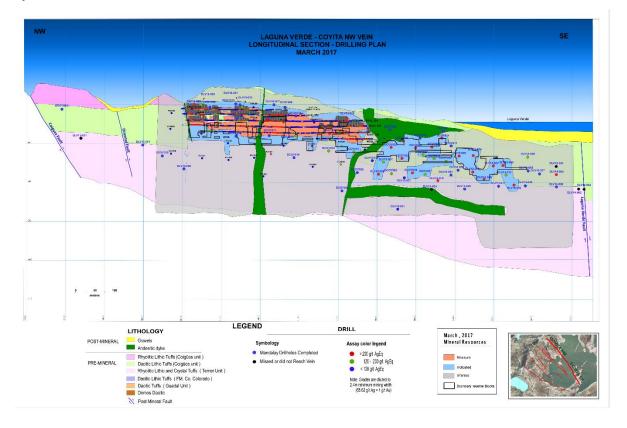
<sup>1.</sup> CIM definitions were followed for Mineral Resources.

<sup>1.</sup> CIM definitions were followed for Mineral Reserves.

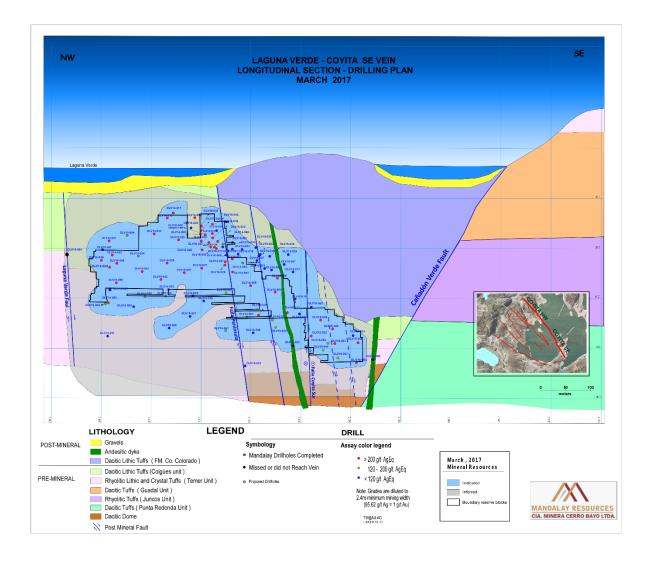
- 2. Mineral Reserves are estimated at a cut-off grade of 219 g/t silver equivalent (AgEq). AgEq is calculated using the formula AgEq= Ag + (Au x 66.44) where Ag and Au are in grams per tonne. Metal prices for determining cut-off grades were US\$1,200/oz Au and \$18/oz Ag.
- 3. Veins are diluted to 2.4 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.

Longitudinal sections relating drill intercepts, mine samples, 2010-2016 stoping, and the new resources and reserves, appear below:

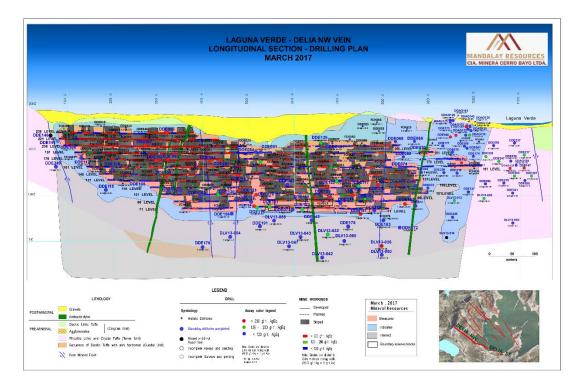
## Coyita NW vein



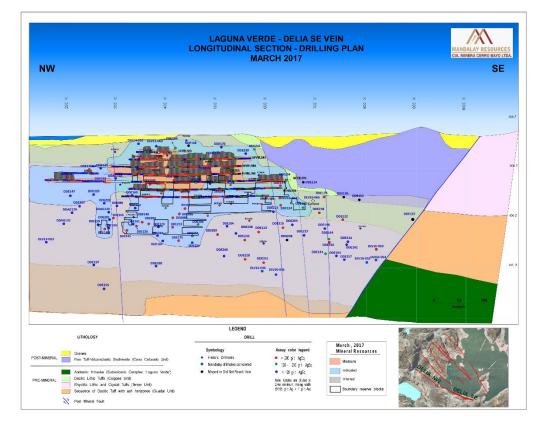
# Coyita SE Vein



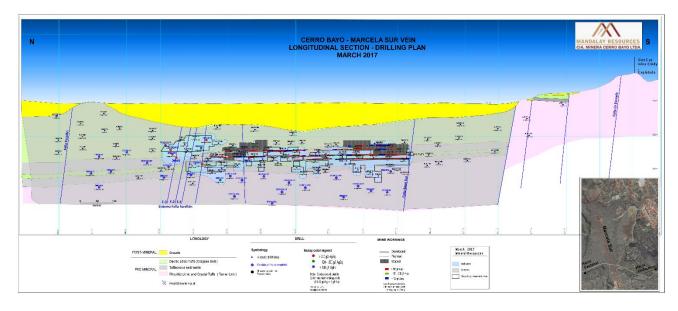
#### Delia NW vein



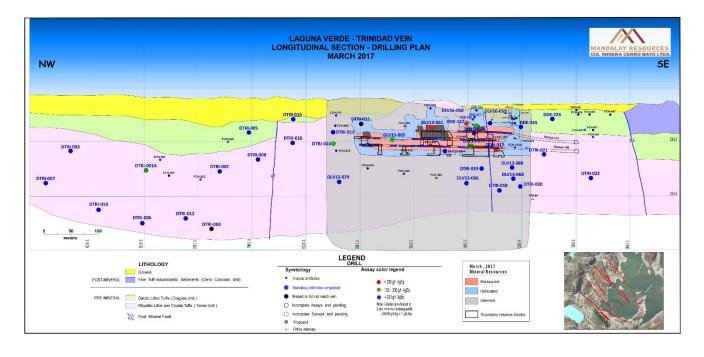
## Delia SE vein



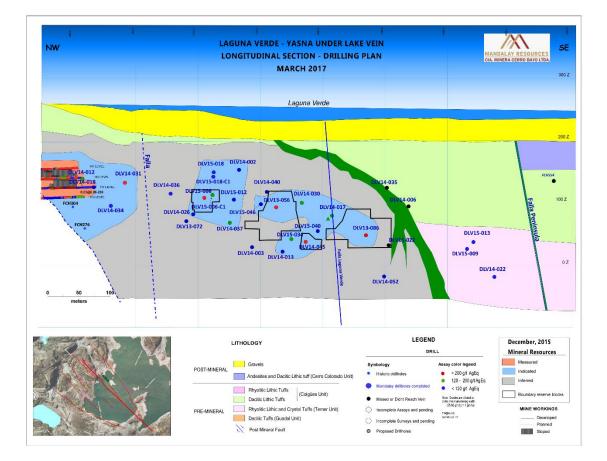
#### Marcela Sur vein



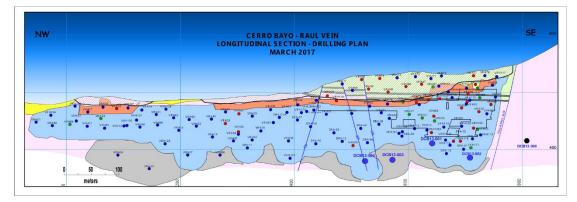
# Trinidad vein

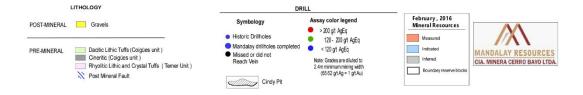


#### Yasna vein

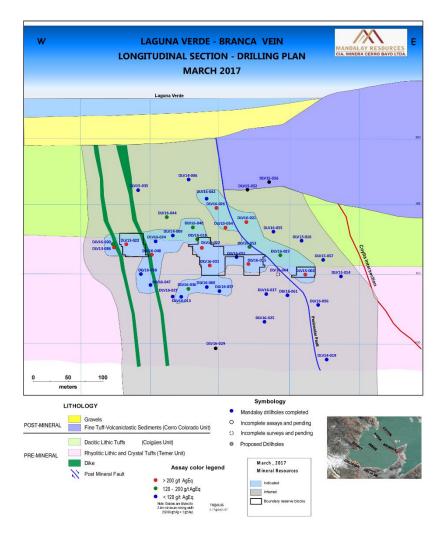


#### Raul vein





#### Branca vein



#### **Mining Operations**

Coeur mined from open pits in the Laguna Verde area from 1995 to 2000, when it ran out of open pit ore. It curtailed production through 2002, during which time it discovered and developed underground mines on veins adjacent to Cerro Bayo. Underground mining, using a combination of shrinkage stoping and longhole open stoping methods, continued through October, 2008, when the operations were again put on care and maintenance due to the downturn in the economy and lack of developed ore. Near the end of that period of underground mining, discovery of blind ore shoots in the Dagny and Fabiola veins in the Laguna Verde area caused Coeur to commence development of mines there, but operations ceased before significant ore faces were developed. Coeur continued to explore near those veins after operations ceased and discovered the Delia NW and SE vein. Together with remnants of the Marcela vein ore shoot in the Cerro Bayo area, Dagny, Fabiola, and Delia NW formed the core of the base case mine plan on which the acquisition of Cerro Bayo was justified and reserves declared.

The Mandalay reserves update as of December 31, 2011, increased reserves on Dagny, Fabiola, and Delia NW as well as converted resources to reserves on Yasna, Bianca, and Delia SE veins. The life-of-mine was increased from approximately three years in the 2010 plan to approximately six years. The reserves update as of December 31, 2012, added Mineral Reserves on Dalila and Coyita for the first time and maintained the approximately six-year mine life.

The reserves updated as of December 31, 2013, added Mineral Reserves on Raul and Trinidad for the first time, and maintained the approximately six-year mine life.

The reserve updated as of December 31, 2014, replaced mined depletion to maintain the mine life of approximately six years.

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

The Mineral Reserve updated as of December 31, 2016 shows a mine life of approximately three years based on the LOM plan.

#### 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 about 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 1,300 tpd to 1,400 tpd through 2015. The current life-of-mine plan from the Cerro Bayo Technical Report shows approximately 3 years of production, with Delia SE, Coyita, Raul and Marcela Sur coming on-stream after Dagny and Fabiola diminish.

The basic design of each mine is similar. Each is accessed by a single  $4 \text{ m x } 4.5 \text{ m spiral ramp with a ventilation/secondary escape raise of <math>3 \text{ m x } 3 \text{ m}$ . 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 hanging wall 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 WEMC O 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 about 1,400 tpd. Therefore, there is substantial spare capacity available in the plant in the event that exploration discovers additional 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, silver recovery has improved by approximately 2% for both Au and Ag.

#### Markets

Minera Cerro Bayo has concentrate sale agreements for the sale of concentrate in 2017 with Dowa Metals and Mining Co., Ltd., and Pan Pacific Copper Co., Ltd., all in Japan and LS Nikko Copper Inc., in Korea. The terms and conditions of commercial sale are not disclosed pursuant to confidentiality requirements.

#### Contracts

From 2010 to 2016, underground mining was carried out solely by Minera Cerro Bayo personnel. In mid-2016 however, the Company hired underground mining contractor "Constructora Gardilicic" to complete 3,671 m of underground development by June 2017.

The Company has contracts with various other suppliers and services providers including; Orica (Explosives), Atlas Copco (drilling consumables), SODEXO (food services), ICA S.A. (ore haulage), Sotraser Limitada (personnel transport) and Empresa de Maquinarias y Equipos Raul Vernal O E.I.R.L (concentrate haulage).

CMCB has a collective bargaining agreement with the Sindicato de Trabajadores de Compañía Minera Cerro Bayo Ltda. The collective bargaining agreement was signed on June 25, 2015, and is in effect until June 24, 2017. CMCB has also negotiated a collective bargaining agreement with the Sindicato de Trabajadores Planta y Afines de Compañia Minera Cerro Bayo Ltda., effective from June 25, 2015 to June 24, 2018.

#### 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.

#### Taxes

A Chilean company's profit is subject to a 24% first category tax in 2016. The Corporation currently does not have any carry-forward tax losses.

## Capital Costs

For the LOM plan, the expected capital investment totals approximately US\$65 million, including US\$12 million for mine equipment and rebuilds, US\$36 million in mine development, US\$12 million in closure costs, and a contingency of US\$5 million.

#### **Operating Costs**

For the life-of-mine economic test model, the operating costs used are \$59.38/t for mining, \$21.84/t for processing and \$15.10/t for general and administration. These are based on actual costs for the 2016 year.

## Table: Cerro Bayo Operation – Operating Cost Estimate

	Avg. US\$/Yr. (millions)	US\$/t processed
Mining	18.3	59.38
Processing	6.7	21.84
General and Administration	4.7	15.10
Total	29.7	96.32

Numbers may not add due to rounding

#### 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 planned beyond current production rates. 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**

For 2017, Mandalay anticipates producing at a matched rate of 950-1,000 tpd and accelerating development rate at Coyita to reach high-grade ore.

The exploration goals for 2017 are to replace depletion and add reserves from drilling under the middle of Laguna Verde for potential increases at Coyita, Branca, and Yasna Inflection Zone, and to test blue-sky targets for potentially economic mineralization, to be followed up by more drilling if positive.

#### 6.14 Mineral Project – Björkdal

Information referenced in this section referring to Björkdal is based on the Björkdal Technical Report dated January 16, 2017..

## **Property Location**

The Björkdal property is located approximately 40 km by road northwest of the municipality of Skellefteå (population of 72,000) in Northern Sweden and is accessible via Swedish National Route 95 or European highway route E 4 and all-weather paved roads.

## Ownership

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

## **Granted Tenement Details**

Björkdal consists of six mining concessions, owned by Björkdalsgruvan AB, and 18 exploration permits, owned by Björkdal Exploration AB, as listed in the following tables:

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
Total	202.7759	

Permit Name	Area (ha)	Expiry Date
Björkdal nr 26	978.80	February 7, 2019
Björkdal nr 10	712.64	December 18, 2017
Björkdal nr 25	967.70	May 9, 2020
Björkdal nr 19	225.00	October 18, 2017
Björkdal nr 21	135.48	October 18, 2017
Björkdal nr 28	57.10	October 14, 2017
Björkdal nr 31	578.56	November 7, 2017
Lillträsket nr 2	246.97	October 14, 2017
Norrberget nr 200	50.00	March 25, 2018
Norrberget nr 300	37.50	May 23, 2017
Norrberget nr 400	87.62	October 01, 2018
Vidmyran nr 100	1,197.50	March 10, 2017
Olofsberg nr 101	42.70	February 15, 2019
Björkdal nr 29	1,073.89	November 30, 2016
Björkdal nr 30	64.03	February 23, 2017
Björkdal nr 32	2,219.60	October 27, 2018
Sandfors nr 101	3,267.82	June 9, 2018
Vorsberget nr 1	804.73	May 25, 2018
Total	12,747.58	

## **Exploration Permits**

An application for the renewal of exploration permit Björkdal nr 29 has been submitted to the relevant authority. Mandalay has met all of the required milestones in respect of the renewal of this permit and anticipates that it will be renewed in due course.

## Permitting

All operations are fully permitted in accordance with Swedish environmental and health & safety legislation. The latest mining permit M25-10 was issued on June 24, 2010, and is in good standing. Under Swedish law there is no time limit on the permit but the government may make adjustments as required to meet any regulatory changes.

The existing environmental permit will expire when the planned capacity of the tailings management facility ("TMF") is reached in the third quarter of 2020. The renewal of this permit is understood to be a three-year process. The application process commenced in late 2015. In 2016, preliminary design studies were carried out and consultations were held with local community groups. Mandalay will submit this application to the Environment Court in the first quarter of 2017 and expects approval to occur in the first quarter of 2019.

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, half is recycled from the tailings facility. Water used at the mine site for purposes other than the processing plant is sourced from dug wells.

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

Permits	Valid from Date	Valid to Date	Туре
MD 25-10	2010-06-24	2019-01-01	Environment permit
VD DVA 9/87	1987-05-26	No expiry date	Water-use permit
SK 28-3770.	2014-02-24	No expiry date	Environment permit
SK 2008-3770	2013-05-13	No expiry date	Environment permit

## Mandalay Resources – Björkdal Gold Mine Permits

# 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 mineral 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 as well as the Olofsberg nr 101 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 in the amount of \$2,426,539. 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.

## Local Resources and Infrastructure

#### Power

The power supply for the site is provided by Skellefteå Kraft AB. The electricity is sourced from relatively 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 pump station located at the water treatment plant returns water from the tailings management facility. In the summer months, approximately 55% of the process water is recycled from the tailings

system and the remaining 45% is drawn from the Kåge River. In the winter time, due to freezing and precipitation in form of snow, the water balance is the opposite.

At present, the Björkdal Mine is diverting approximately  $400,000 \text{ m}^3/\text{yr}$  of water from the underground and open pit mines to the tailings facility and this allows a 55:45 ratio to prevail throughout the year. The result is that less water is discharged from the tailings system and less fresh make-up water is required.

## **Buildings and Facilities**

Björkdal has all the facilities associated with a small 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, flotation, and gravity Au plant and flotation plant
- heavy equipment maintenance facility
- ancillary buildings for office, assay laboratories etc.
- 250 ha Tailings Management Facility
- 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, which have remaining capacities of approximately 26 million t and six million t respectively.

The tailings management facility is located in an area of gently undulating relief approximately 1.5 km north of the processing plant. Approximately 30 million t of tailings have been deposited since mining began at Björkdal in 1988.

The current permit for the Björkdal operation and the tailings management facility was received in June, 2010. The existing pond is permitted for a maximum capacity of 10 million m<sup>3</sup> or approximately 10 million dry metric tonnes ("**dmt**") of mill tailings.

As of December 1, 2016, it was estimated that the remaining permitted capacity available is approximately 4.9 million dmt. At the current LOM production rate, a new permitted facility will need to be commissioned during mid-2020. A permit may take up to three years to obtain from the court. In 2016, Björkdal staff had a formal meeting with the municipality of Skellefteå regarding future plans and are in the process of applying for a new permit for the period of 2019-2028. The application is planned to be submitted to the Environment Court in early 2017, and Björkdal expects to receive approvals for the expansion of the TMF in the first quarter of 2019.

## 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 E 4, all-weather paved roads. 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 quite 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 the mine 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

The Björkdal gold mine is situated in the north of Sweden within the northeastern areas of Västerbotten County, approximately 28 km northwest of the town Skellefteå. Geologically, the Skellefteå region consists of Paleoproterozoic-aged rocks that host several world-class volcanogenic massive sulphide (VMS) 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 Jorn 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

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 metasomotic styles include silicfication, 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 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 morphology predominantly consists of free gold. Gold mineralization is also associated with Bitelluride, 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.

#### 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 from the operation of the plant at the mine, fed by stockpiled material, open pit mining, and underground development operations, 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 Resources' work programs were not well documented. In general it appears that no significant regional exploration has taken place since the original Terra Mining ownership (ca, 1983-1999). Since the previously filed resource estimations (end-2014 for underground targets and end 2015 for open-pit targets), Mandalay Resources has conducted both underground and surface diamond-core and reverse circulation drilling, both within and near the active production areas, in addition to regional prospects. Total drilling metres since the last reported resource estimations (respective dates as noted above) was 38,709 m.

From the period since the last filed resource estimation (December, 2014), beginning January 2015, and ending August 2016, Mandalay Resources drilled a total of 28,500 m of exploration diamond-core at Björkdalsgruvan. This drilling has most recently focussed on eastward strike-extension of known vein systems (mostly in the Main, Central and Lake zones), and northwards targeting of new vein systems (Lake Zone north) proximal to the underground mine in order to generate Inferred and Indicated resources. Typically, a broader spaced drilling density generates Inferred resources, which are then converted to Indicated resources with infill drilling in order to gain the confidence required to upgrade the resource.

From the period beginning January 2015, ending August 2016, Mandalay Resources has drilled a total of 13,395 m of exploration diamond-core drilling, and 4,560 m of exploration reverse circulation (RC) drilling at Björkdalsgruvan. Similar to the underground exploration strategy, surface drilling was prioritised around the margins of the current open pit mine in order to generate Inferred and Indicated resources in the nearmine environment. The majority of this drilling took place in the vicinity of the Quartz-Mountain, East Pit, and Nylunds areas.

During the summer months of 2015, 2492 m of diamond-core drilling was undertaken around the greater Björkdal region in order to test a number of targets of both geochemical and structural origins. Two of these drill-holes intersected significant mineralisation; DDE2015-001 and DDE2015-008 in the Störheden and Morbacken areas. These areas are now of high exploration interest in the Björkdal area.

Target generation of 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 some geophysical characteristics indicative of mineralised rock-systems in the greater Björkdal exploration land package. It has been established that areas of significant mineralisation have detectable effects on both magnetic (ground magnetics) and electrical (chargeability) properties of the host-geology. As such, 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 prioritised and then systematically tested in the immediate future.

In 2016, the Corporation continued to focus exploration drilling on the extension and infilling of underground near mine material and open pit material, completing an updated Mineral Resources and Reserves estimate. The Corporation also completed infilling shallow mineralization at Rönnberget, approximately 4 kilometres east-southeast of the Björkdal Pit.

# Drilling

The cut-off date for the drill hole database used to prepare the 2016 Mineral Resource estimate was August 31, 2016. The following table summarizes the drilling carried out by Mandalay between 2014 and 2016:

		Underground		Ope	n Pit
Year	Drill Hole Type	Number of Drill Holes	Metres (m)	Number of Drill Holes	Metres (m)
2014	Core (In-fill)	19	1,614		
	RC			65	2,103
	Core	12	3,302	5	632
2015	Core (In-fill)	150	11,880		
	RC			439	13,959
	Core	58	14,151	56	9,145
2016*	Core (In-fill)	140	9,704		
	RC			306	14,554
	Core	40	7,693	14	2,433
Total		419	48,344	885	42,826

Note \* 2016 drilling includes drill holes completed to August 31, 2016.

After the August 31, 2016 cut-off date for the Björkdal Technical Report, the Company completed additional drilling, summarized below:

		Underground		Open Pit	
Year	Drill Hole Type	Number of Drill Holes	Metres (m)	Number of Drill Holes	Metres (m)
2016 (post-Aug 31)	Core (In-fill)	61	5,548	0	0
	RC	0	0	249	13,626
	Core	29	8,482	3	1,956
Total		90	14,030	252	15,582

Total exploration drilling completed at Bjorkdal for 2016 totaled 35,981 m.

# **Drilling Procedure**

#### Diamond Drilling

Since 2010, the underground drilling is on nominal 20 m spaced sections. Holes are generally aligned along the 330° azimuth drill sections.

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 Finish drilling contractors Styrud Arctic AB and Arctic Drilling Company OY. 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 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). Beginning in 2013, in-fill underground diamond drilling programs using WL46 drill string (28.8 mm diameter core) were implemented. A Sandvik model 110 conventional rig was modified for wireline drilling and was operated by one driller on one shift, four days per week, producing 20 m per shift. As of August 2016, this rig is being operated as a single shift, seven days a week, every other week. In March 2016, an Atlas Copco model Diamec U4 data rig was purchased. The rig is operated by two drillers working single shifts using a WL56/39 drill string (39.0 mm diameter core). They work seven days a week, producing 25 m per shift. As of September 2016, a third shift has been added to this rig. This rig is primarily used for development optimization.

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

# RC Drilling

RC drilling has been utilized for grade control in the open pit since 2010 to define the gold bearing quartz veins which can vary in scale from one centimetre to greater than one metre.

The standard drill pattern is a 7.5 m by 15 m by 18 m grid where holes are planned to intersect perpendicular to the quartz vein orientation. The number of planned drill holes also depends upon the frequency of historical drill holes.

Drilling is performed by drill contractors utilizing five inch (12.7 cm) diameter drill bits. Drill cuttings are sampled every one metre via a cyclone. RC drilling is conducted as much as possible in the summer months to reduce any possible build-up or contamination in the cyclone due to frigid winter conditions.

#### Sampling and Analysis

Assaying of Björkdal's samples was completed at CRS Minlab Oy (CRS), an ISO 9001:2008 certified company located in Kempele, Finland and ALS Minerals, an independent, ISO-accredited laboratory located in Piteå, Sweden, located approximately 90 km north of Björkdal. Whole core samples were sent directly to the laboratories for sample preparation and assaying. RC samples were prepared at the sample preparation laboratory (SPL) and then shipped for 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 who prepared the samples at the SPL. The on-site laboratory with a PAL1000 unit that is run by CRS was established in June 2016. 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.

# **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 the access by persons not authorized.

Commercial freight companies are used to transport the 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 the Björkdal Mine 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 during 2015 and January to September 2016 were included in the QA/QC program.

# Mineral Resources and Reserves

Since the completion of the 2014 Mineral Resource estimate, Mandalay has been carrying out in-fill drilling programs in both the open pit and underground mines. These drilling programs have added a total of 608 additional diamond drill holes and RC drill holes that together total approximately 65,462 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. A total of 40 new vein wireframe models were created for the current Mineral Resource estimate. In total, 315 mineralized wireframe models were created for the underground mine and 327 wireframe models were created for the open pit mine.

Mandalay built individual mineralized wireframes and block models 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 metres, and the underground wireframes were based on a nominal two metres minimum width at a cut-off value of 0.5 g/t Au.

Separate cut-off grades were developed for reporting of the underground and open pit Mineral Resources. Each cut-off grade was developed using the January to September 2016 actual cost information along with a gold price of US\$1,400 per ounce. The cut-off grade for reporting of Mineral Resources was determined to be 0.90 g/t Au within the underground mine and 0.35 g/t Au for the open pit mine.

At a cut-off grade of 0.90 g/t Au, the Mineral Resources in the underground mine comprise 5.64 million tonnes at an average grade of 3.29 g/t Au containing 597,000 ounces of gold in the Indicated Mineral Resource category and 0.92 million tonnes at an average grade of 3.20 g/t Au containing 95,000 ounces of gold 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 4.26 million tonnes at an average grade of 1.99 g/t Au containing 273,000 ounces of gold in the Indicated Mineral Resource category and 2.64 million tonnes at an average grade of 1.19 g/t Au containing 101,000 ounces of gold in the Inferred Mineral Resource category.

These estimates, as shown in Table below, are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Category	Area	Tonnage (kt)	Grade (g/t Au)	Contained Au (koz)
Indicated Resources				
	Open Pit	4,258	1.99	273
	Underground	5,643	3.29	597
	Sub-total	9,900	2.73	870
	Stockpile	1,929	0.65	40
Total Indicated	Total Indicated		2.39	911
Inferred Resources				
	Open Pit	2,643	1.19	101
	Underground	920	3.20	95
Total Inferred	1	3,564	1.71	196

#### Table: Mineral Resources at Björkdal as of September 30, 2016, inclusive of Mineral Reserves

Notes:

- 1. Mineral Resources are estimated as at September 30, 2016.
- 2. CIM definitions were followed for Mineral Resources.
- 3. Mineral Resources are inclusive of Mineral Reserves.
- 4. Mineral Resources are estimated using an average Au price of \$1,400/oz and an exchange rate of 8.4 SEK/US\$.
- 5. Bulk density is  $2.74 \text{ t/m}^3$ .
- 6. Gold assays were capped to 30 g/t Au for open pit.
- 7. Gold assays underground were capped at 60 g/t Au for the first search pass and 40 g/t Au for subsequent passes.
- 8. Interpolation was by inverse distance cubed utilizing diamond drill, reverse circulation, and chip samples.
- 9. Open pit Mineral Resources are estimated at a cut-off grade of 0.35 g/t Au, constrained by a resource pit shell and the September 30, 2016 open pit digital terrain model.
- 10. Underground Mineral Resources are estimated at a cut-off grade of 0.90 g/t Au.
- 11. A nominal two metre minimum mining width was used to interpret veins using diamond drill, reverse circulation, and underground chip sampling.
- 12. Reported Mineral Resources are exclusive of previously mined underground development and stopes.
- 13. 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.

- 14. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- 15. Numbers may not add due to rounding

RPA classified the Mineral Resources as Indicated and Inferred based on drill hole spacing, grade continuity, and geologic criteria. 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 classed as Inferred.

Any blocks located above the marble contact were removed from the mineral resource classification.

The Mineral Reserves estimated by RPA, with an effective date of September 30, 2016, are listed in the table below.

The Mineral Reserve estimate for Björkdal is 10.78 million tonnes at a grade of 1.69 g/t Au, for a total of 586,000 ounces of contained gold.

The Corporation completed a complete refresh of the open pit and underground Reserves and Resources at Björkdal in 2016. This incorporated approximately a whole year of underground face sampling, results of intensive detailed production optimization drilling being performed to increase confidence in vein selection for development, and the results of all underground drilling performed in 2015.

#### Table: Mineral Reserves at Björkdal as of September 30, 2016

Category/Area	Area	Tonnage (kt)	Grade (g/t Au)	Contained Au (koz)		
Probable Reserves						
	Open pit	4,592	1.36	201		
	Underground	4,256	2.52	345		
	Stockpile	1,929	0.65	40		
Total Probable		10,778	1.69	586		

Notes:

3. Open Pit Mineral Reserves are based on mine designs carried out on an updated resource model, applying a block dilution of 75% at 0.2 g/t Au. A cut-off grade of 0.4 g/t Au was applied.

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 and adding 10% to development. Extraction was assessed at 95% for 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 Reserves 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 \$1,200/oz, and an exchange rate of 8.4 SEK/US\$.

7. Bulk density is 2.74 t/m<sup>3</sup>.

- 8. Tonnes and contained gold are rounded to the nearest thousand.
- 9. Numbers may not add due to rounding.

<sup>1.</sup> Mineral Reserves are estimated as of September 30, 2016.

<sup>2.</sup> CIM definitions were followed for Mineral Reserves.

# **Mining Operations**

#### **Open** Pit

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 out shell using the Deswick 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 finishes 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 the equipment size.

Benches are five metres high, and are taken in groups of five with a 12 m wide berm every 25 m. A  $75^{\circ}$  bench face angle is used to give an overall wall slope of  $53^{\circ}$ .

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 tonnes per year. Loading is carried out with a combination of front-end loaders and excavators. Trucks with 40 t and 63 t capacity are used for hauling ore and waste respectively. Production drilling is done by NCC (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 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 that are 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. The ore zones are also marked out 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 excavators.

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

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 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 Björkdal is long hole stoping with a sub-level spacing of approximately 20 m. Going forward, the sub-level spacing will be reduced to 15 m to assist with dilution control. Crosscuts are established perpendicular to the vein system and are located within approximately 20 m of the hanging wall at 20 m vertical intervals. Veins are then developed by drifting on each sublevel from the crosscut. All pre-production vein, cross-cut 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 lines using a burden of 1.5 m and retreating towards the hanging wall. The material is removed between blasts, which allows void for the following blast. Remotely operated scoops are used to muck the stopes nearby to re-handle areas.

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 hanging wall and footwall sides of the stope.

Mined out stopes are left open without any backfill.

# Markets

Björkdal had concentrate sale agreements for the sale of concentrate in 2016 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.
- Open Pit Drilling: NCC AB contract expires March 2017, Norrbottens Bergteknik AB to undertake the new contract from March 2017.
- 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: Styrud AB.
- 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 material mined underground.
- 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 conducted 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 six strategically placed monitoring stations. The Upper Lillträsk Creek station is located upstream of the mining area and provides reference water quality data; two stations on the mine property monitor discharge quality from the mine water system (PP1) and the TMF (PP2); and three additional stations located in Lower Lillträsk Creek, Kåge River, and Röjmyr Creek to monitor changes in the receiving watershed.

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 in the amount of \$2,426,539.

#### Taxes

The Corporation's profit is subject to the 22% Swedish tax rate. 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 summarises the capital costs for the project:

#### Table: Björkdal Capital Cost Summary

Description	Value (US\$ '000)	
Sustaining Capital Fixed Assets	24,286	
Capital Development Underground	19,177	
Pre-Strip Open Pit	32,648	
Total Sustaining Capital	76,110	
Growth Capital Fixed Assets	4,869	
Total LOM Capital Expenditure	80,979	

#### **Operating Costs**

Björkdal maintains detailed and all-inclusive operating cost records that provide an excellent basis for estimating future operating costs. RPA has used Björkdal September 2016 year to date costs as the basis for this estimate.

All costs have been converted to US dollars using exchange rate assumptions of 8.4 SEK : 1.0 US\$.

# Table: Björkdal LOM Operating Costs

Description	LOM (US\$ '000)	Annual Average (US\$ '000)	Unit Cost (US\$/t proc)
Open Pit Mining	58,346	7,293	5.41
Underground Mining	114,010	14,251	10.58
Stockpiles	2,756	344	0.26
Processing	74,415	9,302	6.90
G&A	51,321	6,415	4.76
Total Operating Cost	300,848	37,606	27.91

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 this report.

#### **Exploration and Development**

For 2017, Mandalay anticipates continuing capital development to depth in the underground and pushbacks in the open pit to a sufficient degree to allow continuation of current production rates.

2016 exploration at Björkdal built on the substantially improved geological knowledge gained in 2015 about the geological setting and deportment of gold at district and mine scales. In 2016, the Corporation completed infill and extension drilling of existing undergound Inferred Mineral Resources in the Lake Zone, Central Zone, and Main Zone. For the open pit mine, the Corporation completed infilling previously Inferred Mineral Resources in the Björkdal East Pit and in the new Nylunds Pit. As well, the Corporation completed infilling shallow mineralization at Rönnberget, approximately 4 kilometres east-southeast of the Björkdal Pit, which it expects to convert to open pit reserves.

# 6.15 Mineral Projects – Challacollo

Unless otherwise stated, information referenced in this section referring to the Challacollo project is based on the Challacollo Technical Report.

# **Purchase of Project**

On February 7, 2014, Mandalay Resources completed the purchase of MSSC. Mandalay acquired all issued and outstanding shares of MSSC in consideration for: (i) a cash payment of \$7.5 million dollars; (ii) 12 million Common Shares; (iii) five million Common Shares to be issued at the end of the first quarter in which commencement of commercial production occurs at Challacollo; (iv) an aggregate cash payment equal to the equivalent of 240,000 troy oz of refined Ag, (payable in eight installments equal to the cash equivalent of 30,000 troy oz of refined silver per quarter); and (v) a 2% NSR on Ag sold or produced from Challacollo in excess of 36 million ounces with a cap or buyout of \$5 million.

# **Property Location**

Challacollo is located in Region I (Tarapaca), Chile, and is centred about 130 km southeast of the major port city of Iquique, Chile, at 20° 57'10" S latitude and 69° 21'20" W longitude.

# Ownership

Mineral rights at Challacollo are fully controlled by Mandalay Challacollo. Mandalay Challacollo has 98 exploration concessions (mensuras) which cover an area of approximately 203.78 km<sup>2</sup>. Annual payment of approximately \$80,000 is required for the maintenance of the concessions.

# Royalties

The property is subject to the following four capped royalties:

- 1. a 2% NSR royalty payable to Finning Chile S.A. capped at \$850,000 for production on the Codigo 32 concessions;
- 2. a 2% NSR royalty, that escalates to 3% after the Finning Chile S.A. royalty cap is reached, payable to Mineral Septentrion, of Chile with a buyout clause of \$1.5 million for production on the Codigo 32 concessions;
- 3. a 1% NSR royalty payable to Finning Chile S.A. capped at \$850,000 for production on the Codigo 83 concessions; and
- 4. a 2% Net Smelter Royalty payable to SSRI on Ag sold from the project in excess of 36 million oz, with a cap or buyout of \$5 million.

#### **Environmental Liabilities**

Challacollo is not listed as a historical site. Challacollo is listed, however, in the *Servicio Nacional de Geología y Minería* (SERNAGEOMIN) Register of Environmental Liabilities based on the hazards associated with open cuts, potential for wall collapse in the workings, and potential accidents from abandoned material. SERNAGEOMIN does not list any liabilities associated with water pollution, dust generation, dam rupture, or collapse of waste dumps.

#### Permitting, Requirements, and Status

# Status of Chilean Required Permits

Mandalay Challacollo has not yet submitted any permit applications for construction and/or production.

# Accessibility

Challacollo is accessed from the port city Iquique, Chile, which is the largest population centre in the vicinity and lies approximately 130 km to the northwest of Challacollo. It is served by daily flights from Chile's capital, Santiago, and is the regional centre for supplies and services. Challacollo is accessible by road from Iquique.

#### Climate

The Atacama Desert is one of the driest places on Earth. Precipitation is measured in millimetres per year and more often than not does not occur at all during the year. Desert vegetation is absent or sparse. Most vegetation occurs in water-accumulating basins or depends on water deposited from coastal fog, and includes some cacti (Eulychnia), perennials (Nolana), and mesquites (Prosopis). Animals and insects are generally small, commonly emerging nocturnally from below the surface to feed. The climate follows the typical desert norms of low humidity, few clouds, and large temperature differences between day and night. When rain occurs, it is generally related to thunderclouds that form in the Altiplano of the Andes. Very rarely, precipitation occurs as snow.

Mining and exploration is possible year-round.

# Topography

Challacollo is located in the Atacama Desert. The desert is a plateau strip of land parallel to the Pacific Ocean to the west of the Andes Mountains. The average elevation of the Atacama Desert is approximately 1,000 masl, with the Challacollo Mountains rising towards around 1,550 masl. The Challacollo Mountains are a rugged, north-south trending range.

# History

The recorded history of the Challacollo Mining District dates back to the eighteenth century when Enrique Espinoza recognized the silver deposit (Geografia Descriptiva de la Republica de Chile, 4a Edicion, 1897). The first mining concession was recorded in the vicinity of Challacollo in 1772. The San Gabriel vein was exploited that same year.

Gildemeister acquired all the known concessions in 1896 and continued industrial-scale mining with intermittent stoppages until 1931 when low silver prices precipitated a permanent shutdown. Between 1932 and 1980, the main zone of mineralization was mined by artisanal miners (pirquineros), with no legal title, until Gildemeister, reformed as Minera Challacollo in 1980, reasserted its legal claim and resumed industrial-scale mining into the early 1990s.

In 1993, Canada Tungsten Ltd. received an option to purchase agreement on 34 concessions but allowed it to lapse a year later.

Empresa Minera Mantos Blancos ("**Mantos Blancos**") subsequently negotiated an option to purchase Minera Challacollo between 1995 and 1996. Mantos Blancos conducted geological and geophysical studies and drilled approximately 3,000 m in 22 widely spaced reverse circulation (RC) holes in the northwest part of the project. Ten of these holes intersected the Lolón Vein, of which five were drilled in the central part of the vein between the Challacollo Sur portal and the Walkiria area. Three of these holes were used in a later resource estimate produced by SSRI (RPA, 2002). In December 1996, Mantos Blancos terminated its option with Minera Challacollo.

In 1998, Minera Challacollo sold its rights to Minera Septentrion (Septentrion), which divided the Property into two concession groups. The larger of the two blocks (Challacollo Sur Copper), which lies to the southeast, was optioned by BHP in 1999 to explore for copper porphyry potential. BHP drilled 21 RC holes, after which the property was returned to Septentrion. In 2001, Codelco optioned the southeast block and drilled over 20 RC drill holes in 2002, before terminating its option later that year.

SSRI optioned the northern block (Challacollo Silver) property from Septentrion in November, 2001, then purchased the property in 2005. Mandalay negotiated purchase of Challacollo from SSRI in 2013 and completed the purchase in February, 2014. SSRI conducted drilling programs in 2002, 2003, and 2007 and also carried out an underground chip sampling program.

# **Geology and Mineralization**

#### Geology

Challacollo covers the entire Challacollo Range. The Challacollo Range is a block tilted and uplifted by the process of the eastward-shifting Pacific (Nazca) Plate subducting beneath the more rapidly westward-shifting South American Plate.

Rocks within the Challacollo Range dip approximately  $25^{\circ}$  to the southeast and strike approximately N30°E. The beds steepen locally near vein-faults such as the Lolon Vein where dips increase to as much as  $50^{\circ}$ .

These vein-fault structures are generally parallel to the north-south trending normal faults that bracket the Challacollo Range.

There are two main structural elements that have influenced mineralization at Challacollo, one trending to the northwest and the other to the northeast. Both are regional-scale strike-slip (shear) faults. The stresses created by these structures have resulted in local stresses which have caused fracturing.

#### Challacollo Property Geology

The Challacollo Mountain Range is contained within the property. The eastward-shifting Pacific (Nazca) Plate is subducting the westward-shifting South American Plate. Most of the plains surrounding the Challacollo Range are covered with Quaternary mud-flows. A north-south normal range-front fault occurs on the west side of the Challacollo Range.

The oldest exposed rocks of the Challacollo district are in the northern part – a shallow marine sequence dated Jurassic as by fossils. These are conformably overlain by the Upper Cretaceous Cerro Challacollo Volcanic Complex. This unit comprises dacitic to rhyolitic volcanic rocks and volcaniclastic rocks. All of the above units were then intruded by Upper Cretaceous pyroxene monzodiorite/diorite granitoid stocks cut by younger andesite porphyry and quartz monzonite dikes.

The major controlling structures for mineralization are NE and NW-steeply dipping, normal faults - the Lolón, Palermo, Gladys 4, and Gladys 1 veins. These faults host the vein systems that comprise the Challacollo Ag deposits, generally trend about 030° and are sub-vertical. Hydrothermal alteration associated with the epithermal silver vein at Challacollo is weak. Silicification occurs locally and is only observed within the volcaniclastic tuffs and wackes north of Cerro Challacollo. Zones of quartz stockwork surround quartz veins which contain precious metal mineralization. Higher Ag grades are associated with zones of more intense stockwork. Only the Lolón vein has been subjected to significant exploration.

The Lolón vein system is hosted in various rock types along its more than 3 km strike length. The most productive parts of the vein are hosted in latitic-rhyolitic and dacitic rocks. The Lolón Structure is best described as a polymict breccia composed of multiphase rock fragments hosted in a rock flour matrix; all of which have been silicified. The breccia, which can reach up to 20 m in width, is in turn cut by later anastomosing banded quartz veins. The surrounding host rock typically exhibits stockwork quartz veining extending several meters into the wall rock.

The Challacollo Ag deposit is considered a low sulphidation, polymetallic epithermal vein system hosting significant Ag and Au.

Veins within the Lolón structure are composed of white to grey silica with massive white quartz and locally opaline/chalcedonic quartz. Brecciation of a sulphide-rich vein follows the hanging-wall and foot-wall with

sulphide content estimated to be 1-2%. There is a positive correlation between the value of the base metals (lead, zinc, and copper) and the precious metal content. Very little pyrite occurs within the vein system. The highest grade mineralization generally follows the foot-wall of the Lolón vein. Where the vein has split, higher silver values are found associated with rocks proximal to the foot-wall side of the split or the vein to the east, rather than those on the hanging-wall (western) side of the split.

In the Challacollo Sur workings, the Lolón structure is oxidized down to approximately 180 m below surface. However, between 40 and 180 m in depth, the vein is enriched with silver, which in part may represent primary zoning. Within 10 m of the surface, there is local intense leaching of the vein. In parts of the vein where the adjacent wall rock is fractured, elevated Ag grades are evident up to 4 m into the hanging-wall and/or foot-wall. Gold values decline more dramatically at the edge of the vein than silver values. The silver-gold ratio in the vein relative to the oxidation level is relatively constant. In the surrounding wall rock close to the vein, the silver-gold ratio is much higher.

# Mineralization

Four principal veins (Lolon, Palermo, Gladys 1, and Gladys 4) are known on the Property. The Lolon vein is the most significantly mineralized and has been exploited to a depth of 230 m from the Lolon shaft on the Challacollo Sur workings. This same structure has been mined to shallower depths in the Buenaventura, Catalina, Walkiria, San Francisco, and Humberto workings. The other veins on the property were drilled by Mantos Blancos in 1996 and supported some minor historical production.

The Lolon vein generally trends north-south to northeast-southwest from the San Francisco working at the southern end of the Property to the Humberto workings to the north. The section of the Lolon vein between the Challacollo Sur and the Humberto workings pinches and swells and trends generally north-south to north-northeast. The Lolon vein splits into two at locations along the structure and cuts the Lower Member of the Challacollo volcanic complex.

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

# Exploration

There is a long history of exploration on the Challacollo property. This section discusses the SSRI work that was used as the basis for design of the drilling program completed by MMC in 2014.

# Sampling

Surface and underground sampling was undertaken by SSRI in 2001 and resulted in approximately 1,100 samples.

Surface sampling was carried out in selected areas in order to check the widths of the Lolón vein beyond the stoped areas and to investigate mineralization along the strike to the north and south. Of the more than 200 surface samples taken, the majority were 5 m in length with some taken over 2 m in length.

The NI 43-101 Technical Report, done in March 2014, cites the following regarding results of this sampling program (Henricksen and Smith, 2001) observations made by Mining Plus from results of the sampling program (from Henricksen and Smith, 2002) included:

• the Lolón vein splits into two or more parallel veins within the Lolón vein "structure" which is mineralized for more than three km;

- Ag mineralization often continues into the adjacent host rock for 2 to 4 m on both sides of the veins; and
- historical miners often drifted through lower grade material to reach higher grade rock at the footwall and hanging-wall contacts.

Underground channel samples were surveyed by JRC Servicio de Ingeneria y Topographia of Iquique using tape and compass. The underground level plans were generated using this data. The assay results from the underground channel sampling were plotted on the level plans with limited underground geological mapping available. The underground sampling program confirmed the continuity of the Lolón Vein along drifts and crosscuts.

# Drilling

Overall, 185 diamond drill holes and reverse circulation holes totalling approximately 33,000 m in length have been drilled on the Challacollo property since 1995. In addition, 105 underground transverse channel samples were taken in 2011. A summary of the drill holes is shown below:

Year	Number of Drill Holes	Туре	Company Name	Length (m)
1995	6	RC	Minera Blancos	1,667
1996	16	RC	Minera Blancos	1,969
2002	7	DDH	Silver Standard	746
2002	16	RC	Codelco	3,985
2002	18	RC	Silver Standard	2,562
2003	32	RC	Silver Standard	5,685
2007	38	RC	Silver Standard	7,215
2014	52	DDH	Mandalay Resources	9,153
Total	185			32,982

Mandalay Challacollo conducted an extensive infill core drilling program in order to reclassify the previously estimated Inferred Resources into Indicated Resources. Forty-one holes were drilled as infill on the Lolón vein at a nominal spacing of 50 m, which was the standard for Indicated Resources in the previous resource estimate conducted by RPA and was supported by a review by MP. All infill holes were drilled at HQ (63.5 mm) diameter for the full length of the hole. Additionally, three metallurgical holes at PQ (85.9 mm) diameter were drilled to collect samples for metallurgical test work. Two metallurgical holes were drilled in the Main zone and one in the North zone of the Lolón vein.

The outcomes from the drilling program include:

- approximate definition of the lower boundary of +60 g/t Ag mineralization in the northern portion of the Lolón vein at the approximate 1,300 masl elevation;
- definition of the oxide, mixed and sulphide (progressing downwards from the surface) zones; and
- increased confidence in the continuity of the Ag mineralization of the Lolón vein along strike.

Minera Mandalay Challacollo Limitada also drilled eight holes to test other targets outside the Lolón vein, specifically the "Lucy 5 vein", "Millsite 2 vein", "Gladys 2 vein", and "Lolón sur 39 vein". Those holes intersected mineralized structures, but they did not contribute to this mineral resource estimate and are not the subject of this report.

#### **Sampling and Analysis**

For the 2014 drill program, all HQ core selected for assay was sawn in half with a diamond saw. Half of the sawn core was collected and bagged, while the other half was retained in the core boxes for future reference. Three holes DCHMT-01, DCHMT-02, DCHMT-03 were drilled to PQ diameter for metallurgical testing. The whole core from those holes was sent to the metallurgical laboratory for test work, meaning that no intact core from these three vein intercepts is in existence.

Sample lengths varied from 1 to 2.5 m due to variability in the Lolón vein width and some poorer recoveries obtained in the breccia zones. The sample length honoured the lithological contact of the Lolón vein and breccia zone which host the majority of the Ag mineralization. Standard reference material was inserted into the sample stream every 20 samples, and one blank sample was inserted amongst groups of samples expected to be of high grades.

Field sample duplicates (quarter core) were not collected due to the high degree of variation in Ag mineralization within the breccia matrix. The Lolón vein is composed of both vein and breccia material. Different sizes of rock breccia fragmentation occur in the core and the matrix of the breccia does not show visible symmetry.

MMC geologists logged the drill core in detail, designating intervals for assaying and then supervised the sawing and bagging of the core on site. The bagged samples for analyses were stapled shut and placed into nylon woven bags. The nylon bags with were transported to the ALS laboratory in Antofagasta, Chile, where standard reference material and blank samples were inserted into the sample stream. All remaining core has been stored in a secured on site location.

#### **Data Verification**

In Mining Plus' opinion, the drilling and underground sampling data are reasonable and acceptable to support the resource estimate.

# Mineral Resources at Challacollo

The mineral resource estimate was conducted for Ag, Au, Pb, and zinc ("**Zn**"). The primary economic elements are Ag and Au. Pb and Zn are accessory elements occurring with the Ag mineralization and are not considered to have any economic value. The resource estimate was conducted for the purpose of future underground mining using a cyanide leaching mineral process to recover the Ag and Au. The resource estimate was completed using Geovia Surpac version 6.6 software.

Interpreted Lolón vein boundaries were digitized on the computer screen for each cross section. The digitized boundaries were snapped on the cross sections to the drill hole samples greater than or equal to 60 g/t Ag with some exceptions.

Basic statistical analyses were conducted to develop information on sample length. All samples within the solid model representing the geometry of the Ag mineralization, at a cut-off grade 60 g/t Ag, were plotted on the histogram for sample length.

Composite Ag grades were not capped and Au grades were capped at a value of 3 g/t. The grade estimate was conducted using ordinary kriging.

The mineral resource estimate for the Lolón vein deposit was estimated with a focus on underground mining and cyanide leach mineral processing to extract the metals. The resources were classified as indicated and inferred. No measured resources were assigned. The mineral resource is reported at a cut-off grade of 60

g/t Ag, which assumes long term metal prices of \$1,400/oz Au and \$24/oz Ag. At this cut-off grade, good continuity of the silver mineralization is demonstrated. The interpretation of the deposit geometry and its solid model was generated for that cut-off. Some amount of internal and edge waste is included in the resource estimate because it was not possible to separate during the interpretation and modelling.

Indicated Mineral Resources total 4.7 million t averaging 200 g/t Ag and 0.32 g/t Au and contain 30.2 million oz Ag and 48,400 oz Au. Inferred Mineral Resources total 1.6 million tonnes averaging 134 g/t Ag and 0.31 g/t Au and contain 6.9 million oz Ag and 15,900 oz Au. The effective date of the Challacollo Mineral Resource estimate is December 31, 2014.

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

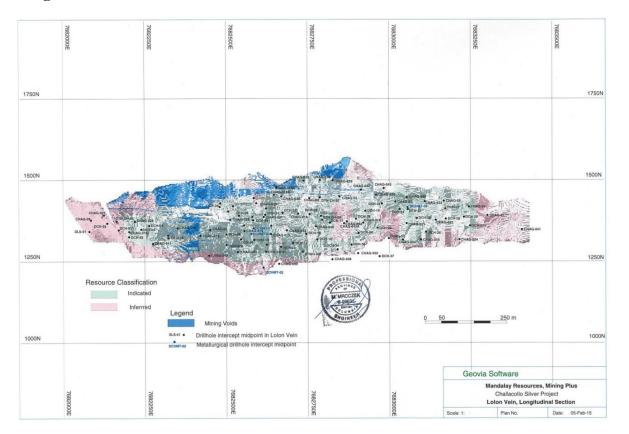
Table: Mineral Resources of the Challacollo Property as of December 31, 2016

Classification	Tonnes (t)	Ag (g/t)	(Au) g/t	Contained Ag (oz)	Contained Au (oz)
Indicated	4,700,000	200	0.32	30,200,000	48,400
Inferred	1,600,000	134	0.31	6,900,000	15,900

Notes to Mineral Resource table:

- 1. Mineral Resources estimated as of December 31, 2014.
- 2. Mineral Resources stated according to CIM guidelines.
- 3. Mineral Resources are estimated at a cut-off grade of 60 g/t Ag as interpreted and modelled using Geovia Surpac software.
- 4. A density of 2.45 g/cm<sup>3</sup> is used as a base density with adjustments according to the variation of the estimated Ba, Pb, and Zn grades.
- 5. No capping of Ag grades has been applied due to low grade variability. Au grades have been capped at 3 g/t for two sample composites 4.57 g/t Au and 4.11 g/t Au respectively.

#### Long Section of the Lolon Vein Resources



#### 6.16 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, 2015 and 2016, all available on SEDAR at 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, 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.

#### 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, recent 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 operations in Chile. As a result of such revisions to the permitting process only recently coming into effect, few companies, if any, have completed the permitting process under the revised procedure. The Corporation has less clarity with respect to the permitting process than would have been the case had the permitting process not changed.

#### 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, 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, 2015, 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 9 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 "General Development of the Business – Three Year History – 2014"). 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.

# 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 to confirm 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 just behind Ontario and Nova Scotia and ahead of British Columbia 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.

Although the Corporation expects to continue paying quarterly cash dividends, the timing and the amount of the dividends to be paid by the Corporation will be reviewed by the Mandalay Board quarterly based upon, among other things, cash flow, the results of operations and financial condition of the Corporation and its subsidiaries, the need for funds to finance ongoing operations, compliance with credit agreements and other instruments, and such other considerations as the Mandalay Board considers relevant.

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

Dividends Paid	2016	2015	2014
Per Common Share (\$)	0.0362	0.0403	0.0295
In aggregate (\$)	11,873,000	12,871,000	9,465,906

# 9. CAPITAL STRUCTURE

# **Common Shares**

The authorized capital of Mandalay is an unlimited number of Common Shares, of which 451,174,008 were issued as at March 31, 2017. 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.

# **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 6, 2014. 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 CDN\$	Number of Options	Expiry Date
Mar 23, 2016	0.91	4,928,000	Mar 23, 2021
Mar 24, 2015	0.91	4,290,000	Mar 24, 2020
Nov 6, 2014	0.93	20,000	Nov 6, 2019
Mar 24, 2014	0.98	3,800,000	Mar 24, 2019
Mar 18, 2013	1.13	3,490,000	Mar 18, 2018

For additional information on the Stock Option Plan, see the Corporation's management information circular dated April 4, 2014, on the Corporation's SEDAR profile. The total number of outstanding options as at March 31, 2017, is 16,528,000.

# Share Purchase Warrants

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

# **Rights Plan**

The Corporation established the Rights Plan effective as of April 13, 2015.

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. 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 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 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 and the 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 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 60th day following the date of the bid 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 takeover 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 of such Permitted Bid that satisfies all of the provisions of a Permitted Bid, except that it must remain open for acceptance until at least the later of (i) 35 days after the date of the bid, and (ii) 60 days after the earliest date on which another Permitted Bid then in existence was made, 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.

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# 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 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 13, 2015, 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 2016 is set out below.

Month	High CDN(\$)	Low CDN(\$)	Close CDN(\$)	Total Monthly Volume
Jan-16	0.78	0.62	0.78	8,156,281
Feb-16	0.90	0.74	0.90	6,553,596
Mar-16	0.91	0.85	0.89	6,028,337
Apr-16	1.13	0.87	1.13	19,174,039
May-16	1.10	1.02	1.02	11,446,815
Jun-16	1.20	0.99	1.19	4,494,469
Jul-16	1.33	1.13	1.13	11,480,862
Aug-16	1.19	1.08	1.10	9,775,593
Sep-16	1.14	1.00	1.00	8,109,796
Oct-16	1.06	0.90	1.00	6,091,610
Nov-16	0.97	0.67	0.67	9,844,157
Dec-16	0.81	0.69	0.80	11,119,235

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

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 (1)(2)	Director/Officer Since
Abraham Jonker <sup>(3)(6)</sup> British Columbia, Canada	Lead Independent Director	Corporate Director	August 2010
Bradford A. Mills <sup>(5)</sup> London, United Kingdom	Chair	Chair of the Board of Directors of the Corporation <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 Exec VP, Century Global Commodities Corporation <sup>(8)</sup>	Director: August 2010
Amy Freedman <sup>(3)</sup> Ontario, Canada	Director	Chief Executive Officer, Kingsdale Shareholder Services <sup>(9)</sup>	Director: May 2016
Mark Sander Pennsylvania, United States	President, Chief Executive Officer and Director	President and Chief Executive Officer of the Corporation <sup>(10)</sup>	Officer: December 2009 Director: March 2016
Sanjay Swarup <sup>(11)</sup> Twickenham, United Kingdom	Chief Financial Officer	Chief Financial Officer of the Corporation	Officer: December 2009 Director: April 2010 to 23 <sup>rd</sup> March 2016
Dominic Duffy Ontario, Canada	Chief Operating Officer	Chief Operating Officer of the Corporation	March 2013
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, Corporate Affairs and Corporate Secretary	Corporate Secretary of the Corporation	Corporate Secretary: March 2017

Notes:

<sup>1.</sup> The information in this table is supplied by the directors and officers of the Corporation.

<sup>2.</sup> The information provided reflects the principal occupation of the individual over the preceding five years.

<sup>3.</sup> Member of the Corporation's audit committee (the "Audit Committee").

- 4. Member of Compensation, Corporate Governance and Nominating Committee.
- 5. Member of Safety, Health and Environmental Committee.
- 6. Abraham Jonker was appointed Lead Independent Director on March 23, 2016
- 7. Brad Mills transitioned from Executive Chairman of the Corporation to Chair of the Board of Directors on March 27, 2017.
- 8. Peter Rhys Jones was appointed as Executive Vice President, Century Global Commodities Corporation on December 12, 2013 on a parttime basis.
- 9. Amy Freedman was promoted from President, Canada to the role of Chief Executive Office, Kingsdale Advisors and Wes Hall on January 10, 2017.
- 10. Mark Sander transitioned from President of the Corporation to President and Chief Executive Officer on March 23, 2016.
- 11. Sanjay Swarup resigned as a director on March 23, 2016.
- 12. Belinda Labatte transitioned from Head of Stakeholder Engagement and Corproate 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 31, 2017, the directors and executive officers of the Corporation, as a group, beneficially owned, or controlled or directed, directly or indirectly, approximately 30,831,191 Common Shares, representing approximately 6.83% 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 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 voluntary 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.

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.

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#### **Robert Doyle**

Mr. Doyle has over 30 years of experience in all facets of international resource exploration, development and production. Mr. Doyle is a director of Golden Star Resources Ltd. and Detour Gold Corp. He was Chief Executive Officer of Medoro Resources Limited, until October, 2009, 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 Board of Directors of Mandalay Resources Corp (MND: TSX). Mr. Jonker is also a member of the Board of Directors of Golden Reign Resources. 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 2016 and 2015 were as follows:

	2016 (CDN\$)	2015 (CDN\$)
Audit Fees	\$646,000	\$631,000
Tax Fees	\$225,000	\$89,000
Due Diligence	\$0	\$35,000
All Other Fees	\$89,000	\$90,000
Total Fees	\$960,000	\$845,000

1. "Audit Fees" include assurance and related services related to the performance of the audit or review of financial statements.

2. "Tax Fees" include tax compliance, tax advice and tax planning.

3. "All Other Fees" include various non-audit services.

# 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, since January 1, 2015, 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**"), there are no contracts which are regarded as material and which were entered into by the Corporation within fiscal 2016 or before fiscal 2016 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, 2016.

Deloitte LLP is the auditor of Mandalay and is independent within the meaning of the Rules of Professional Conduct of the Institute of Chartered Accountants of British Columbia.

The Cerro Bayo Technical Report was prepared by Roscoe Postle Associates Inc., authored by Normand 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 Costerfield Report, dated March 17, 2017, was prepared by SRK Consulting (Australasia) Pty Ltd., authored by Peter Fairfield, Principal Consultant (Project Evaluation), BEng (Mining), FAusIMM (No: 106754); Simon Walsh, BSc (Extractive Metallurgy), MBA Hons, MAusIMM, CP, GAICD; and Danny Kentwell, MSc Mathematics and Planning (Geostatistics), FAusIMM, all independent Qualified Persons under NI 43- 101, and filed on March 31, 2017.

The Björkdal Technical Report was prepared by RPA and authored by Reno Pressacco, M.Sc.(A)., (P. Geo)., Jason Cox (P.Eng.), David Robson (P.Eng), Ian Weir (P.Eng), and and Kathleen Ann Altman (P.E.), all independent Qualified Persons under NI 43-101, and filed on January 27, 2017.

The Challacollo Technical Report was prepared by Mining Plus, authored by Marek Mroczek, P.Eng.; Michael Collins, P.Geo.; Sean P. Butler, P.Geo.; and Juan Carlos Tapia, all independent Qualified Persons under NI 43-101, and filed on March 31, 2015.

# **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, 2016 and management information circular dated April 15, 2016, 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 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 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 quarterly and 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

<sup>&</sup>lt;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.

# The Audit Process, Financial Statements and Related Disclosure

The Audit Committee shall:

• Meet with senior management and/or the independent auditor to review and discuss,

 $<sup>^2</sup>$  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.

- 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 those statements and 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,
- o 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,
- o the use of "pro forma" or "adjusted" non-GAAP or non-IFRS, as applicable information,
- o 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 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.