

**ORVANA**  
MINERALS CORP.

**ORVANA MINERALS CORP.**

**ANNUAL INFORMATION FORM**

**FOR FISCAL YEAR ENDED SEPTEMBER 30, 2013**

**December 19, 2013**

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## FORWARD-LOOKING STATEMENTS DISCLAIMER

Certain statements in this Annual Information Form (“AIF”) constitute forward-looking statements or forward-looking information within the meaning of applicable securities laws (“forward-looking statements”). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, potentials, future events or performance (often, but not always, using words or phrases such as “believes”, “expects” “plans”, “estimates” or “intends” or stating that certain actions, events or results “may”, “could”, “would”, “might”, “will” or “are projected to” be taken or achieved) are not statements of historical fact, but are forward-looking statements.

Forward-looking statements relate to, among other things, all aspects of the development of the El Valle-Boinás Mine (the “Boinás Mine”) and Carlés Mine (collectively with the Boinás Mine “EVBC” or the “EVBC Mines”) in Spain, the Don Mario Upper Mineralized Zone Mine (the “UMZ Mine”) in Bolivia, and the Copperwood project (the “Copperwood Project”) in Michigan and their potential operations and production; the outcome and timing of decisions with respect to whether and how to proceed with such development and production; the timing and outcome of any such development and production; estimates of future capital expenditures; estimates for the timing of completion and cost of projects such as the repair and upgrade of the EVBC Mines’ hoist; mineral resource and mineral reserve estimates; estimates of permitting time lines; statements and information regarding future feasibility studies and their results; production forecasts; future transactions; future gold, copper and silver prices; the ability to achieve additional growth and geographic diversification; future production costs; future financial performance, including the ability to increase cash flow and profits; future financing requirements; and mine development plans. Among other places, forward-looking statements are included in the section of this AIF headed “Description of the Business - Outlook”.

Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the date of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies. The estimates and assumptions of the Company contained or incorporated by reference in this AIF, which may prove to be incorrect, include, but are not limited to, the various assumptions set forth herein or as otherwise expressly incorporated herein by reference as well as: there being no significant disruptions affecting operations, whether due to labour disruptions, supply disruptions, power disruptions, damage to equipment or otherwise; permitting, development, operations, expansion and acquisitions at the EVBC Mines, the UMZ Mine and the Copperwood Project being consistent with the Company’s current expectations; political developments in any jurisdiction in which the Company operates being consistent with its current expectations; certain price assumptions for gold, copper and silver; prices for key supplies being approximately consistent with current levels; production and cost of sales forecasts meeting expectations; the accuracy of the Company’s current mineral reserve and mineral resource estimates; and labour and materials costs increasing on a basis consistent with Orvana’s current expectations.

A variety of inherent risks, uncertainties and factors, many of which are beyond the Company’s control, affect the operations, performance and results of the Company and its business, and could cause actual events or results to differ materially from estimated or anticipated events or results expressed or implied by forward-looking statements. Some of these risks, uncertainties and factors include fluctuations in the price of gold, silver and copper; the need to recalculate estimates of resources based on actual production experience; the failure to achieve production estimates; variations in the grade of ore mined; variations in the cost of operations; the availability of qualified personnel; the Company’s ability to obtain and maintain all necessary regulatory approvals and licenses; risks generally associated with mineral exploration and development, including the Company’s ability to develop the EVBC and UMZ Mines and the Copperwood Project; the Company’s ability to acquire and develop mineral properties and to successfully integrate such acquisitions; the Company’s ability to obtain financing when required on terms that are acceptable to the Company; challenges to the Company’s interests in its property and mineral rights; current, pending and proposed legislative or regulatory developments or changes in political, social or economic conditions; and general economic conditions worldwide. This list is not exhaustive of the

factors that may affect any of the Company's forward-looking statements and reference should also be made to the section of this AIF headed "Risk Factors" for a description of additional risk factors.

Forward-looking statements are based on management's current plans, estimates, projections, beliefs and opinions, and except as required by law, the Company does not undertake any obligation to update forward-looking statements should assumptions related to these plans, estimates, projections, beliefs and opinions change. Readers are cautioned not to put undue reliance on forward-looking statements.

## EXPLANATORY NOTES

In this AIF, references to "Orvana" or the "Company" mean Orvana Minerals Corp. and, unless the context requires otherwise, include the subsidiaries of Orvana.

Unless otherwise noted herein, information in this AIF is presented as at September 30, 2013.

Unless otherwise noted herein, all dollar amounts in this AIF are in thousands of US dollars (other than per share or per unit amounts). As at September 30, 2013, the last business day of the Company's fiscal 2013 year, value of one Canadian dollar was \$0.9706 in US dollars and the value of one Euro was \$1.3505 in US dollars, according to the Bank of Canada and European Central Bank, respectively.

References in this AIF (i) to gold and silver in ounces mean fine troy ounces and are referred to as "ounces" or "oz", (ii) in respect of copper are in pounds also referred to as "lb", (iii) to the "MD&A" are to the Company's Management's Discussion and Analysis dated December 6, 2013 in respect of the Company's fiscal year ended September 30, 2013 filed at [www.sedar.com](http://www.sedar.com), and (iv) NI 43-101 are to *National Instrument 43-101 – Standards of Disclosure for Mineral Projects*.

## METAL PRICES TABLE

The following table sets forth the closing spot prices for gold, silver and copper as at September 30, 2013:

Metal	Price in US Dollars	Price in Euros at 1.3505 <sup>(3)</sup>
Gold per ounce <sup>(1)</sup>	\$1,326.50	€982.23
Silver per ounce <sup>(1)</sup>	\$21.68	€16.05
Copper per pound <sup>(2)</sup>	\$3.31	€2.45

(1) For gold and silver spot prices, please refer to Kitco on [www.kitco.com](http://www.kitco.com).

(2) For copper spot price, please refer to London Metal Exchange on [www.lme.com](http://www.lme.com).

(3) For exchange rate, please refer to European Central Bank on [www.ecb.int](http://www.ecb.int).

## UNIT CONVERSION TABLE

The following table sets forth certain standard conversions between Standard Imperial units and the International System of Units (or metric units):

To Convert From	To	Multiply By
Grams	ounces (troy)	0.03215
Kilogram	pounds	2.20462

## CORPORATE STRUCTURE

### Name, Address and Incorporation

The Company was formed by the amalgamation of Pan Orvana Resources Inc. ("Pan Orvana") and New Kelore Mines Limited ("New Kelore") pursuant to articles of amalgamation dated February 24, 1992 under the *Business Corporations Act* (Ontario) and an amalgamation agreement between such parties dated December 30, 1991. Pan Orvana was incorporated under the laws of the Province of British Columbia on

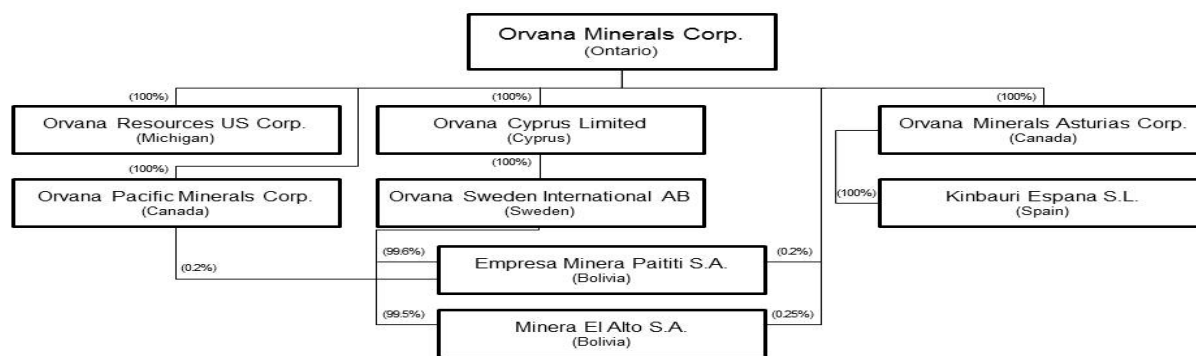
March 27, 1987 under the name Orvana Resources Inc. and changed its name to Pan Orvana Resources Inc. on September 4, 1987. New Kelore was incorporated by Letters Patent pursuant to the laws of the Province of Ontario on May 9, 1945 under the name Kelwren Gold Mines Limited. In 1948, it changed its name by Supplementary Letters Patent to Kelore Mines Limited and on March 27, 1953, it further changed its name to New Kelore Mines Limited. The registered and records office and the head office of the Company are located at Suite 1901, 181 University Avenue, Toronto, Ontario, Canada M5H 3M7.

The Company's common shares ("Common Shares") are listed on The Toronto Stock Exchange under the symbol TSX:ORV.

### Intercorporate Relationships

Historically, Orvana has conducted its exploration, development and production activities in foreign jurisdictions through subsidiary companies incorporated in those jurisdictions. The Company's active subsidiaries and holding companies, all of which are wholly-owned, are as follows: (i) Canada: Orvana Pacific Minerals Corp.; (ii) Canada: Orvana Minerals Asturias Corp.; (iii) United States: Orvana Resources US Corp. ("Orvana US"); (iv) Spain: Kinbauri España, S.L.U. ("Kinbauri"); (v) Cyprus: Orvana Cyprus Limited; (vi) Sweden: Orvana Sweden International AB; (vii) Bolivia: Empresa Minera Paititi S.A. ("EMIPA"); and (viii) Bolivia: Minera El Alto S.A.

The inter-corporate relationships among Orvana and each of its active and holding subsidiaries are outlined in the diagram below. The diagram below also provides specific information on (i) the percentage of votes attaching to all voting securities of each subsidiary beneficially owned, controlled or directed by Orvana, and (ii) the jurisdiction of incorporation or continuance, as the case may be, of Orvana and each of its subsidiaries (which is set out in parentheses).



## DEVELOPMENT OF THE BUSINESS

### Introduction

Orvana is a gold and copper producer with organic growth opportunities. Orvana's producing properties consist of (i) El Valle-Boinás Mine (the "Boinás Mine") and Carlés Mine (collectively, with the Boinás Mine, "EVBC" or the "EVBC Mines"), two underground gold-copper-silver mines located in the northern part of Spain; and (ii) Upper Mineralized Zone at the Don Mario Mine (the "UMZ Mine"), an open-pit gold-copper-silver mine located in the south-eastern part of Bolivia. In addition, Orvana has completed a feasibility study and obtained the major permits for its Copperwood copper project (the "Copperwood Project") located in the Upper Peninsula of Michigan, United States. Orvana's focus is currently on its operations

and growth through exploration at its sites and within the regions thereof. The Company also considers growth through organic development and acquisitions.

In fiscal 2013, Orvana achieved its second full year of commercial production at the EVBC Mines, its first full year of commercial production at the UMZ Mine and major permitting milestones at the Copperwood Project. Total production in fiscal 2013 was 80,541 ounces of gold, 17.3 million pounds of copper and 1,018,000 ounces of silver.

### **Three-Year History**

#### ***EVBC Mines***

Through its wholly-owned subsidiary, Kinbauri, the Company owns and operates the EVBC Mines, located in the Rio Narcea Gold Belt in northern Spain. The EVBC Mines are comprised of the Boinás Mine, where sulphides (referred to hereinafter as “skarns”) and oxides are being mined underground, and the Carlés Mines, where skarns are being mined underground.

Since acquiring the EVBC in 2009, the Company has hired essential personnel, rehabilitated the mill and plant, purchased or leased appropriate equipment, improved the stability of the tailings impoundment, and completed the sinking of a 420-meter shaft to facilitate underground development and mining. The Company commissioned the EVBC Mines in May 2011 and advanced to commercial production in August 2011. Currently, there is a nine year mine life at the EVBC Mines. The Company believes that there is sufficient mineralization to extend production beyond 2022.

With strong mining and processing performance and higher average grades of gold, copper and silver, the EVBC Mines achieved record production numbers during fiscal 2013 of 65,992 ounces of gold, 6.7 million pounds of copper and 197,768 ounces of silver compared to 42,864 ounces of gold, 4.0 million pounds of copper and 117,113 ounces of silver in fiscal 2012, an increase of 54%, 55% and 69%, respectively.

More information about the EVBC Mines is provided below under “Description of the Business - Principal Mineral Projects - EVBC Mines” and “Appendix B - Principal Mineral Projects - EVBC Mines”.

#### ***UMZ Mine***

Through its wholly-owned subsidiary, EMIPA, the Company owns and operates the UMZ Mine, located in southeastern Bolivia. Fiscal 2009 marked the last year of production from the Company’s Lower Mineralized Zone underground gold mine at Don Mario with some gold production from the satellite deposit, Las Tojas, continuing into fiscal 2010 and 2011. After completing various studies on the economic viability of mining the UMZ Mine, in 2009 the Company installed a leach-precipitation-flotation (“LPF”) circuit in order to process the deposit’s complex mineralization. Mine start-up occurred in April 2011 and commercial production was achieved in January 2012. Until May 2013, the Company processed oxides ore through LPF process and transition and sulfides ore through a standard flotation circuit. In May 2013, after various economic considerations, the Company suspended the LPF process and is continuing with processing transition and sulfides through flotation. In addition, the Company is testing certain reagents in connection with the possibility of processing the remaining stockpiled oxides ore. The Company believes that there is sufficient mineralization to extend production into 2016.

During fiscal 2013, the UMZ Mine produced 14,549 ounces of gold, 10.6 million pounds of copper and 882,552 ounces of silver compared to 13,065 ounces of gold, 11.4 million pounds of copper and 599,167 ounces of silver in fiscal 2012.

More information about the UMZ Mine is provided below under “Description of the Business - Principal Mineral Projects - UMZ Mine” and “Appendix B - Principal Mineral Projects - UMZ Mine”.

#### ***Copperwood Project***

Through its wholly-owned subsidiary, Orvana US, the Company holds the Copperwood Project, which is comprised of long-term mineral leases covering an aggregate of 936 contiguous hectares within the Western Syncline located in the Upper Peninsula of Michigan, United States. In 2012, the Company completed the purchase of approximately 700 hectares of surface rights that secure access and provide

space for infrastructure related to the development of the Copperwood Project. In addition, the Company has options to convert 1,559 hectares into mineral leases on three mineralized zones within the Western Syncline and adjacent to the Copperwood Project mineral leases (the "Satellite Deposits").

Orvana's activities to date at the Copperwood Project include deposit delineation, metallurgical testing and mine-plan design, among other things, which provided the basis for the Feasibility Study of the Copperwood Project, Upper Peninsula, Michigan, USA (the "Copperwood Project Feasibility Report"), completed pursuant to N1 43-101 under the supervision of Joseph Keane, P.E., Steve Milne, P.E., and David List, P.E., each of whom is an independent qualified person for the purposes of NI 43-101, as well as environmental baseline studies for various permit applications. By the end of fiscal 2013, the Company has successfully obtained all major permits in respect of the Copperwood Project. Orvana will continue to de-risk the Copperwood Project and look for means to realize value.

More information on the Copperwood Project is provided below under "Description of the Business - Principal Mineral Projects - Copperwood Project" and "Appendix B - Principal Mineral Projects - Copperwood Project".

### ***Changes in Management and Board of Directors***

In April 2013, Dr. Bill Williams resigned as the Company's President and Chief Executive Officer and Mr. Michael Winship, a member of the board of directors, assumed the role of interim President and Chief Executive Officer of the Company. Following an executive search process, in December 2013, Mr. Winship was appointed the Company's President and Chief Executive Officer. In addition, the Company had certain changes in its directors during fiscal 2013, as set out under "Directors and Officers".

### ***EVBC Loan***

In October 2010, Kinbauri entered into a \$50,000 five-year term corporate credit facility (the "EVBC Loan"). The funds were primarily used to complete the construction of the EVBC Mines. In February 2012, the EVBC Loan was extended by one year to September 30, 2016 and increased by \$13,844 including approximately \$6,500 (€5,000) to fund an environmental bond that may be required to be posted with governmental authorities in Spain. To the extent that the required environmental bond is less than €5,000, the remaining funds may be used for general corporate purposes. During the first quarter of fiscal 2013, the Company obtained a waiver in respect of compliance with a specific reporting requirement until February 28, 2013. During the second quarter of fiscal 2013, the Company obtained a waiver in respect of (i) one of its financial covenants, and (ii) compliance with certain environmental matters. During the third and fourth quarters of fiscal 2013, the Company obtained a waiver in respect of one of its financial covenants. The Company expects to be in non-compliance with the same financial covenant in the first quarter of its fiscal 2014 year and has obtained a waiver in connection therewith. The Company has been negotiating certain amendments to the EVBC Loan.

The EVBC Loan contains covenants that, among other things, (i) require the deposit of certain cash flows from operating activities into restricted cash for upcoming EVBC Loan repayments, (ii) restrict Orvana's ability to incur additional indebtedness, (iii) restrict Kinbauri's ability to make cash distributions to Orvana in certain circumstances subject to meeting certain covenants, (iv) require additional repayments under the EVBC Loan in certain circumstances from excess cash flows from operating activities, and (v) restrict Orvana's ability to sell material assets or to carry on business other than one related to the mining business.

The EVBC Loan required gold, copper and US dollars/EUR financial instruments that have already been put in place. Orvana is required to maintain certain financial ratios which calculations exclude the fair value adjustments of the outstanding derivative instruments required under the terms of the EVBC Loan. The security for the EVBC Loan includes a fixed and floating charge over the assets of Kinbauri and a pledge by Orvana of all of the shares of Kinbauri. Kinbauri's obligations under the EVBC Loan are guaranteed by Orvana pursuant to an unsecured guarantee. The cost of the EVBC Loan, including interest and fees but excluding the cash settlements of maturing derivative instruments, is expected to average approximately 5% to 6% per annum, based on an interest rate of LIBOR plus 4%. The total annual principal repayment required in each fiscal year ending September 30, expressed as a percentage of the total amount of the EVBC Loan are: 2013-18.7%; 2014-23.3%; 2015-27.6%; and 2016-25.1%. In

fiscal 2013, the Company paid approximately \$12,005 in principal and \$2,378 in interest payments. The principal amount outstanding under the EVBC Loan as at the date hereof was \$44,910, with the amount of the next two quarterly payments of principal and interest already held as restricted cash.

#### ***Transactions with Fabulosa Mines Limited - Related Party Transactions***

As at the date of the AIF, Fabulosa Mines Limited (“Fabulosa”) held 70,915,027 Common Shares, representing 51.9% of the outstanding Common Shares.

Prior to May 2011, an agreement between Fabulosa and the Company granted Fabulosa certain rights, including a pre-emptive right to acquire additional Common Shares in certain circumstances. In May 2011, this agreement was terminated and a new agreement was entered into (the “Fabulosa Agreement”) under which Fabulosa’s existing pre-emptive rights were revised and Fabulosa agreed to provide Orvana with a six-month, secured convertible \$15,000 bridge loan (the “2011 Bridge Loan”). In exchange, Orvana issued to Fabulosa 1,969,999 Common Shares and five-year warrants to purchase up to 2,725,000 Common Shares. The warrants are exercisable only upon the issuance of, and in equal numbers to, Common Shares issuable upon the exercise of Orvana’s outstanding stock options as of May 2011. In September 2011, 1,300,000 of such warrants were issued with an exercise price of C\$1.90 per Common Share and in March 2012, 1,425,000 of such warrants were issued with an exercise price of C\$0.97 per Common Share. As a result of the cancellation of certain stock options previously outstanding in May 2011, 1,771,667 of such warrants were outstanding as of the date of the AIF of which 450,000 were exercisable. Orvana also agreed to implement a normal course issuer bid, at Fabulosa’s request and subject to TSX approval, to acquire Common Shares solely to mitigate the dilutive effect of Common Shares issued upon the exercise of stock options granted under Orvana’s stock option plan after May 2011. To date, with consent from Fabulosa, Orvana has not implemented the normal course issuer bid.

Upon closing of a public offering of Common Shares in August 2011, all amounts outstanding under the 2011 Bridge Loan were repaid in full through the issuance of 7,319,969 Common Shares to Fabulosa at the offering price of C\$2.00 per Common Share. Concurrently, Fabulosa exercised its pre-emptive right and purchased an additional 1,180,031 Common Shares at C\$2.00 per Common Share.

In January 2012, the Company entered into a \$5,000 loan (the “Fabulosa Loan”) that is secured by, among other things, a general security assignment over present and future assets of Orvana excluding Kinbauri. The Fabulosa Loan was subsequently amended and increased to \$11,500. The Company is using proceeds drawn under the Fabulosa Loan for working capital purposes. Interest on the outstanding principal is calculated at a rate per annum of 12%, is payable monthly along with stand-by fees and the Company pays withholding taxes imposed by applicable taxing authorities. The Fabulosa Loan contains covenants that, among other things, require principal repayment in the event of, among other things, the sale of certain of the Company’s assets.

As of the date hereof, a principal amount of \$2,731 is outstanding. The Fabulosa Loan was amended subsequent to the end of the third quarter of fiscal 2013 (the “Fabulosa Loan Amendment”). The availability period was extended from August 31, 2013 and the maturity period was extended from December 31, 2013 until September 30, 2014. The Company is currently paying interest and stand-by fees. Principal amounts outstanding under the Fabulosa Loan are now required to be repaid in the minimum amount of \$500 per month commencing on April 1, 2014, compared to \$1,000 per month prior to the Fabulosa Loan Amendment, provided that the entire principal and interest will be repaid by the new maturity date. In connection with such extension and amendment, the Company issued to Fabulosa warrants to purchase 500,000 Common Shares exercisable until August 9, 2018 at an exercise price of \$0.49, being the volume-weighted average trading price of the Common Shares for the five trading days preceding the issuance of the warrants. As at the date hereof, the Company had the ability to draw approximately \$8,770 under the Fabulosa Loan until September 30, 2014.

Concurrent with the Fabulosa Loan, the Company entered into an agreement (the “Fabulosa Nominating Agreement”) with Fabulosa pursuant to which, for so long as it owns at least 10% of the outstanding Common Shares, Fabulosa has the right to designate, at any shareholders’ meeting at which directors are to be elected, that number of management’s nominees for election as directors of the Company that is the same proportion as its ownership interest is of the Common Shares.



As Fabulosa is an insider of Orvana, the Fabulosa Agreement and the 2011 Bridge Loan were negotiated and approved by a special committee of the Company's directors independent of Fabulosa. The Fabulosa Loan and the amendments thereof, including the Fabulosa Loan Amendment, were approved by the Company's directors independent of Fabulosa.

## DESCRIPTION OF THE BUSINESS

### Principal Mineral Projects

#### *EVBC Mines*

The EVBC Mines, located in the Rio Narcea Gold Belt in northern Spain, consist of 14 exploitation concessions comprising 4,298 hectares and two investigation permits comprising 754 hectares. The EVBC Mines includes the Boinás Mine, which is characterized by both skarn and higher-grade gold epithermal mineralization deposits, and the Carlés Mine, which is a skarns deposit. Currently, the EVBC Mines are exploited by underground mining methods. Commercial production commenced in August 2011 and fiscal 2012 was the first full year of commercial production.

#### *Production*

During fiscal 2013, the EVBC Mines produced 65,992 ounces of gold, 6.7 million pounds of copper and 197,768 ounces of silver compared to 42,864 ounces of gold, 4.0 million pounds of copper and 117,113 ounces of silver in fiscal 2012, an increase of 54%, 55% and 69%, respectively.

The increase in production compared to fiscal 2012 is primarily due to an increase of 35% in tonnage mined and 32% in tonnage milled and an increase in gold, copper and silver head grades of 17%, 27% and 23%, respectively. Improved planning has provided better support to operations in development and dewatering in advance of mining. Backfilling improved in both skarn and oxides providing for improved cycle times for mining the secondary stopes and increased production. The Boinás Mine continued to make progress in primary mine development advancements in both oxide and skarn areas in order to have sufficient stopes available for mining. Oxide mining with contractors has shown improved production and efficiencies following a change in the oxides contractor in the second quarter of fiscal 2013. Carlés Mine production improved from 2012 levels as ramp access has made stoping on multiple levels possible.

The following table includes consolidated operating and financial performance data for the EVBC Mines for the periods set out below.

#### EVBC Mines - Production, Sales and Costs

	FY2013	FY2012
<b>Operating Performance</b>		
Ore mined (tonnes) (wmt)	<b>752,572</b>	558,583
Ore milled (tonnes) (dmt)	<b>685,697</b>	519,690
<i>Gold</i>		
Grade (g/t)	<b>3.24</b>	2.77
Recovery (%)	<b>92.5</b>	92.5
Production (oz)	<b>65,992</b>	42,864
Sales (oz)	<b>59,802</b>	42,837
<i>Copper</i>		
Grade (%)	<b>0.52</b>	0.41
Recovery (%)	<b>84.4</b>	84.1
Production ('000 lbs)	<b>6,658</b>	3,951
Sales ('000 lbs)	<b>6,085</b>	3,951
<i>Silver</i>		
Grade (g/t)	<b>11.24</b>	9.17
Recovery (%)	<b>79.8</b>	76.4
Production (oz)	<b>197,768</b>	117,113
Sales (oz)	<b>190,843</b>	106,199

	FY2013	FY2012
<b>Financial Performance</b>		
Revenue	<b>\$102,309</b>	\$82,750
Mining costs	<b>\$62,867</b>	\$48,126
Derivative instruments gain (loss)	<b>\$42,140</b>	(\$26,095)
Income (loss) before tax	<b>\$55,270</b>	(\$6,506)
Capital expenditures <sup>(2)</sup>	<b>\$13,248</b>	\$31,136
Cash operating costs (by-product) (\$/oz) gold <sup>(1)</sup>	<b>\$803</b>	\$854
All-in sustaining costs (by-product) (\$/oz) gold <sup>(1)</sup>	<b>\$1,086</b>	\$1,658
All-in costs (by-product) (\$/oz) gold <sup>(1)</sup>	<b>\$1,086</b>	\$1,658

- (1) Cash operating costs include total production cash costs incurred at the EVBC Mines, which forms the basis of the Company's cash costs. All-in sustaining costs ("AISC") includes cash operating costs plus sustaining capital expenditures, corporate administrative expense, exploration and evaluation costs, and reclamation cost accretion. The Company believes that this measure represents the total costs of producing gold from current operations, and provides the Company and other stakeholders of the Company with additional information of the Company's operational performance and ability to generate cash flows. As the measure seeks to reflect the full cost of gold production from current operations, new project capital is not included in AISC. In respect of both fiscal 2012 and 2013, AISC includes all expenditures related to the construction of the shaft/hoist operations at the Boinás Mine and the subsequent recovery costs discussed below following the hoist incident that occurred in June 2013. All-in costs represent AISC plus non-sustaining capital expenditures and non-sustaining exploration. Certain other cash expenditures, including tax payments, dividends and financing costs are also not included. The Company reports these measures on a gold ounces sold basis.
- (2) These amounts are presented on a cash basis. Each reported period excludes unpaid capital expenditures incurred in the period which will be paid in subsequent periods and includes capital expenditures incurred in prior periods and paid for in the applicable reported period.

The Company experienced a hoisting incident at Boinás Mine in June 2013, where a fully loaded skip failed to stop going into the surface dump, crashed into the top of the headframe and dropped down the shaft when the wire rope attachment failed. This resulted in material damage to the hoist/shaft system. In response to the incident, the Company has executed on an alternative haulage production plan. This incorporates ramp haulage at the Boinás Mine, which was the methodology used in 2012 to carry Boinás skarns to the plant prior to the hoist system becoming operational, greater oxides mining at the Boinás Mine and an increase in overall production at the Carlés Mine where operations have continued unaffected. During the fourth quarter, this alternative production plan exceeded expectations. Mill throughput hit an all-time high average of 2,250 tonnes per day in August, demonstrating the capacity of the plant to operate at least 10% above its nominal capacity of 2,000 tonnes per day for a prolonged period of time when there is adequate stockpiled feed ahead of the primary crushing plant.

The Company has engaged a leading EPCM contractor specializing in hoists and shafts to lead the hoist recovery plan. As at the date hereof, progress on the hoist recovery continues with the ropes and hoist controls being removed. All key parts have been ordered including hoist ropes, controls, skips and steel manufacturing. The remainder of the hoist ropes and hoist controls have been delivered. The placement of small hoist and lifting devices has been installed and the removal of old shaft steel has been completed. The Company expects completion of hoist repairs and upgrades in early 2014.

The basic recovery of the hoist system is estimated to cost approximately \$2,244. The Company has been assisting its insurers with their evaluations relating to the recovery of the basic hoist repair costs. The Company is taking this opportunity to enhance the capabilities of the hoist with enhanced design and safety improvements. This includes a hoisting system designed to international standards with appropriate redundant safety features, a skip arrestor system and skip caging system in the headframe. Modification to the underground material handling system, that will enhance ore movement and provide the potential to hoist oxides, is also being completed. The estimated costs of the upgrades are approximately \$2,000 and will be paid for by EVBC.

During the fourth quarter of fiscal 2013, the Company initiated the implementation of a number of costs savings initiatives at the EVBC Mines including the rationalization of certain contractors, reduction of

company personnel and certain changes to the oxides stope widths and profile to allow for improved efficiencies in the mining of the oxides which is expected to improve mining costs.

During the fourth quarter, EVBC completed an internal update of its resources, reserves and its life-of-mine plan and completed an independent external expert review thereof. See “EVBC Mines - Mineral Resources and Reserve Estimates” below.

During fiscal 2013, the Company’s focus at the EVBC Mines has been on improving mine and mill throughput, increasing gold production and reducing total all-in costs per ounce of gold. The Company will continue to focus on these initiatives in fiscal 2014 as well as exploration to increase mineral resources. Over the next three months while the shaft recovery project is underway, the Company will continue to execute on the alternative production plan with the ramp haulage production at the Boinás Mine and Carles Mine.

#### Mineral Resource and Reserve Estimates

The Company’s mineral resource and reserve estimates for the EVBC Mines have an effective date of June 1, 2013.

Based on a 2 gram-per-tonne gold cut-off, measured and indicated mineral resource estimates include 1.25 million ounces of gold and over 1.2 million ounces of gold are classified as inferred resources (referred to herein as the “EVBC External Mineral Resource Estimate”). The table below summarizes the EVBC External Mineral Resource Estimate:

#### EVBC External Mineral Resource Estimate <sup>(1)</sup>

ZONE	Mineral Resource Estimate as at June 2013																	
	Measured						Indicated						Inferred					
	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)
Boinás Oxide	-	-	-	-	-	-	2,300	6.46	0.51	7.97	478	11,713	4,022	5.22	0.33	2.70	675	13,160
Boinás Skarn	2,141	3.51	0.81	19.70	242	17,273	2,310	4.00	0.69	16.11	297	15,900	2,690	4.22	0.37	8.67	365	9,983
Carlés Skarn	66	4.55	0.54	1.98	10	354	1,955	3.59	0.39	6.76	226	7,634	1,615	4.01	0.33	3.60	208	5,273
<b>Total</b>	<b>2,206</b>	<b>3.54</b>	<b>0.80</b>	<b>19.17</b>	<b>251</b>	<b>17,627</b>	<b>6,565</b>	<b>4.74</b>	<b>0.54</b>	<b>10.47</b>	<b>1,000</b>	<b>35,248</b>	<b>8,327</b>	<b>4.66</b>	<b>0.34</b>	<b>4.80</b>	<b>1,248</b>	<b>28,416</b>
							<b>TOTAL MH</b>	<b>8,771</b>	<b>4.44</b>	<b>0.60</b>	<b>12.66</b>	<b>1,251</b>	<b>52,875</b>					

- (1) The EVBC External Mineral Resource Estimate has been prepared in accordance with the standards of the Canadian Institute of Mining, Metallurgy, and Petroleum and NI 43-101, and includes the mineral reserve estimate cited below. The cut-off grade applied was 2 grams-per-tonne gold, which is considered the grade at which economic extraction is reasonably expected based on operating experience. This estimate was prepared under the supervision of C Zamora, a qualified person for the purposes of NI 43-101 who is an employee of AMC Mining Consultants (Canada) Ltd. and is independent of the Company.

The mineral reserve estimate containing an estimated 878,000 ounces of proven and probable gold (referred to as the “EVBC Internal Mineral Reserve Estimate”) is summarized in the table below.

#### EVBC Internal Mineral Reserve Estimate <sup>(1)</sup>

ZONE	EVBC Internal Mineral Reserve Estimate as at June 2013																	
	PROVEN						PROBABLE						PROVEN + PROBABLE					
	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)	Tonnes (kt)	Au Grade (g/t)	Cu Grade (%)	Ag Grade (g/t)	Au Ounces (koz)	Cu Tonnes (t)
Boinas Oxide							2,726	4.83	0.42	7.51	424	11,540	2,726	4.83	0.42	7.51	424	11,540
Boinas Skarn	1,384	2.81	0.67	15.46	125	9,276	2,096	2.61	0.45	11.86	176	9,415	3,480	2.69	0.54	13.29	301	18,691
Carlés Skarn	370	3.31	0.60	8.86	39	2,202	1,166	3.03	0.31	5.15	114	3,664	1,536	3.10	0.38	6.04	153	5,867
<b>TOTAL EVBC</b>	<b>1,754</b>	<b>2.91</b>	<b>0.65</b>	<b>14.07</b>	<b>164</b>	<b>11,478</b>	<b>5,988</b>	<b>3.71</b>	<b>0.41</b>	<b>8.57</b>	<b>714</b>	<b>24,619</b>	<b>7,742</b>	<b>3.53</b>	<b>0.47</b>	<b>9.82</b>	<b>878</b>	<b>36,098</b>
							<b>TOTAL 2P</b>	<b>7,742</b>	<b>3.53</b>	<b>0.47</b>	<b>9.82</b>	<b>878</b>	<b>36,098</b>					

- (1) The EVBC Internal Mineral Reserve Estimate has been prepared in accordance with the standards of the Canadian Institute of Mining, Metallurgy, and Petroleum and NI 43-101. The exchange rate applied was \$1.33 per Euro. The price deck applied was \$1,100 per ounce gold, \$2.75 per pound copper and \$20 per ounce silver, for which a gold-equivalent grade was calculated; the cut-off grade was determined based on mine, mill, administrative, and royalty costs for individual mineralized bodies. The EVBC Internal Mineral Reserve

Estimate was prepared under the supervision of C. Knievel, a qualified person for the purposes of NI 43-101, who is an employee of Kinbauri and thus not independent of the Company.

- (2) The EVBC Internal Mineral Reserve Estimate was prepared prior to the availability of the EVBC External Mineral Resource Estimate and thus is based upon a mineral resource estimate updated by Kinbauri's technical team to June 1, 2013 (the "EVBC Internal Mineral Resource Estimate"). The EVBC Internal Mineral Resource Estimate uses different resource estimation methodology than the EVBC External Mineral Resource Estimate. Based on a 2 gram-per-tonne gold cut-off, the EVBC Internal Mineral Resource Estimate includes 1.3 million ounces of gold classified as measured and indicated mineral resources and 1.25 million ounces of gold classified as inferred resources. Accordingly, the difference between the EVBC External Mineral Resource Estimate and the EVBC Internal Mineral Resource Estimate is not considered to be material.

#### *Growth Exploration – Increase of Reserves and Resources Estimates*

The Company has completed a review of its opportunities to increase its reserves and resource estimates at its existing EVBC Mines through the potential to upgrade inferred resources to reserves, the potential to identify new resources at the EVBC Mines and outside of the EVBC Mines. In fiscal 2014, the Company plans to continue its initiatives to upgrade inferred resources, explore zones at the EVBC Mines that are possibly open at depth and strike and explore satellite properties.

#### *Other*

Additional information on the EVBC Mines is provided below in "Appendix B - Principal Mineral Projects - EVBC Mines".

#### **UMZ Mine**

Through its wholly-owned subsidiary, EMIPA, the Company owns and operates the open-pit UMZ Mine located in south-eastern Bolivia. Fiscal 2009 marked the last year of production from the Company's Lower Mineralized Zone underground gold mine at Don Mario with some gold production from a satellite deposit continuing into fiscal 2010 and 2011. The Company is now mining the UMZ Mine as an open-pit mine. The UMZ Mine achieved commercial production in January 2012.

#### *Production*

During fiscal 2013, the UMZ Mine produced 14,549 ounces of gold, 10.6 million pounds of copper and 820,043 ounces of silver compared to 13,065 ounces of gold, 11.4 million pounds of copper and 599,167 ounces of silver in fiscal 2012. Production in fiscal 2013 compared to fiscal 2012 of (i) gold increased by 11% primarily as a result of a 17% increase in recoveries, (ii) copper decreased by 7% as a result of 21% lower head grades and 11% decrease in recoveries, and (iii) silver increased by 37% as a result of a 59% increase in recoveries.

The following table includes operating and financial performance data for the UMZ Mine for the periods set out below.

#### **UMZ Mine - Production, Sales and Costs**

	<b>FY2013</b>	<b>FY2012</b>
<b>Operating Performance <sup>(1)</sup></b>		
Ore mined (tonnes)	<b>1,013,646</b>	1,016,489
Ore milled (tonnes)	<b>788,149</b>	594,054
<i>Gold</i>		
Grade (g/t)	<b>1.26</b>	1.75
Recovery (%)	<b>45.6</b>	39.1
Production (oz)	<b>14,549</b>	13,065
Sales (oz)	<b>14,285</b>	12,215
<i>Copper</i>		
Grade (%)	<b>1.39</b>	1.76
Recovery (%)	<b>44.2</b>	49.4
Production ('000 lbs)	<b>10,646</b>	11,415
Sales ('000 lbs)	<b>10,228</b>	10,779

	FY2013	FY2012
<i>Silver</i>		
Grade (g/t)	52.67	81.17
Recovery (%)	61.5	38.6
Production (oz)	820,043	599,167
Sales (oz)	882,551	563,611
<b>Financial Performance</b>		
Revenue	\$59,890	\$62,824
Mining costs	\$38,196	\$40,105
EMIPA Q3 Adjustments <sup>(3)</sup>	\$9,044	-
Income (loss) before tax	\$4,545	\$17,060
Capital expenditures	\$2,691	\$1,969
Cash operating costs (co-product) (\$/oz) gold <sup>(2)</sup>	\$951	\$1,147
Cash operating costs (co-product) (\$/lb) copper <sup>(2)</sup>	\$2.16	\$2.40
Cash operating costs (co-product) (\$/oz) silver <sup>(2)</sup>	\$17.64	\$22.88
All-in sustaining costs (co-product) (\$/oz) gold <sup>(2)</sup>	\$1,051	\$1,258
All-in sustaining costs (co-product) (\$/lb) copper <sup>(2)</sup>	\$2.38	\$2.63
All-in sustaining costs (co-product) (\$/oz) silver <sup>(2)</sup>	\$19.30	\$24.86
All-in costs (co-product) (\$/oz) gold <sup>(1)</sup>	\$1,051	\$1,258
All-in costs (co-product) (\$/lb) copper <sup>(1)</sup>	\$2.38	\$2.63
All-in costs (co-product) (\$/oz) silver <sup>(1)</sup>	\$19.30	\$24.86

- (1) The UMZ Mine commenced commercial production on January 1, 2012. Information relating to production for fiscal 2012 includes production from the UMZ Mine during the start-up and commissioning period in the first quarter of fiscal 2012. Sales for the first quarter of fiscal 2012 from the UMZ Mine were credited against capitalized commissioning costs and sales from January 1, 2012 onwards were recorded as revenue.
- (2) Costs are reported per ounce of gold or silver or per pound of copper sold in the period. As a result of revenue from the sale of gold and silver representing more than 40% of total gross revenue from the UMZ Mine in a reporting period and for better costs comparisons to other mines, the Company is reporting AISC (co-product) per pound of copper and per ounce of gold and silver sold. Total mine costs for each metal are based on the percentage of gross revenue that each quantity of metal sold in the period represents of total gross revenue for the period. Refining charges, metallurgical deductions and royalties in respect of the UMZ Mine are allocated to each metal based on actual costs related to each quantity of metal sold in the period.
- (3) The "EMIPA Q3 Adjustments" includes (i) a non-cash provision of \$1,387 for amounts of VAT claimed and received and amounts of VAT not yet claimed or received recorded as VAT receivables as a result of recently completed audits conducted by the Bolivian National Tax Services with respect to VAT claims, (ii) as part of an impairment charge of the LPF plant and related consumables, non-recurring non-cash other expenses of \$6,423 (the "EMIPA LPF Impairment"), and (iii) a provision for and subsequent payment of \$1,384 to EMIPA union employees in respect of two periods between 2002 and 2012.

The LPF circuit, which includes conventional flotation circuits from the previous operations, was installed to process the oxide and transition ores from the UMZ Mine. In March 2012, the Company commenced processing (i) transition ores, which includes both copper in oxide minerals and copper in sulphide minerals, by flotation-only, and (ii) oxides through the LPF process. The Company processed oxide ores through the LPF circuit for approximately 15 days during each of the first, second and third quarter of fiscal 2013. During the third quarter of fiscal 2013, the Company reviewed the LPF process and determined, as a result of, among other things, declining metals prices and rising prices of necessary consumables for the LPF process, that it was no longer economical to process oxides through the LPF process at this time. LPF processing costs were significantly higher than flotation-only processing costs and throughput of the LPF circuit was approximately half that of the flotation-only circuit. As a result, the Company suspended the LPF process and recorded the EMIPA LPF Impairment of the LPF plant and related consumables of \$6,273 in fiscal 2013.

The Company continues to process transition and sulphide ores by the flotation-only circuits. Throughput increased by 5% and total all-in costs decreased by 19%, 8% and 17%, for gold, copper and silver, respectively, in the fourth quarter compared to the third quarter of fiscal 2013 when the Company processed one LPF-campaign in the quarter.

The Company continues to evaluate reagents which may allow it to process oxide ores through its flotation-only process by completing certain testing in the fourth quarter of fiscal 2013 and into fiscal 2014. As a result of the additional testing being undertaken by the Company relating to the processing of oxide ores, the EMIPA LPF Impairment does not include oxide ores in stockpile at September 30, 2013 with a carrying value of \$1,678.

In the fourth quarter, the Company commenced the implementation of the addition of gold gravity concentrators to its processing circuit. This implementation, scheduled to be completed in the second quarter of fiscal 2014, is expected to increase gold recoveries from approximately 40% to between 60% to 65% and, therefore, result in increased gold production from the UMZ Mine in the second half of fiscal 2014.

During the fourth quarter of fiscal 2013, EMIPA entered into regular annual union wage negotiations as mandated under Bolivian law. Intermittent work stoppages occurred in July. The Company successfully completed the wage negotiations in August.

In November 2013, the Company appointed John Bracale as the new country manager in Bolivia with the retirement of the outgoing country manager. Mr. Bracale has over thirty years of mining experience, mostly in Latin America, including three years of experience in Bolivia. His most recent executive role was as President and Country Manager for a subsidiary of HudBay Minerals (CGN) in Guatemala.

During fiscal 2013, the Company's focus at the UMZ Mine has been on improving metal production through increased throughput through the flotation circuit and improved recoveries and reducing operating costs. The suspension of the LPF process in the fourth quarter of fiscal 2013 has already contributed materially to these goals, particularly in unit cost reduction. These efforts will continue in fiscal 2014.

#### *Mineral Resource and Reserve Estimates*

In light of the changes to the UMZ Mine's processing operations and the discontinuance of the LPF process which was used to process oxides ore, the Company engaged DGCS Exploration & Mining Consulting to provide an updated technical report prepared in accordance with NI 43-101 updating the resource and reserve estimates for the UMZ Mine. The technical report, titled "Update & Review NI 43-101 Technical Report on the Don Mario Upper Mineralized Zone, Santa Cruz Region of Bolivia" and dated as at September 30, 2013 (the "UMZ 43-101 Report") was prepared by Gino Zandonai, MSc. Mining of DGCS Exploration & Mining Consulting of Santiago, Chile and is filed on SEDAR at [www.sedar.com](http://www.sedar.com).

The UMZ 43-101 Report concluded, among other things, that (i) the Company's decision to discontinue the LPF processing operations due to the lower than anticipated performance of the recoveries and higher than anticipated costs was the correct approach, (ii) the current flotation processing layout and operation by the Company is showing viable recovery of copper, gold and silver from the sulphide and transition ores, (iii) there is no need to adjust the current layout of the UMZ Mine, (iv) all oxide ores and ores with a high talc content should continue to be stockpiled, and (v) with the UMZ Mine processing only sulphide and transition ores, the mine's resources and reserves have been recategorized resulting in a reduction of the reserve model to 1.97 million tons.

Based on the revised reserve estimate set out in the UMZ 43-101 Report, the Company believes that there is sufficient mineralization to extend production into 2016. As mentioned above, the Company is continuing to evaluate reagents for processing the oxide ores through its flotation-only process. In the event that the Company identifies an economically effective means for processing the oxide ores in stockpile, the life of the UMZ Mine could be extended beyond 2016.

A summary of the resource and reserve estimates included in the UMZ 43-101 Report is provided in the tables below.

## UMZ Mine - Mineral Resource Estimates <sup>(1)</sup>

### Mineral Resources for the Don Mario UMZ Project (September 30, 2013)

MINERALIZATION	CLASSIFICATION	TONNAGE (Ktonnes)	Cu [%]	Au [g/t]	Ag [g/t]	NSR [\$/t]
Sulphide	Measured	564.24	1.25	1.22	32.31	80.36
	Indicated	850.25	1.14	1.05	33.91	73.41
	Inferred	10.91	0.77	0.89	19.41	51.86
Transitional	Measured	202.55	1.23	1.21	37.99	55.74
	Indicated	369.86	1.18	1.16	38.49	53.98
	Inferred	51.62	1.04	0.93	49.67	50.55
<b>Subtotal Sulphide + Transitional</b>	<b>Mea+Ind</b>	<b>1,986.90</b>	<b>1.19</b>	<b>1.14</b>	<b>34.72</b>	<b>69.97</b>
	<b>Inf</b>	<b>62.53</b>	<b>0.99</b>	<b>0.92</b>	<b>44.39</b>	<b>50.78</b>
<b>TOTAL Sulphide + Transitional</b>		<b>2,049.42</b>	<b>1.18</b>	<b>1.13</b>	<b>35.02</b>	<b>69.38</b>
Oxides (Diopside)	Measured	0.26	1.41	1.17	75.59	72.08
	Indicated	0.37	1.35	1.06	82.84	70.19
	Inferred	5.10	1.61	1.33	50.81	73.90
Oxides (Tremolite)	Measured	49.78	1.34	0.75	46.64	56.01
	Indicated	98.03	1.25	0.74	39.50	51.99
	Inferred	21.75	1.29	0.93	40.42	56.66
Oxides (Talc)	Measured	0.32	1.04	1.16	20.03	50.30
	Indicated	0.81	2.11	3.13	14.04	110.3
<b>Subtotal Oxides</b>	<b>Mea+Ind</b>	<b>149.57</b>	<b>1.29</b>	<b>0.76</b>	<b>41.87</b>	<b>53.72</b>
	<b>Inf</b>	<b>26.85</b>	<b>1.35</b>	<b>1.01</b>	<b>42.4</b>	<b>59.9</b>
<b>TOTAL Oxides</b>		<b>176.42</b>	<b>1.30</b>	<b>0.80</b>	<b>41.9</b>	<b>54.7</b>

(1) The mineral resource estimate has been calculated in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum and NI 43-101.

## UMZ Mine - Mineral Reserve Estimates <sup>(1)</sup>

### Mineral Reserves for the Don Mario UMZ Project (September 30, 2013)

MINERALIZATION	CLASSIFICATION	TONNAGE (Ktonnes)	Cu [%]	Au [g/t]	Ag [g/t]	NSR [\$/t]
Sulphide	Proven	564.24	1.25	1.22	32.31	80.36
	Probable	850.25	1.14	1.05	33.91	73.41
Transitional	Proven	202.55	1.23	1.21	37.99	55.74
	Probable	369.86	1.18	1.16	38.49	53.98
<b>Subtotal Sulphide + Transitional</b>	<b>Prov+Prob</b>	<b>1,986.90</b>	<b>1.19</b>	<b>1.14</b>	<b>34.72</b>	<b>69.97</b>
<b>TOTAL Sulphide + Transitional</b>		<b>1,986.90</b>	<b>1.19</b>	<b>1.14</b>	<b>34.72</b>	<b>69.97</b>

(1) The mineral reserve estimate has been calculated in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum and NI 43-101. The cut-off grade was determined based on mine, mill, administrative, and royalty costs based on operating experience as applicable to the processing of transition and sulphide ores as well as the marketing costs that are pertinent to each final product. The price deck used was \$1,100 per ounce gold, \$2.75 per pound copper and \$20 per ounce silver.

### Growth Exploration – Increase of Resources Estimates

In the fourth quarter of fiscal 2013, the Company completed a review of its opportunities to increase its resource estimates at its existing UMZ Mine through the potential to identify new resources in the surrounding area to the UMZ Mine that previously had some geochemical, trenching and drilling results indicating gold mineralization. In fiscal 2014, exploration will be focused on two schist belts near the UMZ Mine where abundant historic mining has occurred and mapping and geochemical sampling has demonstrated gold mineralization.

#### Other

Additional information on the UMZ Mine is provided below in “Appendix B - Principal Mineral Projects - UMZ Mine”.

### Copperwood Project

On March 23, 2012, the Company filed the Copperwood Project Feasibility Report. The mineral reserve estimate discussed therein is summarized in the table below:

**Copperwood Mineral Reserve Estimate <sup>(1)</sup>**

	Million short tons <sup>(2)</sup>	Cu %	Cu Million lbs	Ag g/t	Ag Million oz
Proven	23.14	1.46	679	3.98	2.96
Probable	7.09	1.21	173	2.44	0.57
Total Proven & Probable	30.23	1.41	852	3.63	3.53

(1) Price deck applied was \$2.50 per pound copper and \$20 per ounce silver.

(2) 1 short ton is equal to 0.907 metric tonnes.

The mine plan calls for the development of a ramp to access the ore horizon. All development is expected to be within the ore and very little waste rock will be handled. Production for the 13-year mine life will be about 1.5 million short tons of copper concentrate averaging about 28,000 short tons of copper per year at the 7,500 short tons of ore per day capacity. Copper is expected to be extracted by conventional flotation. Life-of-mine cash costs (C1) are \$1.26 per pound net of the silver by-product credit. Base-case operational parameters assumed for the drill-and-blast case with 12.5% pillar recovery are as follows:

**Base-Case Operational and Financial Parameters**

Minable Reserve:	30,228,000	short tons
Copper grade:	1.41%	
Silver grade:	3.63	g/t
Throughput (reached after 3 years):	2,625,000	short tons per year
Average annual copper production (LOM):	28,000	short tons per year
Average annual silver production (LOM):	150,000	ounces per year
Copper recovery:	86%	
Copper concentrate grade:	24%	
Silver grade in concentrate:	40.4	g/t (average)
<i>Key financial input parameters are:</i>		
Pre-production capital: (\$000's)	\$213,520	
Working and sustaining capital (LOM): (\$000's)	\$167,104	
Mine operating cost (LOM):	\$14.91	per short ton ore
Processing cost (at 7,500 short tons per day)	\$13.27	per short ton ore
General and administrative:	\$1.25	per short ton ore

The Company has achieved all major permitting milestones in respect of the Copperwood Project. In April 2012, it received its mining permit from the Michigan Department of Environmental Quality (“MDEQ”), as prescribed by Part 632 of the Non-Ferrous Metallic Mining regulation of the State of Michigan. In July



2012, it received the Permit to Install, or Air Quality Permit, from the MDEQ, Air Quality Division. In November 2012, it received the National Pollutant Discharge Elimination System permits for treated sanitary and process wastewaters from the MDEQ. In February 2013, the Company received the Wetland Permit from the MDEQ, which is the last major permit necessary and in June 2013 it received the Safe Dams Permit Draft. The Company is now integrating all the permits it has obtained into the Part 632 Mining Permit. Certain additional studies are being conducted in accordance with the Wetland Permit conditions to include base line studies of the designated preservation areas.

Certain optimization work continued in fiscal 2013 with a focus on additional metallurgical testing and mine design. Additional metallurgical testing of broader, more representative samples of the Copperwood deposit have been confirming initial recovery and concentrate quality results. As well, ongoing testing is investigating the possibility of the increase in recovery and concentrate quality by optimizing grind size. This could result in improved metal production and reduced transportation costs. Further geotechnical studies have indicated that the underground mining assumptions set out in the Copperwood Technical Report were conservative. This is expected to result in lower operating costs and higher mining productivity.

In September 2013, the Company announced it was in the process of completing an independent concentrate marketing study. Initial work on the concentrate marketing study indicated that concentrate treatment and refining charges ("TC/RCs") are expected to be higher than the estimates contained in the Copperwood Technical Report which projected TC/RCs to remain near the then prevailing all-time low levels. These charges will vary as a result of current market conditions. In addition, initial work on the marketing study indicated that transportation costs will be significantly higher than the \$25 per tonne estimate contained in the Copperwood Technical Report with a low end of the range of approximately \$100 per tonne if the smelter(s) are in North America and a high end of the range of approximately \$200 per tonne if the smelter(s) are in Europe or Asia. While external parties have expressed interest in off-take agreements, no agreements have yet been finalized pending financing and a final construction decision.

Total capital expenditures for fiscal 2013 were \$3,193 compared to a total of \$5,842 for fiscal 2012. These capital expenditures included metallurgical testing, mine optimization studies, logistics and marketing studies, costs associated with permitting including the Wetland Permit, well field investigation and peer review and supporting costs associated with an independent review conducted of the Copperwood Technical Report.

Orvana is continuing to investigate a variety of possible options and financing alternatives to enhance the value of the Copperwood Project to Orvana's shareholders. Holding costs of the Copperwood Project will be minimized in fiscal 2014 while the Company pursues various alternatives in connection with the Copperwood Project.

Additional information on the Copperwood Project is provided below in "Appendix B - Principal Mineral Projects - Copperwood Project".

## **Outlook**

Orvana's short-term focus is operational optimization at EVBC Mines and the UMZ Mine to generate increasing operating cash flows in order to pay down debt and pursue growth alternatives. Operational and corporate reviews have been initiated to seek means to reduce operating and capital costs to improve liquidity and cash flows given the recent declines and continued volatility in the metals markets. Orvana will continue to de-risk the Copperwood Project and look for means to realize value. In fiscal 2014, Orvana has allocated certain amounts towards internal growth exploration initiatives at both the EVBC Mines and the UMZ Mine and the surrounding regions thereof.

The following table sets out Orvana's fiscal 2013 guidance and production as well as its fiscal 2014 guidance.

	FY2013 Guidance	FY2013 Production	FY2014 Guidance
<b>EVBC Mines</b>			
Gold (oz)	63,000	65,992	65,000 - 75,000
Copper (million lbs)	6.0	6.7	6.0 - 6.5
Silver (oz)	200,000	197,768	175,000 - 200,000
<b>UMZ Mine</b>			
Gold (oz)	12,000	14,549	15,000 - 18,000
Copper (million lbs)	12.0	10.6	12.0 - 14.0
Silver (oz)	650,000	820,043	700,000 - 750,000
<b>Total</b>			
Gold (oz)	75,000	80,541	80,000 - 93,000
Copper (million lbs)	18.0	17.3	18.0 - 20.0
Silver (oz)	850,000	1,017,811	875,000 - 950,000

Orvana's long-term focus is to utilize future cash flow and mining capabilities to build long-term value for its shareholders.

## Revenue

The Company recorded consolidated revenue of \$162,199 for fiscal 2013 from sales of 75,787 ounces of gold, 17.1 million pounds of copper and 1,093,000 ounces of silver, representing the second full year of commercial production at the EVBC Mines and the first full year of commercial production at the UMZ Mine, compared to consolidated revenue of \$140,917 in fiscal 2012 from sales of 55,052 ounces of gold, 14.7 million pounds of copper and 667,000 ounces of silver.

The Company has the following material off-take agreements for the sale of the products produced at the EVBC Mines and the UMZ Mine:

- In March 2011, the Company entered into a contract with MRI Trading AG ("MRI") of Zug, Switzerland for the sale of the gold-copper-silver concentrates produced from the EVBC Mines. The Company believes that, due to the availability of alternative purchasers, no material adverse effect would result if MRI was unable to purchase the gold-copper-silver concentrates from the EVBC Mines.
- In July 2011, the Company entered into a doré refining contract with Metalor Technologies S.A. of Marin, Switzerland and a doré sales contract with Auramet Trading LLC ("Auramet") for the refining and sale of gold doré from the EVBC Mines. During fiscal 2012 and 2013, the Company sold all of its gold doré production from the EVBC Mines to Auramet. The Company believes that, due to the availability of alternative purchasers and refiners, no material adverse effect would result if this off-taker and this refiner were unable to purchase and process, respectively, the gold doré from the EVBC Mines.
- The Company has an agreement with Consorcio Minero S.A. ("Cormin") of Lima, Peru for the sale of copper concentrate. In fiscal 2013, all product from the UMZ Mine was sold to Cormin. The Company believes that, due to the availability of alternative purchasers, no material adverse effect would result if Cormin was unable to purchase the concentrates from the UMZ Mine.

## Exploration

For information relating to exploration at the EVBC Mines, please see "Description of the Business – Principal Mineral Projects - EVBC Mines - Growth Exploration". For information relating to exploration at the UMZ Mine, please see "Description of the Business - Principal Mineral Projects - UMZ Mine - Growth Exploration".

## Employees

At September 30, 2013, Orvana and its subsidiaries employed a total of 574 full-time employees and 296 contract personnel for a total of 870 as follows: (i) 222 employees and 139 contractors providing mine, camp and support services at the UMZ Mine, (ii) 341 employees and 155 contractors providing mine

support at the EVBC Mines, (iii) three employees in the United States in connection with its Copperwood Project, (iv) eight employees and two contractors at the Company's head office in Toronto, Canada. The Company employs a number of personnel who are experienced in open-pit and underground mining techniques as well as polymetallic mineral processing skills. The Company has skilled professionals in all the required technical and financial areas but will supplement with specialized consultants as required. Although the Company's business requires personnel with specialized skills, the Company believes that persons having the necessary skills are generally available.

### **Health, Safety, Environment and Social Practices**

The Board of Directors of the Company has established a Technical, Safety, Health, Environment and Sustainability Committee. The purpose of this Committee is to provide support and oversight for Orvana's operations in these areas.

Orvana maintains various industry metrics to track its safety and health performance over time such as lost-time injury frequency rates and lost-time injury severity rates as well as environment performance. Safety performance has improved significantly at the EVBC Mines and the UMZ Mine in fiscal 2013 compared to fiscal 2012.

#### *Health and Safety*

The Company maintains health and workplace safety programs at each of its operations. In order to ensure that safety goals and optimal safety standards are achieved, comprehensive training programs for personnel take place on an ongoing basis. Regular operations inspections are performed by representatives from the mine operations, planning and safety departments as well as by regulatory authorities and independent third party experts. These inspections review current conditions and action on potential safety issues that arise as mine development progresses. The Company has also hired service providers to support the Company's safety department in risk assessment, training and work environment monitoring.

For fiscal 2013, safety performance has improved at all operations with an overall reduction of 53% in lost-time accidents compared to fiscal 2012. At the EVBC Mines, for the twelve month period ended September 30, 2013, there were ten lost-time accidents compared to 22 lost-time accidents for fiscal 2012. EVBC employees achieved 215 days without a lost-time accident to September 30, 2013. In fiscal 2013, EMIPA experienced five lost-time accidents at the UMZ Mine compared to ten lost-time accidents for the twelve month period ended September 30, 2012. In fiscal 2013, the UMZ Mine achieved 55 days without a lost time accident. There were no lost-time accidents reported for the Copperwood Project.

#### *Environment*

Orvana is committed to developing and operating its mines and projects, including reclamation efforts, in full compliance with local environmental regulations and recognized international environmental standards. In furtherance of this commitment, Orvana regularly implements programs to protect and enhance natural habitats and sensitive species, including reclamation and reforestation efforts and the establishment of water sources for wildlife. The Company monitors the water and air quality on a frequent basis at EVBC Mines and the UMZ Mine and these operations are also periodically inspected by environmental regulatory authorities. Third parties sample and analyze both surface and ground water following protocols established by the applicable regulatory authorities in order to provide the necessary information. Any regulated elements whose values are not in compliance in the subject jurisdictions, when detected, are evaluated. To date, although certain parameters have not always been in compliance at the Company's operations, evaluations have been provided to the respective regulatory authorities and remedial actions have or are being executed. The Company is currently working through one such matter at the EVBC Mines with a local regulatory authority in respect of which it has received and may receive certain monetary sanctions and in respect of which the Company has been implementing remedial actions. In addition, the Company is working on certain amendments to certain of its permits as a result thereof.

The Company must dispose, in a safe manner, of the tailings that part of the crushed rock leaves after the metals are extracted. This is typically done in an impoundment area that not only contains this material

and waste water, but provides a contingency for extraordinary seismic and weather events so that this material remains contained. The EVBC Mines must provide bonds to ensure that the impacted areas are remediated. Total cash deposited with Spanish financial institutions for reclamation bonds amounted to approximately \$10,160 at September 30, 2013. In addition, an additional cash-backed reclamation bond of up to €5,000,000 may have to be deposited by the Company under Spanish mining regulations in respect of the EVBC Mines. The Company is currently challenging this based on technical considerations. Should the Company have to deposit this reclamation bond, the Company has such funds held as restricted cash. Should the Company have to deposit a lower amount, the difference will be available to be used for working capital purposes. In addition, the Company has various insurance policies in respect of environmental matters for the UMZ Mines and the EVBC Mines.

The costs incurred by the Company in connection with environmental monitoring and maintenance related to environmental issues are generally treated as ordinary operating expenses.

### *Sustainability*

Orvana is committed to the social development and well-being of the communities in which it operates. To this end, in addition to the payment of income taxes and other local community taxes such as land moving taxes, Orvana continues to support, financially and otherwise, local community endeavors associated with these objectives. The Company has supported the communities surrounding EVBC by donating funds to the local municipality of Belmonte to re-open the historic exhibition of gold mining in the area and supports other cultural and sporting activities in the communities of Belmonte and Salas. In addition, the Company has funded the re-stocking of fish species into the local rivers surrounding EVBC. Recently EVBC sponsored the Rio Narcea Salmon fair, provided mining educational materials and donations to the elementary school in Salas.

In the Chiquitos Province of Bolivia where the UMZ Mine is located, the Company is actively involved in the areas of agriculture, health, education, sanitation, purchasing of local goods and services and generally working with communities to contribute to the improvement of their standard of living. In 2011, Orvana renewed its support of \$1,785 to the local communities for a five year period. Projects supported by Orvana include supervision of and financial support for community development projects such as utilities and parks, education and information technology, cultural events, community business development initiatives, agricultural projects and maintenance of community roads. In fiscal 2013, the Company funded \$630 of such commitment.

In fiscal 2013, Orvana corporate leaders were active in visiting and participating in sustainability initiatives in Spain and Bolivia, as well as in the Upper Peninsula of Michigan.

### **Foreign Operations**

The Company's principal mineral projects are located at the EVBC Mines in Spain, the UMZ Mine in Bolivia and the Copperwood Project in the United States. The head office of Orvana is in Toronto, Canada. Consequently, the Company is substantially dependent on its foreign operations.

## **RISK FACTORS**

The following discussion summarizes the principal risk factors that apply to the Company's business and that may have a material adverse effect on the Company's business, financial condition and results of operations, or the trading price of the Common Shares.

### *Mineral Resources and Reserves*

Mineral resources and reserves provided by the Company are estimates and no assurances can be given that the indicated amount will be mined or milled. Estimated resources and reserves may have to be recalculated based on actual production experience and the prevailing prices of the metals produced.

### *Development of Mineral Deposits, Production Costs and Metal Prices*

The economics of mining mineral deposits are affected by many factors, including variations in the grade of ore mined or milled, the recovery of the target metals, the cost of operations, fluctuations in the sales price of products or the availability of supplies.

The value of the Company's mineral properties is heavily influenced by metal prices, particularly the prices of gold, copper and silver. Metal prices can and do change significantly over short periods of time and are affected by numerous factors beyond the control of the Company, including changes in the level of supply and demand, international economic and political trends, expectations of inflation, currency exchange fluctuations, interest rates, global or regional consumption patterns, speculative activities and increased production arising from improved mining and production methods and new discoveries. There can be no assurance that the prices of mineral products will be sufficient to ensure that the Company's properties can be mined profitably. Depending on the price received for minerals produced, the Company may determine that it is impractical to commence or continue commercial production. The grade of any ore ultimately mined from a mineral deposit may differ from that predicted from drilling results, feasibility studies, mine plans or past production. Production volumes and costs can be affected by such factors as permitting regulations and requirements, weather, environmental factors, unforeseen technical difficulties, shortages or interruptions in the supply of natural gas, water or fuel, unusual or unexpected geological formations and work interruptions. Short-term factors relating to ore reserves, such as the need for orderly development of ore bodies or the processing of new or different grades, may also have an adverse effect on the results of operations. Moreover, there can be no assurance that minerals recoveries achieved in small-scale laboratory tests will be achieved under production scale conditions.

#### *Development and Operation of Mines*

Mine development and operations involve considerable risks including technical, financial, legal and permitting. Substantial expenditures are usually required to establish ore reserves and resources, to evaluate metallurgical processes and to construct and commission mining and processing facilities at a particular site. Currently, the Company's revenue stream depends on production from the EVBC Mines and the UMZ Mine. These projects do not have extensive operating histories upon which to base estimates of future cash flow. The capital expenditures and time required to develop new mines or other projects are considerable and changes in costs or construction schedules can affect project economics. It is not unusual in the mining industry for new mining operations to experience unexpected problems during the start-up phase and the ramp-up period following commencement of commercial production, resulting in delays and requiring more capital than anticipated. Actual costs and economic returns may differ materially from the Company's estimates. Risks associated with the operation of mines include: unusual or unexpected geological formations; unstable ground conditions that could result in cave-ins or landslides; floods; power outages; shortages, restrictions or interruptions in supply of natural gas, cyanide, sulphur, iron sponge, lime, water or fuel; labour disruptions; social unrest in adjacent areas; equipment failure, fires; explosions; failure of tailings impoundment facilities; and the inability to obtain suitable or adequate machinery, equipment or labour. Any of these risks could have a material adverse effect on the Company's results of operations or financial condition.

#### *Production Estimates*

No assurance can be given that production estimates will be achieved. The Company's actual production may vary from estimates for a variety of reasons including: attributes of the material mined varying from those used in estimations of grade, tonnage, dilution and metallurgical and other characteristics; short-term operating factors relating to mineral resources; risks and hazards associated with mining; inclement weather conditions; natural disasters, including floods, drought and earthquakes; and unexpected labour shortages or disruptions. Also, operations may not meet expectations due to unanticipated technical issues or shutdowns.

#### *Financial Risks*

The Company's activities expose it to a variety of financial including market risks (including commodity price risks, currency risk and interest rate risk), credit risk, liquidity risks and financing risks and other risks. Enterprise risk management is carried out by management of the Company under policies approved by the board of directors thereof. Management identifies and evaluates the financial risks in co-operation with the Company's operating units. The board of directors of the Company reviews management's risk management

programs and provides oversight on specific areas. The Company's overall risk management program seeks to minimize potential adverse effects on the Company's financial and operating performance.

The Company is primarily exposed to gold and copper commodity price risk. The Company, in accordance with the requirements of the EVBC Loan, has hedged a portion of its gold and copper production which facilitates the management of certain of its price risk. The Company's outstanding derivative instruments were recorded as an asset at September 30, 2013 at a fair value of \$11,653 and a liability of \$1,687 compared to a liability of \$33,329 at September 30, 2012. This resulted in an unrealized derivative instruments gain of \$43,295 in fiscal 2013 compared to a loss of \$20,993 in fiscal 2012.

Orvana's functional currency is the US dollar. The Company operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar and the Euro. Currency risk arises when future recognized assets or liabilities are denominated in a currency that is not the Company's functional currency and may impact the fair values thereof. Exchange rate fluctuations may also affect the costs that the Company incurs in its operations. The Company has hedged a portion of its foreign currency exposure as a requirement under the EVBC Loan.

The Company's cash flows interest rate risk arises from short and long-term borrowings. During fiscal 2013 and 2012, although a significant portion of the Company's borrowings and investments were at variable rates, variable rates such as LIBOR have not varied materially in the last two years and are not expected to do so in the near future.

#### *Liquidity and Financing*

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. Cash flow forecasting is performed in the operating entities of the Company and aggregated at the Orvana corporate level to monitor rolling forecasts of the Company's liquidity requirements to ensure it has sufficient cash to meet such financial obligations and operational needs at all times. Such forecasting takes into consideration the Company's debt financing and compliance with debt covenants among other factors. Financing risk is the risk that if unanticipated events occur that may impact the operations of EVBC Mines and the UMZ Mine and/or if the Company does not have adequate access to financing on terms acceptable to the Company, the Company may not have adequate resources to maintain its operations or advance its projects as currently anticipated.

In the event that certain of EMIPA's loans in respect of the UMZ Mine are not renewed, cash flows from operating activities from the UMZ Mine will be used for working capital purposes and less cash flows therefrom will be available for distribution to Orvana. The EVBC Loan requires the deposit of certain cash generated from operating activities into restricted cash to be used for future EVBC Loan repayments and restricts the distribution of cash in certain circumstances from Kinbauri to Orvana unless certain covenants are met. Therefore, Orvana may report positive cash balances, but may be restricted in its ability to make use of certain of this cash.

If unanticipated events occur that adversely impact the operations of the EVBC Mine and the UMZ Mine and/or if the Company does not have adequate access to financing on terms acceptable to the Company, the Company may not have adequate resources to maintain its operations or advance its projects as currently anticipated. In such circumstances, the Company may need to take additional measures to increase its liquidity and capital resources, including obtaining additional debt or equity financing, strategically disposing of assets or pursuing joint-venture partnerships, equipment financings or other receivables financing arrangements. The Company may experience difficulty in obtaining satisfactory financing terms or adequate project financing. Failure to obtain adequate financing on satisfactory terms could have a material adverse effect on Orvana's results of operations or financial condition.

#### *Regulatory Requirements*

The Company is operating the EVBC Mines in Spain and the UMZ Mine in Bolivia and has permitted the Copperwood Project in Michigan, United States. As a result, the Company is subject to the laws and governmental regulations in those countries as well as those in Canada. Changes to such laws or governmental regulations, including with respect to restrictions on production, environmental matters, increase in or other changes to income taxes, royalties, repatriation of profits, export controls,

expropriation or nationalization of property or limitations on foreign ownership could have a material adverse effect on the Company's results of operations, liquidity or financial condition.

#### *Political and Related Risks*

Orvana's international assets and operations are subject to various political, economic and other uncertainties, including, among other things, risks of political instability and changing political conditions, labour and civil unrest, acts of terrorism, expropriation, nationalization, renegotiation or nullification of existing concessions, licenses, permits, approvals and contracts; adverse changes in mining, taxation or other laws and policies and foreign exchange and repatriation restrictions; restrictions on foreign investment in or ownership of resources; and trade barriers or restrictions. The Company also may be hindered or prevented from claiming against or enforcing its rights with respect to a government's action because of the doctrine of sovereign immunity. It is not possible for the Company to accurately predict political or social conditions or developments or changes in laws or policy or to what extent, if any, such conditions, developments or changes may have a material adverse effect on the Company's operations. Moreover, it is possible that deterioration in economic conditions or other factors could result in a change in government policies respecting the presently unrestricted repatriation of capital investments and earnings.

In Bolivia, in view of the constitution enacted in February 2009, recent and anticipated changes to mining laws and policies and mining taxes, and the composition of the Company's shareholder base, expected changes in governmental regulation or governmental actions may adversely affect the Company. The Bolivian constitution provides that the government shall grant mining rights by means of mining contracts in place of the previously established process of granting mining concessions. A process for the migration of mining concessions into mining contracts is expected under regulations yet to be issued. Accordingly, previously acquired rights under mining concessions such as those of the Company in respect of the UMZ Mine will be respected but are subject to this migration process.

The Bolivian government has been working on a new mining law in coordination with a commission created with the participation of different mining related entities and an official draft of this new mining law is expected in the near future. Meanwhile, the Bolivian government approved two transitory measures relating to the transformation of mining concessions while title-holders continue their mining activities and the execution of mining contracts with mining companies until the new mining law is promulgated. In addition, a regulation was promulgated in September 2013 providing that mining rights granted in favor of private companies and contracts over mining resources shall revert to the state without any compensation if inexistence of mining activities is evidenced and verified by the competent authorities.

The potential effect on the Company's future mining activities in Bolivia and the Company's mineral concessions remains unclear and could but may not necessarily include the Company's mineral concessions in respect of the UMZ Mine being converted into a mining contract which could result in the Bolivian government acquiring an interest in the Company's UMZ Mine, increased government mining royalties, a requirement for products produced by the Company to be sold in Bolivia, and/or partial reversion to the Bolivian government of mining concessions where no mining activities are carried on currently by the Company. The Company has been carrying on mining activities at the UMZ Mine and has certain other mining concessions in respect of which it has or it is planning to conduct certain exploration activities. In the past, the government of Bolivia has nationalized the assets of certain companies in various industries.

In November 2013, the President of Bolivia decreed that an extra month's wages should be paid as a special bonus to all salaried workers in Bolivia including in the private sector in respect of the month of December, for a total of three months wages.

#### *Water Supply*

The amount of ore processed at the UMZ Mine is dependent on the volume of water available in nearby reservoirs, which depends on the amount and timing of seasonal rainfall. If a sufficient amount of water is not accumulated and maintained, the UMZ Mine may not be able to operate at full capacity or may be able to do so only on an intermittent basis. The EVBC Mines is a no-discharge facility as process water is

discharged into the tailings impoundment and sent back to the plant. If there is a water deficit in this closed system, the Company can use mine water to make up that deficit.

#### *Reliance on Key Personnel*

The Company's operations are dependent on the abilities, experience and efforts of key personnel. If any of these individuals were to be unable or unwilling to continue to provide their services to the Company, there may be a material adverse effect on the Company's operations. The Company's success is dependent upon its ability to attract and retain qualified employees and personnel to meet its needs from time to time.

#### *Title Matters*

The Company's interests in mineral tenures grant it exclusive rights to the minerals discovered in the course of exploration. Maintenance of the Company's property and mineral rights is subject to ongoing compliance with the laws and regulations promulgated with respect to such rights. While the Company believes that its title to each of its properties, mineral claims and concessions is in good standing, the Company's title to any of such properties, claims and concessions is not guaranteed. The Company's title to any of its properties, mineral claims and concessions may be challenged or impugned, and properties, claims and concessions may be subject to prior unregistered agreements or transfers, or local land claims, and title may be affected by undetected defects.

#### *Competition*

The Company faces considerable competition in acquiring promising mineral properties, engaging joint venture partners and obtaining funding support. As a result of this competition, some of which is against companies with substantial capabilities and greater financial and technical resources than Orvana, the Company may be unable to acquire mineral properties, engage joint venture partners or obtain funding on terms it considers acceptable.

#### *Insurance*

The Company has a comprehensive insurance coverage in support of its risk management program. There is no assurance that all circumstances of loss which may occur will be covered under the Company's insurance program or that, in the event of a claim, the amount of the Company's insurance coverage, if any, will be adequate to cover the full amount of the claim.

The Company has filed a claim with its insurers in connect with the hoist incident which occurred at the EVBC Mines in June 2013. The cost of the basic recovery of the hoist system is estimated at approximately \$2,244. The Company has been assisting its insurers with their evaluations relating to the recovery of the basic hoist repair costs. There can be no assurances that such costs will be recovered in full or at all.

#### *Conflicts of Interest*

Directors of the Company are or may become directors or officers of other mineral resource companies or have significant shareholdings in such other companies and, to the extent that such other companies may participate in ventures in which the Company may participate, its directors may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation.

#### *Global Economic Issues*

Global financial and economic conditions have been characterized by extreme volatility in recent years, including commodity-price fluctuations and the cost of debt and equity securities. Access to public and private debt and equity financing has been negatively impacted during this time. If such conditions persist or worsen, they could negatively impact the ability of the Company to obtain debt or equity financing in the future and, if obtained, on terms favourable to the Company. Additionally, global economic conditions may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. Changes in global economic conditions may also lead to significant changes in commodity prices. If these conditions and volatility persist or worsen, the Company's business, results of operations and financial condition could be adversely impacted and the value and price of the Company's common shares could be adversely affected.



### *Controlling Shareholder*

As at the date of the AIF, 2013, Fabulosa owned approximately 51.9% of the Company's outstanding Common Shares. In addition, as described above under the heading "Development of the Business - Three Year History - Transactions with Fabulosa Mines Limited - Related Party Transactions", Fabulosa has certain contractual rights entitling it to nominate directors of the Company. Consequently, Fabulosa currently has the ability to control the election of the Company's board of directors and may be able to cause the Company to undertake corporate transactions without the consent of the Company's other shareholders, including causing or preventing a change of control of the Company. The liquidity of the Common Shares may be adversely affected as only 48.1% of the Common Shares are being freely traded. This, together with Fabulosa's ability to influence the Company, may have a negative impact on the trading price of the Common Shares.

### *Share Trading Volatility*

The securities of many mineral exploration and development companies, particularly those considered development stage companies, have experienced wide fluctuations in price that have not necessarily been related to the operating performance, underlying asset values or the prospects of such companies. There can be no assurance that continued fluctuations in share price will not occur.

## **DIVIDENDS**

The Company has not declared any dividends to date. The payment of any future dividends by the Company will be considered by the board of directors having regard to the Company's earnings, financial requirements and other conditions at a future time.

## **DESCRIPTION OF CAPITAL STRUCTURE**

The authorized capital of the Company consists of an unlimited number of Common Shares. As at September 30, 2013, there were 136,623,171 Common Shares outstanding. Based on information provided to the Company by Fabulosa, as at the date of the AIF, Fabulosa held 70,915,027 Common Shares, representing 51.9% of the outstanding Common Shares and warrants to purchase up to 2,271,667 Common Shares of which 950,000 were exercisable.

As described above under the heading "Development of the Business - Three Year History - Transactions with Fabulosa Mines Limited - Related Party Transactions", Fabulosa has a pre-emptive right with respect to the issuance of additional Common Shares or securities convertible into Common Shares to other persons, entitling Fabulosa to acquire Common Shares or convertible securities on the same terms and conditions as those so issued by the Company, subject to applicable requirements of the Toronto Stock Exchange.

Orvana has adopted a Stock Option Plan (the "Option Plan"), a Restricted Share Unit Plan for designated executives (the "RSU Plan") and a Deferred Share Unit Plan for directors (the "DSU Plan"). Information relating to the Option Plan, the RSU Plan and the DSU Plan and securities outstanding thereunder is set out in Orvana's Management Information Circular filed at [www.sedar.com](http://www.sedar.com).

## **MARKET FOR SECURITIES**

The Common Shares are listed and traded on the Toronto Stock Exchange under the symbol "ORV". The following table provides the historical monthly trading price ranges and volumes for the Common Shares during the fiscal year ended September 30, 2013:

<b>Trade Date</b>	<b>Symbol</b>	<b>High Price</b>	<b>Low Price</b>	<b>Trade Volume</b>
September	ORV	0.52	0.45	684,691
August	ORV	0.54	0.45	1,272,220
July	ORV	0.53	0.40	1,191,316

Trade Date	Symbol	High Price	Low Price	Trade Volume
June	ORV	0.65	0.40	1,867,783
May	ORV	0.82	0.50	3,669,979
April	ORV	1.05	0.66	2,691,580
March	ORV	1.14	1.01	2,245,898
February	ORV	1.21	0.94	2,878,427
January	ORV	0.99	0.88	1,647,189
December	ORV	0.87	0.73	1,704,705
November	ORV	0.90	0.82	1,345,944
October	ORV	1.00	0.86	1,000,440

### DIRECTORS AND OFFICERS

The names and provinces/states of residence of the directors and officers of the Company as at the date of the AIF, the positions and offices held by them with the Company, and their principal occupations for the past five years are set forth in the following table.

Name and Province or State and Country of Residence <sup>(1)</sup>	Position with the Company <sup>(1)</sup>	Principal Occupation For Past Five Years
Guimaraes, Edmundo <sup>(2) (4)</sup> Ontario, Canada	Director since February 2013	Independent business consultant and director of various Canadian public companies since 2008; prior to that Executive Vice-President, Finance and Chief Financial Officer of Aur Resources Inc.
Mitchell, Robert A., C.A. <sup>(2) (4)</sup> Ontario, Canada	Director since April 2007 and from December 2003 to June 2006	Chairman of the Company since August 2012; corporate director since October 2001; prior to October 2001, Partner, Ernst & Young LLP, an accounting firm.
Szasz, Jorge <sup>(3) (4)</sup> Santiago, Chile	Director since February 2010	Consultant to mining exploration and development companies since September 2009; prior to that Vice President Commercial, Finance and Administration of Sinchi Wayra S.A. (a subsidiary of Glencore International AG).
Walsh, Audra <sup>(3) (5)</sup> New York, U.S.A.	Director since October 2012	President and Chief Executive Officer of Minera S.A. since September 2012; prior to that was President and CEO of A2Z Mining, Inc. since January 2011, a mining consultancy; prior to that was Senior Manager at Barrick Gold Corporation, a mining company, from November 2007 to January 2011.
Wilson, C. John <sup>(2) (3) (5)</sup> Maryland, U.S.A.	Director since March 2012	Independent project finance and economic development consultant since 2011; prior to that Chief Credit Officer, Credit Review Department, International Finance Corporation, a member of the World Bank Group, since August 2003.
Winship, Michael <sup>(5)</sup> Ontario, Canada	Director since February 2013 and President and Chief Executive Officer since April 2013	President and Chief Executive Officer of Orvana since April 2013; prior to that, Chief Operating Officer of Quadra FNX Mining Ltd. From September 2010 to March 2012; prior to that President of HudBay Minerals from September 2008 to November 2009.
Dimitrov, Daniella Ontario, Canada	Chief Financial Officer since June 2012	Director of Orvana from March 2012 to June 2012; prior to that Executive Vice Chair and Director of Baffinland Iron Mines Inc./ArcelorMittal from April 2010 until May 2011; prior to that and from January 2009 until June 2012, President DDimitrov Advisory Corp., an advisory firm.

Name and Province or State and Country of Residence <sup>(1)</sup>	Position with the Company <sup>(1)</sup>	Principal Occupation For Past Five Years
Jacques, James Tennessee, U.S.A.	Chief Operating Officer since August 2012	Vice President Operations of Orvana from December 2011 to August 2012; prior to that Operations Manager, Nyrstar from December 2009 to September 2010; prior to that Deputy General Manager Production and Technical Services from August 2008 to February 2009 and Deputy General Manager Engineering and Technical Services from May 2007 to August 2008, East Tennessee Zinc Company.
Ciglic, Joan Ontario, Canada	Corporate Secretary since May 2006	Corporate Secretary of the Company since May 2006; prior to that was Manager, Administration of the Company, from June 2005.

- (1) The term of office of each director expires at the close of the next annual meeting of shareholders of the Company. An officer of the Company serves such officer resigns or his or her replacement is appointed. In addition, the following individuals were directors of the Company during fiscal 2013 and subsequently resigned: Richard Garnett and William C. Williams.
- (2) Member of the Audit Committee.
- (3) Member of the Compensation and Nominating Committee.
- (4) Member of the Corporate Governance Committee.
- (5) Member of the Technical, Safety, Health, Environment and Sustainability Committee.

As at the date of the AIF, to the knowledge of the Company, the directors and officers of the Company beneficially owned, or exercised control or direction over, directly or indirectly, less than one per cent of the outstanding Common Shares.

### LEGAL PROCEEDINGS

During the 2013 fiscal year, the Company was not a party to any material legal proceedings. On November 22, 2011, the Company reported that an employee at the EVBC Mines was fatally injured when he was caught between two pieces of equipment at the EVBC Mines. The Company has cooperated fully with the authorities in their investigation of the accident. Currently, certain proceedings are ongoing to determine whether any standards have been breached that may give rise to criminal charges. In addition, the Company has been notified by the applicable mining regulatory authorities that, following the completion of the current proceedings, there will be an administrative investigation pursuant to which the Company may be fined. At this time, the Company cannot predict the outcome of any of these proceedings. The Company may be involved in other legal proceedings from time to time, arising in the ordinary course of its business. The amount of ultimate liability with respect to these actions will not, in the opinion of management, materially affect the Company's financial position, results of operations or cash flows. The Company does not believe that the outcome of any of the matters not recorded in the financial statements, individually or in aggregate, would have a material adverse effect.

### INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

During fiscal 2013, 2012 and 2011, the Company entered into certain transactions with its 51.9% shareholder Fabulosa. For a description of these transactions, see "Development of the Business - Three Year History - Transactions with Fabulosa Mines Limited - Related Party Transactions".

### TRANSFER AGENT AND REGISTRAR

The Company's transfer agent and registrar is TMX Equity Transfer Services Inc., 200 University Avenue, Suite 300, Toronto, Ontario, M5H 4H1.

## MATERIAL CONTRACTS

Other than contracts described in the AIF, Orvana has not entered into any material contracts during fiscal 2013.

## AUDIT COMMITTEE DISCLOSURE

### The Audit Committee's Charter

The Charter of the Audit Committee of the Company is included in the AIF as Appendix A.

### Composition of the Audit Committee

The Audit Committee members are Robert Mitchell, Edmundo Guimaraes and C. John Wilson, each of whom is "independent" and "financially literate", as such terms are defined in Multilateral Instrument 52-110 - Audit Committees of the Canadian Securities Administrators ("MI 52-110").

Mr. Robert Mitchell is a Chartered Accountant and holds a Bachelor of Commerce degree. In addition to his role as Chairman of the Company's Audit Committee, he is a director of another public company, and is the Chairman of the audit committee for this company. He was a partner with Ernst & Young LLP for 27 years and has extensive experience in the investment and securities industries.

Mr. Edmundo Guimaraes is a Chartered Accountant and holds a Bachelor of Arts in Administrative and Commercial Studies. He has been an independent business consultant since 2008. Prior to that, Mr. Guimaraes was Executive Vice President, Finance and Chief Financial Officer of Aur Resources Inc. Mr. Guimaraes is a director and member of audit committees of certain other Canadian public companies.

Mr. C. John Wilson holds a Bachelor of Commerce degree and a Master of Economics degree. He is an independent project finance and economic development consultant. Mr. Wilson was previously a Chief Credit Officer of the Credit Review Department of the International Finance Corporation, a member of the World Bank Group.

During fiscal 2013, Jorge Szasz was also a member of the Audit Committee. Mr. Szasz was "financially literate", however, was not "independent", as such terms are defined in MI 52-110.

### Pre-approval Policies and Procedures

The charter of the Audit Committee requires prior approval by the Audit Committee of non-audit services to be provided by the Company's auditors or, if the Audit Committee determines it to be appropriate, prior approval by the Chair of the Audit Committee. In the latter case, any pre-approval must be presented to the full Audit Committee at its next scheduled meeting.

### External Auditor Service Fees

The following table sets forth the fees incurred by Orvana during fiscal 2013 and fiscal 2012 in respect of the services set out below provided by PricewaterhouseCoopers LLP ("PwC"), the Company's external auditors:

<b>Year ended September 30, (US\$'000)</b>	<b>2013</b>	<b>2012</b>
Audit fees <sup>(1)</sup>	\$459	\$498
Audit-related fees <sup>(2)</sup>	59	80
Tax fees <sup>(3)</sup>	5	-
All other fees <sup>(4)</sup>	16	54
<b>Total fees</b>	<b>\$539</b>	<b>\$632</b>

(1) "Audit fees" include the aggregate professional fees billed by PwC for the audit of the annual consolidated financial statements of the Company. Audit fees billed during fiscal 2013 includes audit fees incurred with respect to the fiscal 2012 audit but billed during fiscal 2013.

- (2) "Audit-related fees" include the fees billed by PwC for assurance and related services that are reasonably related to the performance of the audit and are not included in "Audit fees" including guidance in meeting the requirements of Multilateral Instrument 52-109.
- (3) "Tax fees" include the aggregate fees billed by PwC for tax compliance, tax advice, tax planning and advisory services relating to the preparation of corporate income tax and capital tax returns.
- (4) "All other fees" include the aggregate fees billed by PwC for all other products and services other than those presented in the categories of audit fees, audit-related fees and tax fees including assistance with due diligence in connection with acquisition activities.

### **AUDITORS AND EXPERTS**

PwC is Orvana's external auditor and prepared the "Auditors' Report to the Shareholders of Orvana Minerals Corp.", dated December 5, 2013 in respect of the Company's audited annual consolidated financial statements as at and for the fiscal year ended September 30, 2013.

The authors of the NI 43-101 technical reports on Orvana's mineral projects that are referred to in this AIF are named in the descriptions of those reports provided (see above under the headings (i) "Description of the Business - Principal Mineral Projects - EVBC Mines - Resource and Reserve Estimates"; (ii) "Description of the Business - Principal Mineral Projects - UMZ Mine - Resource and Reserve Estimates", and (iii) "Description of the Business - Principal Mineral Projects - Copperwood Project - Resource and Reserve Estimates". Bill Williams, was a co-author of "Technical Report for the El Valle/Boinás-Carlés Gold Deposits: Updated Reserve Estimate and Mine Plan, Rio Narcea Gold Belt, Asturias, Spain", but was not responsible for the sections on resource and reserve estimates or the mine plan. Mr. Williams, who resigned as the Company's President and Chief Executive Officer in April 2013, is a qualified person who was not independent of the Company for the purposes of NI 43-101 at the time he co-authored the report.

### **ADDITIONAL INFORMATION**

Additional information with respect to Orvana, including directors' and officers' remuneration and indebtedness, principal holders of Orvana's securities and securities authorized for issuance under equity compensation plans, where applicable, is contained in Orvana's management information circular for its most recent annual meeting of shareholders that involved the election of directors. Additional financial information is provided in Orvana's comparative consolidated audited financial statements and management's discussion and analysis for fiscal 2013, the Company's most recently completed financial year. This information and additional information relating to Orvana are available on SEDAR at [www.sedar.com](http://www.sedar.com) and on Orvana's website at [www.orvana.com](http://www.orvana.com).

## APPENDIX A

### ORVANA MINERALS CORP. - ANNUAL INFORMATION FORM

#### Audit Committee Charter

##### **A. Membership**

The Audit Committee of the Board of Directors (the "Board") of Orvana Minerals Corp. (the "Corporation") shall consist of such number of members (at least three) as are appointed from time to time by the Board. Unless otherwise determined by the Board and permitted by Multilateral Instrument 52-110 - *Audit Committees* ("MI 52-110"), the Audit Committee shall be composed solely of directors who have no direct or indirect material relationship with the Corporation which could, in the view of the Board, reasonably interfere with the exercise of such director's independent judgement, and are otherwise independent as determined in accordance with MI 52-110.

Unless otherwise determined by the Board and permitted by MI 52-110, all members of the Committee shall be financially literate, meaning they shall have the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues generally comparable to the issues that can reasonably be expected to be raised by the Corporation's financial statements.

The Board shall appoint the Chair of the Committee. The Board may, by resolution, at any time remove any member of the Committee, with or without cause, or add to or otherwise change the membership of the Committee. Committee membership shall not, however, be reduced to less than three or vary from the qualification requirements specified above. A member of the Committee shall cease to be a member upon ceasing to be a director of the Corporation.

##### **B. Duties and Responsibilities**

The Committee shall have all the powers and duties conferred on it by the laws governing the Corporation and such other powers and duties as may be conferred on it from time to time by resolution of the Board. In addition to the foregoing powers and duties, the Committee shall have the following duties and responsibilities:

1. To review, prior to approval thereof by the Board and public disclosure thereof, all financial statements of the Corporation, whether annual or periodic, and the external auditor's report, if any, thereon and any annual or interim MD&A (a) prepared for submission to a meeting of the directors of the Corporation, (b) which may be required by applicable law to be reviewed by the Committee or (c) which the Board may by resolution determine shall be so reviewed, and to report to the Board:

- (i) if the same have been prepared in accordance with the laws to which the Corporation is subject and the policies from time to time adopted by the Board;
- (ii) any significant changes in the form or content of such statements from the corresponding statements most recently approved by the Board and the reason(s) therefore, together with any intervening developments in relevant accounting principles, policies and practices which have been taken into account in preparing such financial statements or which, in the opinion of the Committee or the external auditor of the Corporation, might have been taken into account for that purpose; and
- (iii) relating to the report of the external auditor as to form and content of such statements and as to the level of co-operation of management received by the external auditor in the conduct of the audit.

2. To review all annual or periodic financial results press releases of the Corporation prior to public disclosure by the Corporation.
3. To satisfy itself that adequate procedures are in place for the review of public disclosure of any financial information of the Corporation including the information listed in (1) and (2) above and to periodically assess such procedures.
4. To review all financial statements of the Corporation, whether annual or periodic, appearing in a prospectus.
5. To review estimates and judgments that are material to reported financial information, and consider the quality and acceptability of the Corporation's accounting policies and procedures and the clarity of disclosure in financial statements.
6. To review such investments and transactions that could adversely affect the well-being of the Corporation as the external auditor or any officers of the Corporation may bring to the attention of the Committee.
7. To receive reports on the periodic findings of any regulatory authority and management's response and observations thereon.
8. To meet with the external auditor to discuss the quarterly and annual statements and the transactions referred to in this Charter.
9. To review the audit plan, including such factors as the integration of the external auditor's plan for procedures performed in Canada and elsewhere and whether the nature and scope of the planned audit procedures can be expected to detect material weaknesses in internal controls and determine if financial statements present fairly and accurately the Corporation's financial position in accordance with generally accepted accounting principles.
10. To identify the risks inherent in the business of the Corporation and to review and approve management's risk philosophy and risk management policies necessary to address as much as reasonably possible those identified risks.
11. To review periodically, but at least annually, management reports demonstrating compliance with risk management policies and confirm annually that management has taken reasonable steps to ensure compliance with standards.
12. To review and recommend to the Board the appointment of an external auditor and the compensation of such external auditor.
13. To review and evaluate the performance of the external auditor, including how and under what circumstances external auditors are to be rotated or removed, such review to include, but not be limited to:
  - (i) a review of estimated and actual fees;
  - (ii) a review of the engagement letter of the external auditor and the scope and timing of the audit work; and
  - (iii) pre-approval of all non-audit work to be performed by the external auditor and the fees to be paid therefor.

14. To ensure that the Corporation complies with the guidelines of the Canadian Institute of Chartered Accountants relating to the hiring of current and former partners and employees of the external auditor.

15. To be directly responsible for overseeing the work of the external auditor including the resolution of disagreements between management and the external auditor regarding financial reporting.

16. To review with the external auditor the performance of management involved in the preparation of financial statements, any problems encountered by the external auditor, any restrictions on the external auditor's work, the co-operation received in performance of the audit and the audit findings, any significant recommendations made to management on internal controls and other financial and business matters and management's response to the recommendations.

17. To provide the external auditor with the opportunity to meet with the Committee without management present at least once per year for the purpose of discussing any issues.

18. If determined appropriate by the Committee, to delegate authority to pre-approve non-audit services of the external auditor to the chair of the Committee, which pre-approval must be presented to the full Committee at its next scheduled meeting.

19. To confirm the accountability of the external auditor to the Committee and the Board and to satisfy itself that the external auditor's independence in carrying out the audit function is not impaired by either management or the external auditor's own action or activities.

20. To require the management of the Corporation to implement and maintain appropriate internal control and data security procedures and oversee their implementation and operation.

21. To review the competence and adequacy of the Corporation's staffing for the accounting, financial and internal audit functions.

22. To establish a satisfactory procedure for the receipt, retention and handling of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters, which will include procedures for the confidential, anonymous submission of concerns by employees with regard to these matters.

23. To report and make recommendations to the Board arising from its responsibilities as the Committee considers appropriate.

To ensure that the Committee is able to discharge the foregoing duties and responsibilities, the Corporation shall require the external auditor to report directly to the Committee.

### **C. Minutes**

Minutes shall be kept of all meetings of the Committee.

### **D. Meetings**

Except as otherwise provided in this mandate, the rules and regulations relating to the calling and holding of and proceedings at meetings of the Committee shall be those, making allowance for the fact that it is a committee, that apply to meetings of the Board, subject to such modifications as may, from time to time, be determined by resolution of the Committee. Until otherwise determined by resolution of the Board:

1. The quorum for meetings of the Committee shall be two of its members.



2. Meetings of the Committee may be called by its Chair or Vice Chair, if any, or by any member of the Committee, or by the external auditor of the Corporation. The Committee may at any time request the attendance of any officer of the Corporation or any person at any meeting of the Committee. Any member of the Committee may request the external auditor of the Corporation to attend every meeting of the Committee held during the member's term of office.

3. The external auditor of the Corporation shall receive notice of every meeting of the Committee and may attend and be heard at any meeting.

4. Meetings of the Committee shall be held at such time and place as may be determined from time to time by the Committee or by the Chair or Vice Chair, if any, of the Committee, and notice thereof shall be given in the manner and with the length of notice provided in the resolution(s) of the Board relating to notices of meetings of directors.

#### **E. Reports to the Board**

The Committee shall report to the Board as follows:

1. In the case of interim and annual statements and any returns that under applicable legislation must be approved by the Board, the Committee shall report thereon to the Board before approval is given.

2. All significant actions of the Committee shall be reported to the Board preferably at its next succeeding regular Board meeting or, if not possible, at the following meeting of the Board and shall be subject to revision or alteration by the Board.

3. The Committee may call a meeting of the Board to consider any matter of concern to the Committee.

#### **F. Access to Information**

In its discharge of the foregoing duties and responsibilities, the Committee shall have the authority to communicate directly with the external auditor and shall have free and unrestricted access at all times, either directly or through its duly appointed representatives, to the relevant accounting books, records and systems of the Corporation and shall discuss with the employees and auditors of the Corporation such books, records, systems and other matters considered appropriate.

#### **G. Independent Advisors**

The Committee shall have the authority to engage such independent counsel and other advisors as it may from time to time deem necessary or advisable for its purposes and to set and cause to be paid by the Corporation the compensation of any such counsel or advisors.

#### **H. Board Review of Charter**

The Board shall review the adequacy of the Committee's charter on at least an annual basis. In accordance with MI 52-110, the text of this Charter shall be included in the Corporation's Annual Information Form.

Confirmed by the Audit Committee: August 7, 2013

Reconfirmed by the Board of Directors: August 8, 2013

## APPENDIX B

### ORVANA MINERALS CORP. - ANNUAL INFORMATION FORM

#### Material Mineral Projects

Terms not otherwise defined herein are defined in the Annual Information Form of Orvana dated December 19, 2013.

#### EVBC Mines

##### *Introduction*

Through its wholly-owned subsidiary, Kinbauri, the Company owns and operates the EVBC Mines.

In March 2012, the Company filed the “Technical Report for the El Valle/Boinás-Carlés Gold Deposits: Updated Reserve Estimate and Mine Plan Rio Narcea Gold Belt, Asturias, Spain” (the “EVBC 43-101 Report”) by A.C. Noble, P.E. (Ore Reserves Engineering) and A. Wheeler, C. Eng., both of whom are qualified persons independent of the Company for the purposes of NI 43-101, and W.C. Williams, Ph.D., CPG, who is a qualified person for the purposes of NI 43-101, but who was an employee of the Company at the time of the EVBC 43-101 Report and thus was not independent of the Company.

The technical and scientific information set out below has been reviewed by C. Knievel, a qualified person for the purposes of NI 43-101, an employee of Kinbauri, therefore, not independent of the Company.

##### *History*

The EVBC Mines are located in the Rio Narcea Gold Belt in northern Spain. This area was mined by the Romans about 2,000 years ago and explored by various companies during the last quarter of the twentieth century. Modern gold exploration commenced at the EVBC Mines area during the 1970s and over the next 20 years companies like Anglo American and Goldfields evaluated the gold potential with drilling and underground exploration drifts. Rio Narcea Gold Mines (“RNGM”) mined gold by open-pit methods from 1997 until 2004, at which time underground mining began. The mine closed in 2006 after producing approximately 950,000 ounces of gold and over 20,000 tonnes of copper. In 2007, RNGM sold the EVBC Mines to Kinbauri Gold. The Company acquired the EVBC Mines and infrastructure in 2009, excluding certain environmental liabilities, as a result of its acquisition of Kinbauri Gold.

##### *Location, Title, Access and Infrastructure*

The EVBC Mines and properties lie within 14 exploitation concessions covering 4,298 hectares. When issued, the concessions are valid for 30 years and can be renewed for two more 30-year terms. Each of the 14 concessions can be renewed for two more 30-year terms.

The properties, which include the Ortos-Godán prospects as well as the El Valle-Boinás, Carlés, and La Brueva deposits, are within the Oviedo Principality approximately 60 kilometres by road west of the Asturian capital city of Oviedo and about 30 kilometres south of the north coast of Spain. The port cities of Avilés and Gijón are approximately 40 kilometres away. The properties lie within a portion of the Rio Narcea Gold Belt that trends northeast-southwest for 15 kilometres and is four kilometres wide.

The most northerly of the properties, Ortosa-Godán, is located approximately three kilometres south of the village of Salas and 40 kilometres by road from Oviedo. The Carlés Mine, which is located along highway AS-15, is about five kilometres southeast of Salas and 40 kilometres by road from Oviedo; it is 25 kilometres by paved road to the EVBC Mines processing facilities located in the immediate vicinity of the Boinás Mine. The EVBC Mines are located in the municipality of Salas.

La Brueva deposit is located six kilometres northwest of the village of Belmonte and about 50 kilometres by road from Oviedo in the northern part of the municipality of Belmonte de Miranda. The prospect is accessed by a narrow paved road that starts from Selviella and continues west to Boinás.

The El Valle-Boinás ore deposit, being mined as the Boinás Mine, is located in the west side of the municipality of Belmonte de Miranda and is six kilometres west of the village of Belmonte. It is 15 kilometres by road from Belmonte and 60 kilometres by road from Oviedo. Two paved roads access the Boinás Mine: an eastern access through the villages of Selviella and Alvariza, and a western access through the village of Tuña. The roads are narrow and curvy and cross through steep, rugged topography. The two small villages of Boinás and Begega are the two population centres near the Boinás Mine.

The final access to the processing plant and administrative offices is approximately two kilometres of paved and dirt roads from Begega on the north and one kilometre of dirt road from Boinás on the south. Both of these roads are in good condition, although a small portion of the Begega road on the northwest side of the open pit is at risk due to slope failures in the pit wall. During the 2010 fiscal year, the Company began stabilization efforts and those efforts continued into and were completed in fiscal 2012.

The EVBC Mines processing mill was constructed in late 1997 and has a nominal capacity to treat up to 2,000 tonnes per day. The installation includes the following circuits: (a) primary crushing, ore stockpile and reclaim; (b) SAG milling, ball milling and pebble crushing; (c) several stages of flotation; (d) concentrate thickening and filtration; (e) gravity circuit (several stages of spirals, three Knelson bowl concentrators and shaking tables); (f) CIL circuit; (g) cyanide destruction (INCO) system (including SO<sub>2</sub> storage); (h) carbon regeneration; (i) elution, electrowinning, calcining and smelting for doré production; (j) reagent preparation; (k) water recovery systems; (l) gas storage; (m) shotcrete plant, and (n) all other auxiliary installations including electrical supply and control boilers, gas heaters, blowers, compressors. Mill throughput hit an all-time high average of 2,250 tonnes per day in August 2013, demonstrating the capacity of the plant to operate at least 10% above its nominal capacity of 2,000 tonnes per day for a prolonged period of time when there is adequate stockpiled feed ahead of the primary crushing plant. Orvana produces and sells the following two products from the EVBC Mines: (i) a precious metals copper concentrate, and (ii) doré.

Auxiliary facilities associated with the EVBC Mines include offices, warehouses, maintenance shops, change houses, and a sample preparation and fire assay laboratory.

Several kilometres of underground workings are in place at the Boinás Mine and the Carlés Mine. In fiscal 2013, over 3,000 metres of primary development were completed at the Boinás Mine and over 1,300 metres of primary development were completed at the Carlés Mine. The portals and haulage ramps at both locations have been improved since the EVBC Mines commenced production in order to facilitate ingress and egress to the ore-bearing faces.

The internal infrastructures in both mines have been significantly improved and restructured by Orvana. A 420-metre deep, 5.5-metre diameter shaft was commissioned during fiscal 2012 and achieved full operation in January 2013. The Company experienced a hoisting incident in June 2013 which resulted in material damage to the hoist/shaft system. In response to the incident, the Company adopted an alternative production schedule. The Company has retained a leading EPCM contractor specializing in hoists to repair and enhance the hoist's design and safety features and expects the repairs and upgrades to be completed in the second quarter of fiscal 2014.

Since the commencement of operations in May 2011, the former El Valle open pit has been used as the tailings impoundment. Tailings impoundment lifts were completed in fiscal 2012 and fiscal 2013 as part of Orvana's ongoing sustaining capital expenditures and additional lifts will have to be completed in the future.

Sufficient non-technical personnel are available from the surrounding areas and well-educated mining engineers are available in Spain. Experienced geological engineering personnel are in place to carry out the Company's development and operation of the EVBC Mines, including a number who have direct experience in the Rio Narcea Gold Belt and the mine. Personnel reside offsite in the surrounding communities. The site of the EVBC Mines has telephone, fax and internet service.

Given that operations are principally underground, surface rights for mining are not required. However, at the Carlés Mine, a small part of the reserve estimate that can be extracted only by open-pit methods would require the purchase of certain surface parcels.

The Company has adequate water and power sources to operate the EVBC Mines, the mill and plant, although minor power outages occur on occasion.

#### *Topography, Elevation, Vegetation and Climate*

The terrain is hilly to mountainous and has numerous streams and rivers including the Narcea River. The hills are generally grass covered with intermittent wooded areas. Small-scale farming is common throughout the area. Elevations at the plant and Boinás Mine area range from 380 metres to 700 metres. The elevation at the Carlés Mine varies from 100 metres at the lowest point on the Narcea River to 300 metres at the small village of Carlés, which overlooks the Carlés deposit.

The climate is temperate with an average temperature of 12<sup>0</sup>C and about 1,180 millimetres of annual precipitation.

#### *Geology and Mineralization*

The gold mineralization in the central part of the Rio Narcea Gold Belt is principally hosted by a series of Lower Cambrian to Devonian sedimentary rocks. This stratigraphic package was intruded by felsic magmas and thrust and folded into a N20°E-trending, overturned anticline during the Hercynian Orogeny. Later extensional events resulted in the formation of three main sets of normal faults that strike NNE-SSW, NNW-SSE and EW.

The gold-copper-silver mineralization at the EVBC Mines is characterized by mesothermal magnesium and calcic-rich skarn deposits at the contacts of late Paleozoic intrusives as well as younger epithermal vein mineralization related to subvertical faults and quartz-feldspar porphyry dykes. The mineral assemblages are chalcopyrite, bornite, (arseno)pyrite, magnetite, and pyrhotite in the skarns, and native gold, electrum, native copper, chalcopyrite, and chalcocite in the epithermal mineralization; the vein mineralization is characterized by hematitic jasperoids. Higher grades are encountered where the epithermal systems crosscut the skarns. Leaching and enrichment are common in the structural zones that host epithermal mineralization.

#### *Exploration and Development*

The Company completed certain underground drilling during fiscal 2012 and 2013. Drilling was focused on stope definition and dewatering, but infill and delineation drilling as well as the discovery of new ore bodies were also part of the programs. In fiscal 2012 to June 1, 2012, the Company drilled approximately 11,500 metres and in fiscal 2013 to June 1, 2013 the Company drilled over 13,500 metres.

During fiscal 2012, an experienced independent geologist reviewed the in-house database in order to assess the prospectivity within the Company's concessions at the EVBC Mines as well as within the gold belts in the region. During fiscal 2013, the Company completed a further internal review of its opportunities to increase its reserves and resource estimates at its existing EVBC Mines through the potential to upgrade inferred resources to reserves, the potential to identify new resources at the EVBC Mines and in the surrounding areas outside of the EVBC Mines concessions. In fiscal 2014, the Company plans to continue its initiatives to upgrade inferred resources, explore zones at the EVBC Mines that are possibly open at depth and strike and explore satellite properties. For additional information, please see "Description of the Business - Principal Mineral Projects - EVBC Mines - Growth Exploration - Increase of Reserves and Resources Estimates".

#### *Mineral Resource and Reserve Estimates*

An updated mineral resource estimate in the form of the EVBC External Mineral Resource Estimate was completed by AMC Mining Consultants (Canada) Ltd. during the fourth quarter of fiscal 2013. It includes all drilling and mining depletion through June 1, 2013. The EVBC External Mineral Resource Estimate, which has been prepared in accordance with the standards of the Canadian Institute of Mining, Metallurgy, and Petroleum and NI 43-101, is disclosed in the AIF under "Description of the Business - Principal Mineral Projects - EVBC Mines - Mineral Resource and Reserve Estimates".

In addition, the Company completed an updated mineral reserve estimate in the form of the EVBC Internal Mineral Reserve Estimate. The EVBC Internal Mineral Reserve Estimate was prepared prior to the availability of the EVBC External Mineral Resource Estimate and thus is based upon the EVBC

Internal Mineral Resource Estimate updated by Kinbauri's technical team to June 1, 2013. The EVBC Internal Mineral Reserve Estimate, which has been prepared in accordance with the standards of the Canadian Institute of Mining, Metallurgy, and Petroleum and NI 43-101, is also disclosed in the AIF under "Description of the Business - Principal Mineral Projects - EVBC Mines – Mineral Resource and Reserve Estimates". The EVBC Internal Mineral Reserve Estimate was prepared under the supervision of C. Knievel, who is a qualified person for the purposes of NI 43-101 and who is an employee of Kinbauri and thus not independent of the Company.

Methodologies applied for the EVBC Internal Mineral Resource Estimate and the EVBC Internal Mineral Reserve Estimate are based on those summarized in the EVBC 43-101 Report.

The EVBC External Mineral Resource Estimate and the EVBC Internal Mineral Resource Estimate are both based on a 2 gram-per-tonne gold cutoff using a price deck of \$1,100 per ounce gold, \$2.75 per pound copper and \$20 per ounce silver and an exchange rate of \$1.33 per Euro.

For some of the deposits, the EVBC External Mineral Resource Estimate uses different resource estimation methodology, such as ordinary kriging in place of inverse distance, than the EVBC Internal Mineral Resource Estimate. The EVBC Internal Mineral Resource Estimate includes 1.3 million ounces of gold classified as measured and indicated mineral resources and 1.25 million ounces of gold classified as inferred resources. The EVBC External Mineral Resource Estimate includes 1.25 million ounces of gold classified as measured and indicated mineral resources and over 1.2 million ounces of gold are classified as inferred resources. The difference between the EVBC External Mineral Resource Estimate and the EVBC Internal Mineral Resource Estimate is not considered to be material, accordingly, Orvana is not filing an updated technical report as an update to the EVBC 43-101 Report in respect of the EVBC Mines under NI 43-101.

Measured and indicated mineral resource estimates are classified according to a confidence level, which level is determined by statistical methods that define the probability of continuity of metal grades, which in turn provides a basis for concluding that these estimates have the reasonable expectation of economic extraction. Inferred resources have a lower confidence level, but are classified as such since there is the geologic possibility that more information, such as drilling, could confirm a higher confidence level.

Measured and indicated resource estimates are converted to proven and probable reserve estimates, respectively, when after inputting metal recoveries and including mine, mill, administrative, transport, marketing, and royalty costs, among others, as well as including appropriate mine methods, dilution and ore-loss factors, these estimated reserves can be extracted economically. The aforementioned inputs and parameters are applied to Boinás oxide mineralization, Boinás skarn mineralization and Carlés skarn mineralization as appropriate in order to calculate a gold-equivalent cut-off in grams-per-tonne, above which cutoff the mineralization is classified as reserve.

The consideration of planned and unplanned dilution resulted in a higher reserve estimate tonnage than resource estimate tonnage for Boinás oxides, but the contained ounces in the reserve estimate are less than the resource estimate. An additional 24% ore loss has been applied post-design. This has the effect of increasing tonnage, but decreasing the grade of the reserve estimate as compared to the corresponding resource estimate.

The measured and indicated mineral resource estimate contains an additional 325,000 ounces that were not converted to the proven and probable mineral reserve estimate. Should future reconciliation work demonstrate that the planned and unplanned dilution factors can be reduced, and/or should it be demonstrated that the economic cut-off can be lowered, among other things, these resource estimates could be converted to reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Under current operating conditions, the life of the EVBC Mines is nine years based on the reserve estimate reported herein. The Company believes that based on the mineralization at the EVBC Mines, the life of the Boinás Mine may continue beyond this date.

### *Drilling, Sampling and Security*

Based on the good core recovery and high standards in logging and sampling of the core, the drilling is considered to be very reliable. In the few areas with poor recovery, the deficiency is known and can be accounted for in the resource estimate. Holes are typically surveyed down the hole with a Maxibor Reflex Tool II instrument, which is operated by experienced personnel.

Prior to 1997, Barringer (Inspectorate) of Reno, Nevada analyzed drill samples with a 50-gram fire-assay method for gold. After 1997 until 2007, samples were analyzed with a 30-gram, fire-assay method for gold at a laboratory located near the mine site. Samples were routinely checked at the ITMA laboratory located in Oviedo, Spain. Neither of these laboratories is certified. From 2007 to 2009, samples were sent to the ITMA (90%) and ALS Chemex (10%) laboratories. Ore-grade metals were analyzed using a 4-acid digestion followed by an ICP-AES or ASS finish. Check assays were run every 10 samples for infill and every 20 samples for ore-grade control. Blanks and standards were inserted at acceptable industry standards. Repeat assays, in all cases, were run routinely on pulps. Accuracy and precision were rendered acceptable, except for the copper assays obtained at the ITMA laboratory where copper results were typically 10% underreported.

The primary check on the reliability of the assay data has been the successful reconciliation between ore reserve estimates, mine production, mill production and smelter payments over more than 1,000,000 ounces of gold produced. Check assay studies, sampling studies and routine quality control provide additional confirmation of the reliability of assays.

Core is handled and boxed by Company personnel and delivered to the onsite laboratory in the presence of Company personnel. After delivery to the core shed, all samples are retained in the geological logging facility and sample preparation area until the pulps have been sent by sample preparation personnel to the laboratory. The core shed and sample preparation laboratory are locked when there is nobody working on site.

During fiscal year 2011, the Company re-activated the EVBC laboratory which is used for sample preparation as well as assaying for both exploration and grade control. Cut core and muck pile grab-samples are crushed and then split using either a rifle splitter (for the grade control samples) or a rotary splitter (for the core samples). The EVBC laboratory is ISO 9001:2008 certified. The quality assurance/quality control ("QA/QC") protocols for sample handling, analyses, QA/QC, and check sampling are within industry acceptable standards. ALS Chemex Laboratory in Seville, Spain is used as the outside laboratory for QA/QC purposes.

The reliability of the database is based on several layers of data checking, not only by those responsible for entering the data and maintaining the database, but by project geologists using the data for interpretation and resource estimation. During fiscal 2013 until April 2013, the Chief Mine Geologist of EVBC, Mr. Santiago Nistal, a qualified person for the purposes of NI 43-101, had ultimate responsibility for the database. Over the last 15 years, he supervised the QA/QC for the activities of RNGM, Kinbauri Gold and Orvana at the EVBC Mines. Subsequent to April 2013, the new Chief Mine Geologist of EVBC, Ms. Guadalupe Collar Menéndez, has had ultimate responsibility for the database.

### *Environment and Permits*

On June 28, 2011, the Company received final approval from the Spanish Ministry of the Environment for commercial production at the EVBC Mines. Such approval was subject to a final inspection and posting of a €5 million cash bond on or about September 5, 2011 and an additional €5 million cash bond by June 28, 2012. The final inspection was completed successfully and a cash bond of €5 million was deposited in a Spanish bank in September 2011. The Company is currently challenging the requirement to deposit an additional €5 million bond and the authorities are reviewing that challenge. See "Asset Retirement Obligations" below.

Environmental monitoring is in place to satisfy all current requirements for the two mines. Current water discharges, which are restricted to mine waters, are controlled and regularly monitored. In addition, acid-rock drainage is not an issue at the Boinás or Carlés underground operations. The open-pit mining at Carlés Mine is not in the revised mine plan until later years, at which time appropriate actions will be

taken. For additional information relating to certain environmental matters at the EVBC Mines, please see “Description of the Business - Health, Safety, Environment and Social Practices”.

#### *Asset Retirement Obligations*

Orvana’s asset retirement obligations relate to the dismantling of the mine facilities and environmental reclamation of the areas affected by mining operations. Mine facilities include structures and the tailings dam. Environmental reclamation requirements include mine water treatment, reforestation and dealing with soil contamination. It is possible that the Company’s estimates of the ultimate amounts required to decommission its mines could change as a result of changes in regulations, the extent of environmental remediation required, the means of reclamation, cost estimates or the estimated remaining ore reserves.

The estimate of the undiscounted cash flows required to settle such decommissioning liabilities in respect of the EVBC Mines at September 30, 2013 was \$15,938. This estimate was prepared by management with the use of independent third party experts. Accretion expense is recorded using the discount interest rate of 4.2%. It is expected that this amount will be incurred commencing in 2022 and beyond. The discount rate used to measure decommissioning liabilities is based on current interest rates of Spain government bonds and of term that matches the time period to the commencement of the decommissioning liability being incurred. The discounted amount of the estimated cash flows required to settle the Company’s current obligations with respect to the EVBC Mines is approximately \$10,562. The increase in estimated cash flows to settle such obligations compared to fiscal 2012 includes the impact of the change in discount rate, the additional expected remediation costs related to the tailings dam, the inclusion of certain costs for remediation activities in respect of which the EVC Mines have provided reclamation bonds to Spanish authorities fully cash-backed and the impact of the foreign exchange rate of the Euro versus the US dollar.

Prior to its acquisition by Kinbauri, the EVBC Mines had been shut down by its then owner and remediation measures required were completed. On Kinbauri’s acquisition of the EVBC Mines a reclamation bond of €894,684 was deposited, as required by Spanish mining regulations. In fiscal 2010 and 2011, additional reclamation bonds in the amounts of €1,521,960 and €5,000,000, respectively were deposited by Kinbauri relating to its tailings facility, with an additional €5,000,000 which may have to be deposited by Kinbauri. The Company is currently challenging this based on technical considerations. Should the Company have to deposit this reclamation bond, the Company has such funds available held as restricted cash. Accordingly, at September 30, 2013, cash backing these reclamation bonds held in a Spanish financial institution totaled \$10,160 and is expected to be released after all reclamation work has been completed.

It is possible that the Company’s estimates of its ultimate asset-retirement obligations could change as a result of changes in regulations, the extent of environmental remediation required, the means of reclamation, cost estimates or the estimated remaining ore reserves.

#### *Royalties*

Production from the EVBC Mines is subject to a 3% net smelter return royalty (“NSR”), referred to herein as the “EVBC Royalty”, payable quarterly. The EVBC Royalty rate decreases to 2.5% for any quarter in which the average price of gold is below \$1,100 per ounce. The royalty holder exercised a conversion right under a previously issued debenture in respect of the outstanding principal amount of the debenture at December 31, 2012 as 2012 production from EVBC was less than a specified amount (the “EVBC Debenture Conversion”). As a result, the Company’s financial statements for the fiscal 2012 included a charge of \$3,132 in the fourth quarter of fiscal 2012, which was an estimate of the EVBC Debenture Conversion. The Company financed and repaid the EVBC Debenture Conversion at a rate of 12% over six equal installments which was fully repaid on June 30, 2013.

In addition, the royalty holder exercised a pre-payment right under the EVBC Royalty as the aggregate amount of payments paid as at December 31, 2012 under the EVBC Royalty was less than C\$7,500,000. The Company is financing this pre-payment right of \$4,023 until July 1, 2014 at a rate of 12%, with all royalty payments made from January 1, 2013 serving to reduce such amount. The Company has paid \$1,784 of this pre-payment amount to September 30, 2013. The EVBC Royalty expense totaled \$3,059 for fiscal 2013.

## **UMZ Mine**

### *Introduction*

Through its wholly-owned subsidiary, EMIPA, Orvana operates the UMZ Mine in south-eastern Bolivia, which consists of 11 contiguous mineral concessions covering approximately 70,100 hectares. The UMZ Mine commenced commercial production in January 2012.

Scientific and technical information provided below with respect to the UMZ Mine is primarily contained in the UMZ 43-101 Report, unless otherwise noted.

### *History*

Production at Don Mario commenced in mid-2003 after the development of the lower mineralized zone deposit (the "LMZ") at Don Mario.

Prior to Orvana's acquisition of the project in 1995, the property was explored by four companies following the discovery of gold at the site in 1991. Exploration work included a combined 33,000 metres of drilling, 148 metres of drifting and a small open pit. This work resulted in the discovery and delineation of the LMZ and UMZ, the two principal zones of mineralization, and several prospects along strike and elsewhere in the Don Mario district, including the Las Tojas gold deposit, which is located 14 kilometres from the Don Mario Mine infrastructure and which was previously mined by Orvana.

### *Location, Title, Access and Infrastructure*

The Don Mario property consists of 11 contiguous mineral concessions covering approximately 70,100 hectares and is located within the San Juan Canton of the Province of Chiquitos in Eastern Bolivia. The Don Mario property is located at a geographical position of 59°47' W longitude and 17°45' S latitude, which is 380 kilometres east of the departmental capital of Santa Cruz de la Sierra.

The Superintendent of Mines for the Department of Santa Cruz has granted EMIPA a 100% interest in the Don Mario mineral concessions and, as a result, EMIPA has all the required rights to develop, mine and market the minerals and metals within its boundaries. All mineral substances in Bolivia belong to the state. The mineral concessions convey to the owner the exclusive rights to carry out any or all of the following mining activities: prospecting and exploration, exploitation (mining), beneficiation of ores, smelting and refining, and marketing of minerals and metals.

The Bolivian Government granted the concessions conferring the right to explore, exploit, refine, and sell all mineral substances within the concession's borders for an indefinite period. Cancellation of a concession occurs only if the required annual mining patent (approximately \$24 per unit for the first five years and approximately \$48 per unit each additional year) is not paid. Orvana has paid and intends to continue to pay all mineral concession fees for the 11 concessions. Please see "Risk Factors - Political and Related Risks" for an update relating to certain regulations recently introduced by the Bolivian government relating to mining rights and mining concessions.

The UMZ Mine is accessible from Santa Cruz de la Sierra either by air, a distance of 380 kilometres, or by road, or a combination of rail and road, a distance of 458 kilometres. Santa Cruz de la Sierra is the departmental capital with a population of approximately one million and is serviced by an international airport. A 1,200 metre gravel airstrip suitable for light twin, and short-takeoff-and-landing aircraft is located six kilometres southwest of the UMZ Mine.

There are no permanent inhabitants on the Don Mario property. The chief commercial activity of the area is logging, under concession to two companies with sawmills based at San Juan and Buenavista. The nearest settlement is the village of San Juan (population 350), 76 kilometres away. The largest settlement in the region is the local administrative center of San Jose de Chiquitos (population 8,000 - 10,000). Local employees are hired from these and other nearby communities, and constitute about half of the permanent work force.

A modern 300-person camp facility houses all staff and general labour while on their rotation at the UMZ Mine. The site has a direct satellite, telephone, fax, internet and television service. Separate semi-permanent lodgings for up to 200 contractors are integrated with the mine camp.



The UMZ Mine is connected to the Cuiaba-Bolivia Natural Gas Pipeline, which provides fuel for electrical power generation. Power and backup is provided by certain generators for a total rated capacity of 7,900kVA. An 875 kVA, 2200 V generator provides backup power. Power is distributed at 3300 V in high-tension lines for major power consumption areas such as the SAG mill in the process plant, while it is stepped down through two 1,000 kVA, 3,300/440 V transformers at substations for the processing mill and the mine. For minor power consumers, such as the camp and fresh water pumps, power is distributed through medium-tension lines (10 kV). A natural gas contract with the government-owned entity expires in 2016.

As there are no perennial streams, water is derived from two main sources: water wells and surface water collected in a pond created by a dam. Water is recycled from the tailings impoundment. Fresh water is captured by a small dam in another catchment area to the southwest of the tailings pond and is pumped to the site. A supplemental source of fresh water is from two boreholes drilled for this purpose.

The tailings pond has been designed with a 1.5 mm HDPE liner to prevent seepage. Measures to secure the tailings from access include erecting fences and using firecrackers to scare off birds. Although cyanide is destroyed naturally by sunlight, Orvana operates a cyanide destruction plant to reduce the cyanide level in solution to levels that comply with legal regulations and to levels that are below those that are hazardous to birds and animals. Moreover, the tailings pond is a zero discharge facility since the water is recycled back into the milling process. During fiscal 2012, the tailings pond berms were raised two metres and, as at the date of the AIF, the tailing impoundment is undergoing another one metre raise. When the mining operation is complete, the water will evaporate from the tailings pond with any residual cyanide being naturally destroyed through exposure to sunlight and oxygen. The water in the tailings should not pose a long-term threat. The saturated tailings will be capped, with the remaining cyanide in the tailings precipitating out as stable iron isotopes within the pile, such that within the hundred years plus over which the liner might eventually fail, the tailings should have been rendered harmless to the environment.<sup>1</sup>

The Company is open-pit mining the UMZ Mine copper-gold-silver deposit that lies above the LMZ. The Company was treating oxide ores using the LPF process, but during the third quarter of fiscal 2013 determined, as a result of, among other things, declining metals prices and rising prices of necessary consumables for the LPF process, that it was no longer economical to process oxides through the LPF process at this time. LPF processing costs were significantly higher than flotation-only processing costs and throughput of the LPF circuit was approximately half that of the flotation-only circuit. As a result, the Company suspended the LPF process. The Company continues to process transition and sulphide ores by the flotation-only circuits. The Company continues to evaluate reagents which may allow it to process oxide ores through its flotation-only process. Certain equipment previously used in the exploitation of the LMZ and Las Tojas deposits is used to process as much as 3,000 tonnes per day at the UMZ Mine through a closed-circuit SAG and ball mills.

#### *Topography, Elevation, Vegetation and Climate*

The property is located near the central point of South America, and at the northern limit of the Paragua Platte River drainage basin near the watershed divide with the Amazon River system to the north. The region is characterized by gently undulating terrain at an elevation range of 300 metres to 450 metres above sea level with a few local peaks including Cerro Don Mario, the hill containing the UMZ deposit. With the exception of Cerro Don Mario, the area is thickly forested with deciduous trees. In contrast, Cerro Don Mario (whose official name is Cerro Pelado) is essentially bare of trees and vegetated with only scattered scrub and copper-tolerant grasses.

The climate is sub-humid tropical. Average monthly maximum temperatures range from 29°C in July to 34°C in October. Minimum average temperatures range from 16°C in June to 25°C in November. Annual rainfall is approximately 1,200 millimetres, mostly falling in sharp downpours during the wet season between November and March. Access roads may become impassable in the rainy season.

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<sup>1</sup> Information relating to the tailings impoundment at the UMZ Mine is not contained in the UMZ 43-101 Report. Technical assistance relating to the tailings impoundment is being provided to Orvana by another third party independent engineering firm.

### *Geology and Mineralization*

The Don Mario property is located within one of approximately 20 Lower to Middle Proterozoic schist belts in the Bolivian Shield. The Bolivian Shield forms the south-western edge of the Brazilian Precambrian Shield and has been subdivided into a Middle Proterozoic Paragua Craton, which is up to 270 kilometres wide and is bordered by two parallel orogenic belts of Middle to Upper Proterozoic age: the Sunasas Mobile Belt along its western edge and the Aguapei Mobile Belt along its eastern margin.

The Don Mario property lies within the southeast margin of the Sunasas Mobile Belt of the Bolivian Shield in a region characterized by highly deformed and metamorphosed Lower Proterozoic rocks of the Aventura Complex. The property covers a series of northwest-trending schist belts (Cristal and Eastern), orthogneiss (Patuju Domain) and a granite intrusive within an area of approximately 25 kilometres by 25 kilometres.

The UMZ copper-gold-silver deposit lies in the hanging wall of the LMZ shear zone within the Cristal Schist Belt. The UMZ Mine has been divided into 9 main rock types dominated by diopside-tremolite rock and massive tremolite rock. Other important rock types are dolomite/opicalcite and talc schist. Part of the magnesio-silicate alteration and UMZ mineralization is weathered and is divided into four mineralization zones based on mineralogy: (i) the porous zone characterized by vuggy cavities left by the dissolution of calcite and locally abundant masses of white and orange-brown amorphous zinc carbonates and hydroxides including smithsonite; (ii) the oxide zone characterized by abundant malachite with lesser chrysocolla, azurite, native copper, cuprite, pitch limonite and silver sulfosalts; (iii) the transition zone featuring traces of pyrite, bornite, sphalerite and galena with weathered limonite and chalcocite coatings as well as minor copper oxides; and (iv) the sulphide zone consisting of dark-green tremolite with bornite, chalcopyrite, and sphalerite. Gold and silver grades are associated with chalcopyrite and bornite mineralization.

### *Exploration and Development*

Over the years, the Company has actively explored using conventional techniques, such as, stream-sediment and soil sampling, throughout its concessions. In 2009, the Company completed a survey consisting of over 200 kilometres of Induced Polarization (“IP”) lines along most of the length of the Eastern Schist Belt. After evaluating the data obtained, the Company concluded that not only are there drill targets for LMZ-style gold targets, but UMZ-style polymetallic deposits as well. A re-evaluation of existing geophysical data, specifically collected by IP methods, led to the identification of drill targets proximal to the UMZ deposit and two targets were drilled at the beginning of fiscal 2012, of which one encountered interesting mineralization. For additional information relating to Orvana’s proposed exploration program, please see “Description of the Business - Principal Mineral Projects - UMZ Mine - Growth Exploration - Increase of Resources Estimates”.

### *Asset Retirement Obligations*

Mining of the LMZ and Las Tojas deposits ceased during the 2009 and 2011 fiscal years, respectively. Management determined that all existing infrastructure including the mills, processing plant, related structures and tailings dam would be required for the UMZ Mine, thus, delaying the expected timing of performance of asset retirement activities therefor.

At September 30, 2013, the Company estimated the total undiscounted amount of the cash flows required to settle the Company’s asset retirement obligations with respect to the operation of the UMZ Mine at approximately \$5,556. This estimate was prepared by management of the Company with the use of independent third party experts. Accretion expense is recorded using the discount interest rate of 2%. It is expected that this amount will be incurred commencing in 2016 and beyond. The discount rate used to measure decommissioning liabilities is based on current interest rates of Bolivian government bonds and of term that matches the time period to the commencement of the decommissioning liability being incurred. The discounted amount of the estimated cash flows required to settle the Company’s current obligations with respect to the UMZ Mine is approximately \$5,077. The revision in estimated cash flows compared to fiscal 2012 includes the impact of the shorter expected mine life.

It is possible that the Company's estimates of its ultimate asset retirement obligations could change as a result of changes in regulations, the extent of environmental remediation required, the means of reclamation, cost estimates or the estimated remaining ore reserves.

#### *Royalties*

Production from the UMZ Mine is subject to a 3% NSR royalty payable to a third party quarterly. Royalty expense under this NSR totaled \$1,553 for fiscal 2013. The Bolivian government collects a mining royalty tax on the revenue generated at prescribed metals prices from copper, gold and silver sales from the UMZ Mine at rates of 5%, 7% and 6%, respectively. These amounts totaled \$5,488 for fiscal 2013.

#### *Drilling, Sampling and Security*

The UMZ mineral resource database consists of a topographic surface, data for 129 drill holes and a geologic model comprising solids enclosing porous, oxide, transition, and sulphide ore types. The porous ore is occasionally classified with the oxide ore. The drill hole database contains 6,867 gold assays, 6,851 silver assays 6,852 copper assays, 2,656 acid soluble copper assays, 5,205 zinc assays and 957 acid-soluble zinc assays. The database has 6,607 intervals coded for mineralization type: sulphide, transitional, oxide and porous.

The estimates of mineral resources have been derived from a resource block model incorporating data from diamond drilling and underground historical exploration. The cumulative experience of reconciling few years of the open pit exploitation with the reserve estimates for underground areas mined out has resulted in a high degree of confidence of the current resource model. The block model prepared by an independent engineering firm in was used to generate the mineral resources statement contained in the UMZ 43-101 Report.

Samples from the beginning of the Orvana drill campaign in 1996 were prepared at the Don Mario preparation facility and sent to the Bondar Clegg laboratory in Oruro for assay; by the end of the 1996 drill campaign the Orvana Don Mario laboratory was carrying out fire assays. Assay for acid-soluble copper on selected samples was initiated during the Orvana 1998 drill campaign.

During the 2004 campaign, samples were cut with a rotary diamond carbide saw and prepared and analyzed at the Don Mario laboratory. Splits of pulps of 30% of the samples were sent to the Alex Stewart laboratory in Mendoza Argentina for referee analyses. The referee analyses showed that the results from the Don Mario laboratory were positively biased for Cu, Au and Ag, and as a result, all sample reject was sent to ALS Chemex in Oruro for preparation and assay by 50 gram fire assay and atomic absorption spectroscopy for Cu, Ag, Pb and Zn. Results from the ALS Chemex laboratory compared well with the Alex Stewart laboratory results and have been retained in the project database used for mineral resource estimation.

Core samples from the 2007 campaign were cut and sampled at the Don Mario Mine site and sent to the Alex Stewart laboratory in Mendoza for preparation and analysis. Preparation and analysis processes were similar to those used for the 2004 campaign with the addition of analyses for acid-soluble Zn. Orvana carried out a quality control program including the analysis of blanks and a high- and low-grade standard for Au and pulp duplicates.

Samples are analyzed at the laboratory located at the UMZ Mine. Blanks, standards, and duplicates are inserted at acceptable industry standard. Certain samples are sent to outside laboratories for QA/QC checks.

A security contractor patrols the perimeter of the UMZ Mine and provides office security in Santa Cruz. Orvana staff supervises drilling during daytime hours. Access to the drills is limited to contract drill staff and Orvana staff. Drill core is transported from the drill to the core shed at the UMZ Mine by Orvana and contract drill staff. Orvana staff logs, cuts samples and bags the drill core. Staff or a contract driver delivers the samples to the Orvana Santa Cruz office in a company truck. A private, contracted, trucking firm, ships the samples from the office in Santa Cruz to Oruro. ALS Chemex and Alex Stewart send an electronic confirmation of receipt to Orvana staff upon arrival of the samples at the preparation facility.

Orvana takes reasonable security measures to prevent outside tampering of samples. In addition, the relatively small size of the mine and its remote location in a relatively unpopulated region of Bolivia

ensure that the UMZ Mine operations maintain a low profile with little public interaction. The mine receives few visitors and security is relatively easy to maintain. The use of Orvana staff and reputable contractors for supervision ensures reasonable control over sample security.

#### *Mineral Resource and Reserve Estimates*

A summary of the updated mineral resource and reserve estimates from the UMZ 43-101 Report is found above under the heading "Description of the Business - Principal Mineral Projects - UMZ Mine - Resource and Reserve Estimates".

#### *Environment and Permits*

The Company has all permits required to operate the UMZ Mine. Orvana completed a two-metre increase in the height of the berms of the tailings impoundment in fiscal 2012 and, as at the date of the AIF, is completing an additional lift. The UMZ Mine waste dump is located south of the UMZ pit and covers an area of approximately 200 metres by 300 metres and a final height of 30 to 40 metres in a single bench with a face slope not exceeding 40 degrees. The waste dump and runoff water treatment facilities are tied in to the existing waste dump pile used for the now closed LMZ Mine.

### **Copperwood Project**

#### *Introduction*

The Company has been developing the Copperwood Project in the Upper Peninsula of Michigan, United States. Orvana's activities to date at the Copperwood Project have included deposit delineation, metallurgical testing and mine-plan design, among other things, which provided the basis for the Copperwood Project Feasibility Report completed pursuant to NI 43-101 as well as environmental baseline studies for various permit applications. By the end of fiscal 2013, the Company has successfully obtained all major permits in respect of the Copperwood Project. Orvana's activities during fiscal 2013 are set out under "Description of the Business - Principal Mineral Projects - Copperwood Project". Orvana will continue to de-risk the Copperwood Project and look for means to realize value.

The scientific and technical information provided below with respect to the Copperwood Project, unless otherwise noted, is contained in the Copperwood Project Feasibility Report prepared under NI 43-101.

#### *History and Exploration*

The 1950s drilling program was conducted by the United States Metal Refining Company ("USMR"), which also sank a shaft and drove drifts on the Copperwood property. Bear Creek Mining Co. Ltd. ("Bear Creek") drilled in the area under the 30-year lease during the 1950s. The 42 holes drilled by USMR and the 23 drilled by Bear Creek were on a nominal 300-metre spacing within the boundaries of Orvana's leased areas; Orvana drilled 146 holes for deposit delineation, metallurgical and geotechnical purposes and the drill spacing is now at a nominal 150 metres. During fiscal year 2010, the Company located most of the 138 holes, previously drilled by third parties, that were outside the leased areas and within the areas under an option-to-lease and sampled 87 of those where core or assay rejects were available in order to assess the viability of classifying any mineralization in these areas as NI 43-101-compliant resources estimates. The Company is in possession of not only the historic drill logs, but the assays from the selected intervals of the aforementioned drill holes. All of the aforementioned drill holes evaluated the stratiform copper mineralization in the Western Syncline.

#### *Title, Location, Access and Infrastructure*

Orvana US has entered into long-term mineral lease agreements covering 936 hectares within the Western Syncline, which is located in the Upper Peninsula of the State of Michigan. These leased areas are referred to as the Copperwood Project. Of the leased area, 276 hectares are leased from the Keweenaw Land Association of Ironwood, Michigan under a 20-year agreement dated September 10, 2008, 436 hectares are leased from Sage Minerals, Inc. of Delaware under a 20-year agreement dated October 16, 2008, and 226 hectares are leased from A.M. Chesbrough LLC of Michigan under a 30-year agreement dated September 30, 2010. The lessors have retained a net smelter return royalty on copper production. The royalty will be determined on a quarterly basis and will range from 2% to 4%, based on prevailing copper prices adjusted for inflation.

Concurrent with entering into these leases, Orvana US obtained exclusive 20-year options to enter into 20-year mineral leases nearby with respect to an additional 1,559 hectares within the Western Syncline and known as the Copperwood Satellites. In the event that Orvana US exercises any of its options to enter into additional mineral leases, such leases would be on the same terms as those of the Copperwood Project. Some of the area covered by these options are overlain by surface rights controlled by state agencies and include a state park; permits will be required for any exploration work. In addition, the Company purchased the surface rights on about 700 hectares that secured access to the Copperwood Project and additional space for infrastructure. The purchase price was \$1,900.

The leased area can be accessed by road from Wakefield, Michigan, which is located approximately 20 kilometres to the southeast. A paved county road comes within approximately three kilometres of Copperwood, after which access is by a private, improved gravel road.

Under the terms of the Keweenaw Mineral Lease, Orvana has the unconditional right to build mine infrastructure and mine on 248 hectares of the leased area as long as reparations equivalent to the market value of the land are paid; although this right is unconditional in this area, other nearby areas are not precluded from mine development. In the past, the Company has had discussions to effect a land swap in order to retain surface control of the area where the main infrastructure is planned to be located.

Electric power can be brought to the leased properties from a location approximately 30 kilometres south of the leased properties. Orvana can rely on a water supply from Lake Superior to support its activities. Orvana has discovered an aquifer approximately 5 kilometres from the Copperwood Project. Early testing has suggested that it will be adequate to support mining activities as planned.

Orvana does not anticipate any problems in satisfying its staffing needs as experienced mining personnel live within reasonable proximity to the area.

#### *Topography, Elevation, Vegetation and Climate*

The topography is essentially flat and is as high as 250 metres above sea level in the south and as low as 200 metres above sea level approximately 1.5 kilometres to the north-northwest. Small, perennial drainages incise the clay overburden. The area is wooded and includes some hardwood trees, pines, and young aspens as well as various low-lying plants.

The annual average temperature is 4°C with a minimum average of -4°C and a maximum average of 10°C. Annual average precipitation is 0.88 metres with an annual average snowfall of 4.6 metres. Annual average snow depth is 0.15 metres with a high of 0.56 metres in February.

#### *Geology and Mineralization*

The leased properties subject to the Copperwood Project and the options-to-lease are located within the Midcontinent rift system. The 1.1 billion year-old rift is filled with basaltic volcanic rocks overlain by clastic sedimentary rocks, which include the Nonesuch Formation lacustrine shales and siltstones. Whereas the volcanic rocks and conglomerates that underlie the Nonesuch Formation host(ed) native copper in the northern end of the Upper Peninsula, the shales and siltstones at the base of the Nonesuch Formation are chalcocite-bearing further south. The basal section of the Nonesuch Formation is the host rock for the mineralization at the Copperwood Project and Satellite Deposits, which host rock is geologically equivalent to that at the White Pine mine, some 30 kilometres to the northeast, where nearly 2 million tonnes of copper were produced between 1953 and 1996. In the leased and optioned areas, the mineralized zone subcrops under less than 30 metres of unconsolidated glacial lacustrine clay sediments and lies at about 337 metres depth approximately 2.5 kilometres to the north.

#### *Resource and Reserve Estimates*

As described above under the heading "Description of the Business - Principal Mineral Projects - Copperwood Project", on March 23, 2012 the Company filed the Copperwood Project Feasibility Report. The mineral reserve estimate discussed therein is summarized in the table below:

### Copperwood Mineral Reserve Estimate <sup>(1)</sup>

	Million short tons <sup>(2)</sup>	Cu %	Cu Million lbs	Ag g/t	Ag Million oz
Proven	23.14	1.46	679	3.98	2.96
Probable	7.09	1.21	173	2.44	0.57
Total Proven & Probable	30.23	1.41	852	3.63	3.53

(1) Price deck applied was \$2.50 per pound copper and \$20 per ounce silver.

(2) 1 short ton is equal to 0.907 metric tonnes.

In addition, on January 27, 2011 the Company filed a technical report titled the "Copperwood S6 and Satellite Project, Michigan, USA", which was prepared by Greg Kulla, P. Geo. and David Thomas, P. Geo of AMEC Americas Limited, Reno, NV, both of whom are qualified persons independent of the Company within the meaning of NI 43-101; this technical report summarizes the resource estimates in the Copperwood Satellites, which estimates are set out in the table below:

Satellite Deposits	Mt	Cu, %	Cu, Mlbs
Indicated	25.01	1.40	771
Inferred	36.14	1.30	1,033

(1) Mineral resources that are not mineral reserves do not have demonstrated economic viability.

#### *Drilling, Sampling and Security*

In 2009, Orvana resampled core from six of 42 holes drilled during the 1950s at Copperwood. The resampling confirmed Orvana's expectation that the results from the 1950s program are reliable. Differences between the historic and new assays were not statistically significant over the population resampled. Weighted averages for the 54 samples were 1.19% copper for the historic assays and 1.24% copper for the new assays.

Based on the historical information in its possession, the Company planned a drill program that was completed in October 2009. It is believed that this 82-hole 13,000 metre program, along with validated historical drilling as well as the Company's 2008 drilling adequately delineated the copper deposit.

Strict security measures were taken to ensure the integrity and validity of the mineralization in the new drill core. The core was sampled based on the lithostratigraphy established by the Copperwood geologic team. Assays were completed by Activation Laboratories Ltd., an ISO/IEC 17025 and CAN-P-1579 registered laboratory. The QA/QC protocol included internal and laboratory standards and blanks. AR-ICP values were determined using an aqua-regia extraction with an ICP/OES finish. Assay values were determined for samples with Cu > 1000 ppm also using an aqua-regia extraction with an ICP/OES finish. The security measures and QA/QC were supervised by Theodore Bornhorst, Ph.D., P. Geo., a qualified person for the purposes of NI 43-101 who is independent of the Company. Various technical reports, all of which are available on SEDAR, concluded that Orvana US's handling and sampling protocols were well within industry standards.

Orvana is continuing to investigate a variety of possible options and financing alternatives to enhance the value of the Copperwood Project to Orvana's shareholders.

#### *Environment and Permits*

Both the surface and mineral rights of the properties subject to the Copperwood Project are privately held. The underlying bedrock is Precambrian in age and, consequently, Orvana did not require any permits or approvals to conduct exploration work on the properties, including sampling and drilling, although there is a state guideline, regulated by the MDEQ, for plugging and abandoning drill holes. Even though Orvana has a prescriptive right to access the leased areas on private roads, in order to secure unfettered access to the project site, adequate surface rights, within which the roads connect with public-access roads, were purchased.

The Company has achieved all major permitting milestones in respect of the Copperwood Project as follows: (i) in April 2012, the mining permit from the MDEQ, as prescribed by Part 632 of the Non-Ferrous Metallic Mining regulation of the State of Michigan; (ii) in July 2012, the Permit to Install, or Air Quality Permit, from the MDEQ, Air Quality Division; (iii) in November 2012, the National Pollutant Discharge Elimination System permits for treated sanitary and process wastewaters from the MDEQ; (iv) in February 2013, the Wetland Permit from the MDEQ, which is the last major permit necessary; and (v) in June 2013 the Safe Dams Permit Draft. The Company is now integrating all the permits it has obtained into the Part 632 Mining Permit. Certain additional studies are being conducted in accordance with the Wetland Permit conditions to include base line studies of the designated preservation areas.