

ARBN 140 494 784

(Incorporated in British Columbia under the Business Corporations Act)

# <u>PROSPECTUS</u>

# For the Offer of 32,000,000 Shares at 25 cents each to raise \$8,000,000

AFSL 243302 Underwriter



This Prospectus provides important information to assist investors in deciding whether or not to invest in the Company and should be read in its entirety, together with the Application Form attached to this Prospectus. If, after reading this Prospectus, you have any questions about the Shares being offered under this Prospectus, or any other matter relating to an investment in the Company, you should consult your professional adviser. An investment in the Shares offered under this Prospectus should be considered highly speculative.

The Issue is intended to close on 17 December, 2009. The Company reserves the right to close the Offer early or extend this date without prior notice.

### IMPORTANT NOTICE

This Prospectus is dated 3 December 2009 and was lodged with ASIC on that date. Neither ASIC, ASX nor any of their respective officers take any responsibility for the contents of this Prospectus or the merits of the investment to which this Prospectus relates.

No securities will be allotted or issued on the basis of this Prospectus later than 13 months after the date of this Prospectus.

Application will be made to ASX within 7 days after the date of this Prospectus for the quotation of the Shares the subject of this Prospectus.

The distribution of this Prospectus in jurisdictions outside Australia may be restricted by law and persons who come into possession of this Prospectus should seek advice on and observe any of these restrictions. Failure to comply with these restrictions may violate securities laws. Applicants who are resident in countries other than Australia should consult their professional advisers as to whether any governmental or other consents are required or whether any other formalities need to be considered and followed.

This Prospectus does not constitute an offer in any place in which, or to any person to whom, it should not be lawful to make such an offer.

No action has been taken to register or qualify the Shares or the Offer, or otherwise to permit a public offering of the Shares, in any jurisdiction outside Australia.

It is important that investors read this Prospectus in its entirety and seek professional advice where necessary. An investment in the securities the subject of this Prospectus should be considered highly speculative.

### WEB SITE - ELECTRONIC PROSPECTUS

A copy of this Prospectus is available and can be downloaded from the website of the Company at www.shmining.com.au. Any person accessing the electronic version of this Prospectus for the purpose of making an investment in the Company must be an Australian resident and must only access the Prospectus from within Australia.

The Corporations Act prohibits any person passing onto another person an Application Form unless it is attached to a hard copy of this Prospectus or it accompanies the complete and unaltered version of this Prospectus. Any person may obtain a hard copy of this Prospectus free of charge by contacting the Company.

### **EXPOSURE PERIOD**

In accordance with Chapter 6D of the Corporations Act, this Prospectus is subject to an exposure period of 7 days from the date of lodgement with ASIC. This period may be extended by ASIC for a further period of up to 7 days. The purpose of this exposure period is to enable this Prospectus to be examined by market participants prior to the raising of funds. If this Prospectus is found to be deficient, any Application Forms received during the exposure period will be dealt with in accordance with section 724 of the Corporations Act. Application Forms received prior to the expiration of the exposure period will not be processed until after the exposure period. No preference will be conferred on Application Forms received and all Application Forms received during the exposure period will be treated as if they were simultaneously received on the Opening Date.

### **REPORTING ON EXPLORATION RESULTS**

The information contained in the Independent Geologist's Report in section 6 was prepared by Coffey Mining Pty Ltd. Otherwise information in this Prospectus that relates to exploration results has been compiled by the Company and is based on information provided by James Pearson, an Executive Director of the Company, who is a member of the Australasian Institute of Mining and Metallurgy. All information of this type is expressed in terms of the JORC Code. James Pearson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a competent person as defined in the JORC Code.

### **DEFINITIONS AND GLOSSARY**

Certain terms and abbreviations used in this Prospectus have defined meanings which are explained in the Glossary.

Unless otherwise stated, all references to "\$", dollars and cents are to Australian currency. Where there is any reference to US\$, investors should be aware that the exchange rate of US\$ to A\$ at 30 November 2009 was approximately US\$0.91 to A\$1.00. Where there is any reference to C\$, investors should be aware that the exchange rate of C\$ to A\$ at 30 November 2009 was approximately C\$0.97 to A\$1.00.

The assets depicted in photographs in this Prospectus are not assets of the Company unless otherwise stated.

### **CDI**s

Shares in the Company will trade on ASX in the form of CHESS Depository Interests ("**CDIs**"). Each CDI will represent one underlying Share. The Shares offered under this Prospectus will be issued to investors in the form of CDIs so that investors may trade the Shares on ASX and settle transactions through CHESS. Further information about CDIs is set out in sections 2.11 and 10.4.

### CORPORATE DIRECTORY

### DIRECTORS

Trevor Tennant (Chairman and Managing Director) James Pearson (Executive Director) Eduardo Valenzuela (Non-executive Director) Richard Billingsley (Non-executive Director) Glenn Laing (Non-executive Director) David Craig (Non-executive Director)

### **REGISTERED AND BUSINESS OFFICE**

### Registered office

Suite 1750, 1185 West Georgia Street Vancouver, British Columbia Canada V6E 4E6

### Australian office

Suite 7, 1200 Hay Street West Perth, Western Australia, 6005 Tel: +61 8 9481 2122 Fax: +61 8 9481 2322

### Chilean office

Unit 1103 Roger de Flor 2907 Las Condes Santiago Chile

### WEBSITE

www.shmining.com.au

## UNDERWRITER AND CORPORATE ADVISOR

Euroz Securities Limited Level 14, The Quadrant 1 William Street Perth, Western Australia, 6000 AFSL 243302

### INDEPENDENT GEOLOGIST

Coffey Mining Pty Ltd 1162 Hay Street West Perth, Western Australia, 6005

### SOLICITORS TO THE OFFER

Fairweather & Lemonis Ground Floor, 1 Havelock Street West Perth, Western Australia, 6005

### SOLICITORS REPORTING ON LICENCES

Quinzio & Vergara Av. Apoquindo 3721, Of. 73 Torre Las Condes Santiago, Chile

### INVESTIGATING ACCOUNTANT

Stantons International Pty Ltd Level 1, 1 Havelock Street West Perth, Western Australia, 6005

### SHARE REGISTRY \*

Australia Computershare Investor Services Pty Ltd Level 2, 45 St George's Terrace

Perth, Western Australia, 6000 Tel: (Aus) 1300 55 7010 Tel: (Overseas) +61 3 9415 4000 Fax: +61 8 9323 2033

### Canada

Computershare Trust Company of Canada 2nd Floor, 510 Burrard Street Vancouver, British Columbia Canada V6C 3B9 Tel: +1 604 661 9400

### PROPOSED ASX CODE SUH

\* Computershare Investor Services Pty Ltd and Computershare Trust Company of Canada have not been involved in the preparation of this Prospectus and have not consented to being named in this Prospectus. Their names are included for information purposes only.

### CONTENTS

1.	LETTER FROM THE CHAIRMAN	5
2.	DETAILS OF THE OFFER	6
3.	COMPANY AND PROJECT OVERVIEW	11
4.	DIRECTORS AND CORPORATE GOVERNANCE	29
5.	RISK FACTORS	32
6.	INDEPENDENT GEOLOGIST'S REPORT	35
7.	INVESTIGATING ACCOUNTANT'S REPORT	181
8.	SOLICITOR'S REPORT ON LICENCES	195
9.	MATERIAL CONTRACTS	213
10.	ADDITIONAL INFORMATION	217
11.	DIRECTORS' RESPONSIBILITY AND CONSENT	227
12.	GLOSSARY	228

### **INVESTMENT HIGHLIGHTS**

- A resource exploration and development company with a portfolio of mineral assets in Chile, focused on the Los Pumas Manganese Project.
- Los Pumas Manganese Project has a current JORC Code Inferred Resource of 14.63 million tonnes grading approximately 10% manganese using a 6% manganese cut-off.
- Located close to main road and port infrastructure.
- Initial metallurgical test work conducted on out-crop manganese samples, showed that dense media separation is capable of producing a product with specifications acceptable to the market.
- Focus on a Definitive Feasibility Study into the establishment of manganese mining and processing operations at Los Pumas.
- An in-fill drilling program of approximately 3,500m is underway on Los Pumas Manganese Project. This would bring total drilling on the Project to approximately 7,500m in 350 drill holes.
- Skilled and experienced Board and management team led by Mr Trevor Tennant as Chairman and Managing Director.
- The Company has a portfolio of other exploration Projects in Chile, that are predominantly prospective for porphyry copper mineralisation.

The key risks of an investment in the Company include exploration and development risk, resource and reserve estimation risk, commodity price volatility risk and licence applications risk associated with the risk that a number of the licences are in application and their grant cannot be guaranteed. Risks associated with an investment in the Company are outlined in section 5 of this Prospectus. You should consider these risks before applying for Shares and, where necessary, seek independent professional advice.

The information above is a selective overview only and should be read in conjunction with the more detailed information appearing elsewhere in this Prospectus. Investors should read the Prospectus in its entirety and not rely solely on this overview.

OFFER OPENING DATE	11 DECEMBER 2009
OFFER CLOSING DATE	17 DECEMBER 2009
HOLDING STATEMENTS TO BE DISPATCHED	28 DECEMBER 2009
OFFICIAL QUOTATION OF SHARES ON ASX	05 JANUARY 2010

The above dates are indicative only and may change without notice. The Company reserves the right to extend the Closing Date and the Offer or close the Offer early without notice. Applicants are encouraged to apply as soon as possible after the Offer opens.

### Dear Investor,

On behalf of the Board I am pleased to invite you to become a Shareholder in Southern Hemisphere Mining Limited.

Southern Hemisphere owns the Los Pumas Manganese Project and a portfolio of predominantly porphyry copper Projects throughout Chile.

The Los Pumas Manganese Project with its existing JORC Code Inferred Resource and proximity to main road and port infrastructure offers a development opportunity for the Company. Our primary focus is on the completion of a Definitive Feasibility Study for the Los Pumas Manganese Project and the listing of Southern Hemisphere on the ASX. This capital raising is aimed at funding this undertaking.

Investors should closely review section 3 of this Prospectus (Company and Project Overview) and the Independent Geologist's Report in section 6 to fully understand the potential of the Los Pumas Manganese Project.

A high calibre Board and management team has been assembled which brings technical and development expertise to the Company's Projects. I have had more than 35 years experience in the mining industry, including experience in the manganese business as General Manager of the Groote Eylandt Mining Company, and executive director positions with Portman Mining Limited, OM Holdings Limited and Territory Iron Limited.

Following the completion of the Offer, the Company will be well funded to pursue a Definitive Feasibility Study on the Los Pumas Manganese Project and advance exploration efforts at its portfolio of predominantly porphyry copper Projects.

The Company is currently listed on the TSX Venture Exchange (TSX-V) and in conjunction with this Offer is seeking a dual listing on the Australian Securities Exchange.

I commend the Offer to you and look forward to welcoming you as a Shareholder of Southern Hemisphere

Yours sincerely

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Trevor Tennant Chairman and Managing Director Southern Hemisphere Mining Limited

### 2.1 The Offer

By this Prospectus the Company offers for subscription 32,000,000 Shares at 25 cents each to raise \$8,000,000.

The maximum amount that may be raised under this Prospectus is \$8,000,000.

The details of how to apply for Shares are set out below.

### 2.2 Purpose of the Offer

The Directors believe that on completion of the Offer, the Company will have enough working capital to carry out the objectives of the Company from the Offer, which are to:

- a) complete the acquisition of 100% of the licenses the subject of the Kaiora Option Agreement;
- b) produce a Definitive Feasibility Study of the Los Pumas Manganese Project;
- c) continue assessment and exploration work on the Company's porphyry copper and other Projects;
- d) fund corporate administration and general working capital costs; and
- e) pay the costs of the Offer.

### 2.3 Use of proceeds and funds

The Company intends to use its current funds of approximately \$1,800,000 cash on hand at 30 November 2009 and the funds raised from the Offer broadly as follows:

Funds Available	
Cash at Bank	\$1,800,000
Funds from this Offer	\$8,000,000
Total funds available	\$9,800,000
Application of proceeds	
Exploration and development of the Los Pumas Manganese Project including a Definitive Feasibility Study <sup>1</sup>	\$3,000,000
Assessment and exploration of porphyry copper and other Projects <sup>1</sup>	\$2,000,000
Payment to exercise option B under Kaiora Option Agreement <sup>2</sup>	\$770,000
Corporate administration costs	\$2,000,000
Balance of costs of the Offer <sup>3</sup>	\$650,000
General working capital	\$1,380,000
Total	\$9,800,000

The actual expenditures may vary from the above estimates and the Board reserves the right to appropriately vary the expenditures dependent on circumstances and other opportunities. Notes:

- 1. A two year budget to explore and develop the Los Pumas Manganese Project is set out in the Independent Geologist's Report at section 6. This includes funding for the Definitive Feasibility Study. Two year budgets to assess and explore the porphyry copper and other Projects are also set out in the Independent Geologist's Report at section 6.
- This sum of money represents the sum of US\$700,000 that the Company intends to pay by 31 January 2010 to complete the acquisition of 100% of the licences the subject of the Kaiora Option Agreement. The licences form part of the Los Pumas Manganese Project. The Kaiora Option Agreement is summarised at section 9.1. An exchange rate of US\$0.91 = A\$1.00 is assumed

3. The balance of the costs of the Offer are the costs outstanding and include an underwriting and management fee of \$400,000 plus GST.

### 2.4 Capital structure

Prior to the ASX listing, the capital structure of the Company will be:

Shares	
Existing Shares	67,685,687
Shares underlying the CDIs to be offered under this Prospectus	32,000,000
Total Shares	99,685,687
Options and Warrants <sup>1and 2</sup>	
Options exercisable at C\$0.20 before 1 November 2011	133,334
Options exercisable at C\$0.40 before 13 January 2013	3,356,579
Warrants exercisable at C\$0.20 before 8 December 2010	3,835,000
Warrants exercisable at C\$0.40 before 29 August 2011	7,500,000
Options exercisable at A\$0.30 before 31 December 2012 (to be issued)	5,200,000
Options exercisable at A\$0.25 before 31 December 2012 (to be issued)	1,000,000
Total Options and Warrants	21,024,913

Notes:

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- 1. The terms of the Options and Warrants referred to above are set out in section 10.5.
- 2. In addition to the Warrants and Options in the capital structure table above, there are two series of Warrants and Options that expire on 17 December 2009 each with an exercise price above the 25 cent Offer price under this Prospectus. The series of Warrants and Options are 271,250 Options exercisable at C\$0.40, and 5,457,844 Warrants exercisable at C\$0.60.

### 2.5 Minimum subscription

The minimum subscription under the Offer is \$8,000,000. The Company will not issue any Shares pursuant to this Prospectus until the minimum subscription is satisfied. As Southern Hemisphere is incorporated in Canada, successful Applicants will be issued CHESS Depository Interests (CDIs) rather than shares, where each CDI represents one Share. Further information about CDIs is contained in section 2.11 and section 10.4. The Offer is fully underwritten by Euroz Securities Limited.

Should the minimum subscription not be reached within 4 months from the date of this Prospectus, the Company will either repay Application Monies to Applicants or issue a supplementary prospectus or replacement prospectus and allow Applicants one month to withdraw their Applications and be repaid their Application Monies. No interest will be paid on this money.

### 2.6 Application for Shares

To apply for Shares offered under this Prospectus, Applicants must complete an Application Form and return the completed Application Form together with the Application Monies in full prior to 5.00pm (WST) on the Closing Date.

Payment for the Shares must be made in full at the issue price of 25 cents per Share. Applications for Shares must be for a minimum of 8,000 Shares (\$2,000) and thereafter in multiples of 1,000 Shares (\$250). Completed Application Forms and accompanying cheques must be mailed or delivered to Computershare Investor Services Pty Ltd at:

By Post	or	By Delivery
Computershare Investor		Computershare Investor Services Pty Ltd
Services Pty Ltd		Level 2, Reserve Bank Building
GPO Box D182		45 St. George's Terrace
PERTH WA 6840		PERTH WA 6000

Cheques should be made payable to "Southern Hemisphere Mining Limited – CDI Offer Account" and crossed "Not Negotiable". The Offer may be closed at an earlier date and prior to the indicative Closing Date, at the discretion of the Company, without prior notice. Applicants are therefore encouraged to submit their Application Form as early as possible. However, the Company reserves the right to extend the Offer or accept late Applications.

### 2.7 Allocation and Allotment of Shares and CDIs

As the Shares offered under this Prospectus will trade on ASX in the form of CDIs, Share Allotments will take the form of CDIs.

The Company in conjunction with the Underwriter reserves the right to allocate CDIs in full for any Application, or to allocate any lesser number, or to decline any Application. Allotment of Shares and the issue of CDIs will be made as soon as possible after the Closing Date. Where no Allotment is made to an Applicant, the Application Monies will be returned in full by cheque with the relevant Application Form within 14 days of the Closing Date. Where the number of Shares allotted is less than the number of Shares applied for, the surplus Application Monies will be returned by cheque to the Applicant within 14 days of the Closing Date. Interest will not be paid on refunded Application Monies.

Pending the issue and Allotment of CDIs or payment of refunds pursuant to this Prospectus, all Application Monies will be held by the Company in trust for the Applicants in a separate bank account as required by the Corporations Act. The Company will be entitled to retain all interest that accrues on such bank account and each Applicant waives the right to claim any such interest.

It is the responsibility of Applicants to determine their Allotment prior to trading their CDIs. Applicants who sell their CDIs before they receive their holding statements will do so at their own risk.

### 2.8 ASX listing and trading on TSX-V

The Company will apply to ASX within 7 days after the date of this Prospectus for quotation of the Shares offered by this Prospectus on ASX.

If ASX does not grant permission for the quotation of the Shares offered under this Prospectus within 3 months after the date of this Prospectus, or such longer period as is permitted by the Corporations Act, none of the Shares offered by this Prospectus will be allotted or issued. In these circumstances, all Applications will be dealt with in accordance with the Corporations Act including the return of all Application Monies without interest.

A decision by ASX to grant official quotation of the Shares is not to be taken in any way as an indication of ASX's view as to the merits of the Company or of the Shares. ASX and its officers take no responsibility as to the contents of this Prospectus. Quotation, if granted, of the Shares offered by this Prospectus will commence as soon as practicable after statements of holdings are dispatched.

Application will be made to TSX-V for all of the Shares offered under this Prospectus to be admitted to trading on TSX-V. In order to trade on TSX-V, investors will need to convert their CDIs tradeable on ASX to Shares tradeable on TSX-V. Please see section 2.11 for more information.

### 2.9 Restricted securities

The ASX may classify certain securities as being subject to the restricted securities provisions of the Listing Rules. Accordingly, a proportion of such securities may be required to be held in escrow.

None of the Shares offered under this Prospectus will be treated as restricted securities and will be freely transferable from their date of Allotment.

### 2.10 Applicants outside Australia

This Prospectus does not, and is not intended to, constitute an offer in any place or jurisdiction, or to any person to whom, it would not be lawful to make such an offer to issue this Prospectus. The distribution of this Prospectus in jurisdictions outside Australia may be restricted by law and persons who come into possession of this Prospectus should seek advice on and observe any such restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities law. No action has been taken to register or qualify the Shares or otherwise permit a public offering of the Shares the subject of this Prospectus in any jurisdiction outside Australia.

It is the responsibility of Applicants outside Australia to obtain all necessary approvals for the Allotment and issue of Shares under this Prospectus. The return of a completed Application Form will be taken by the Company to constitute a representation and warranty by the Applicant that all relevant approvals have been obtained.

### 2.11 CHESS and CDIs

The Company will apply to participate in the Clearing House Electronic Subregister System ("CHESS"). CHESS is a computerised system for the electronic transfer of uncertificated securities through ASX's wholly owned subsidiary, ASX Settlement and Transfer Corporation Pty Ltd ("ASTC").

The Company is incorporated in British Columbia, Canada, which does not recognise the CHESS system of holding securities or electronic transfer of legal title to Shares. Therefore to facilitate trading on ASX, the Company's securities will trade in the form of CDIs on ASX. CDIs are traded in a manner similar to shares. The Company's securities will continue to trade on TSX-V as Shares.

CDI holders cannot trade their CDIs on TSX-V without converting the CDIs into Shares, and Shareholders cannot trade their Shares on ASX without converting the Shares into CDIs.

CDIs will be held in uncertificated form and settled/transferred through CHESS. No share certificates will be issued to CDI holders. CDIs are units of beneficial ownership in foreign securities held by an Australian depositary entity. The Company will use CHESS Depositary Nominees Pty Ltd ("**CDN**") as the depositary entity for the Company's Shares. CDN is a subsidiary of ASX.

Each CDI represents one underlying Share. The main difference between holding CDIs and Shares is that CDI holders hold the beneficial ownership in the Shares instead of legal title. CDN holds the legal title to the underlying Shares. The Shares underlying the CDIs will be registered in the name of CDN and will be held on behalf of and for the benefit of the CDI holder. CDIs will be CHESS-approved from the date of official quotation on ASX in accordance with the ASX Listing Rules and the ASTC Settlement Rules.

The rights attaching to Shares and CDIs are summarised below and in section 10.4.

### a) Registers

The Company will operate a certificated Canadian central securities register maintained by Computershare Trust Company of Canada, an uncertificated issuer sponsored sub-register of CDIs maintained by Computershare Investor Services Pty Limited in Australia, and an uncertificated CHESS sub-register of CDIs in Australia. The two uncertificated CDI sub-registers combined will make up the register of beneficial title to the Shares underlying the CDIs.

### b) Holding statements

The Company will not issue certificates to CDI holders. Instead, as soon as practicable after issue, successful Applicants will receive a holding statement which sets out the number of CDIs issued.

A holding statement will also provide details of a security holder's Holder Identification Number (**HIN**) (in the case of a holding on the CHESS sub-register) or Shareholder Reference Number (**SRN**) (in the case of a holding on the issuer-sponsored sub-register). Following distribution of these initial holding statements, an updated holding statement will only be provided at the end of any month during which changes occur to the number of shares held. CDI holders may also request statements at any other time (although the Company may charge an administration fee).

### c) Conversion of CDIs to Shares

Holders of CDIs can choose to have their CDIs converted to a direct holding of Shares. However, if they do so, they will no longer be able to trade their CDIs on ASX though they will be able to trade the resultant Shares on TSX-V. CDI holders wishing to convert their CDIs to Shares may do so in one of the following ways:

- (i) for CDIs held through the issuer-sponsored sub-register, contacting Computershare Investor Services Pty Limited directly to obtain the applicable conversion request form; or
- (ii) for CDIs held on the CHESS-sponsored sub-register, by contacting their controlling participant (who will usually be a stockbroker) who will liaise with Computershare Investor Services Pty Limited. Upon receipt of the conversion request the relevant number of CDIs will be cancelled and the Shares underlying the CDIs will be transferred from CDN to the Shareholder or to a market participant electronically in the Canadian Depository for Securities Limited. The Shares will be tradeable on TSX-V but not on ASX. The Directors expect that this conversion process will be completed on the day on which a valid conversion request is received.

The ASTC Settlement Rules require the conversion process to be completed within three business days of receipt of the conversion request.

### d) Conversion of Shares to CDIs

Shareholders may convert their Shares to CDIs by contacting Computershare Trust Company of Canada or their stockbroker (or applicable controlling participant). In this case, the Shares will be transferred from the Shareholder's name into the name of CDN and a holding statement will be issued for the CDIs. Upon conversion to CDIs, the CDIs will be tradable on ASX but not on TSX-V.

The ASTC Settlement Rules require the conversion process to be completed within three business days of receipt of the conversion request.

### e) Trading of CDIs

Trading of CDIs occurs on the same trading platform on ASX as the trading of shares.

### 2.12 Privacy Act

If you complete an Application Form, you will be providing personal information to the Company (directly or by the Share Registry). The Company will collect, hold and use that information to assess your Application, service your needs as a Shareholder, facilitate distribution payments (if made) and send corporate communications to you as a Shareholder and carry out administration.

The information may also be used from time to time and disclosed to persons inspecting the register, bidders for your securities in the context of takeovers, regulatory bodies, including the Australian Taxation Office, authorised securities brokers, print service providers, mail houses and the Share Registry.

You can access, correct and update the personal information that we hold about you. Please contact the Company or the Share Registry if you wish to do so at the relevant contact numbers set out in this Prospectus.

Collection, maintenance and disclosure of certain personal information is governed by legislation including the Privacy Act, the Corporations Act and certain rules such as the ASTC Settlement Rules. You should note that if you do not provide the information required on the Application Form, the Company may not be able to accept or process your Application and, accordingly, you may not be allotted any Shares.

### 2.13 No Prospective Financial Forecasts

The Directors have considered the matters outlined in ASIC Policy Statement 170. Given that the Company is a resource exploration and development company and the highly speculative nature of exploration and any subsequent development and production, the Company considers that it is unable to provide potential investors with any reliable revenue, profit or cash flow projections or forecasts.

### 2.14 Risk Factors

Prospective investors in the Company should be aware that subscribing for Shares the subject of this Prospectus involves a number of risks. Some of these risks are set out in the Risks section of this Prospectus at section 5 and investors are urged to consider those risks carefully (and, if necessary, consult their professional adviser) before deciding whether to invest in the Company

### 2.15 Underwriter

Euroz Securities Limited has agreed to underwrite the Offer pursuant to this Prospectus. Please refer to section 9.4 for a summary of the material terms of the underwriting agreement entered into with the Underwriter.

### 3.1 Background

3.

- The Company was incorporated pursuant to the provisions of the Business Corporations Act (British Columbia) on 23 December 2005 and securities were listed for trade on the TSX-V on 2 November 2006.
- In December 2007 the Company acquired all the shares in an Australian proprietary limited company, Southern Hemisphere Mining (Aust) Pty Ltd, which through a shareholding in a Chilean company held interests in three exploration Projects, Las Santas, El Arrayan and San Jose (the Original Projects).
- During 2008 the Company explored for porphyry copper deposits on the three Original Projects. It also purchased a fourth Project, Mantos Grandes, from the ASX listed company Sundance Resources Limited. In September 2008 the Company recognised a manganese opportunity at Los Pumas. The Company applied for tenements in the Project area and entered into the Kaiora Option Agreement to purchase other tenements of interest.
- In July 2009 Southern Hemisphere shareholders approved the acquisition of Pan American Mining Pty Limited (PAM) and South American Mining Pty Limited (SAM), two companies owned by parties related to the Company which own exploration Projects in Chile. The purchase was funded by issuing 10,000,000 Shares in the Company.

### 3.2 Nature of Business

- The Company is a resource exploration and development company creating shareholder value through the acquisition, exploration and development of resource Projects in Chile. Southern Hemisphere's 99.99% owned subsidiary Minera Hemisferio Sur SCM (MHS) owns the Los Pumas Manganese Project, 175km east of the major port city of Arica as well as the three Original Projects being porphyry copper exploration Projects (Las Santos, El Arrayan and San Jose).
- The Company's subsidiaries PAM and SAM own the Chitigua, Santa Gracia, Angel, Tres Cruces, Romeral, Cunlagua, Meteoritca, Carbon and Tuina exploration Projects while the Company's 99.99% owned subsidiary Futuro owns the Mantos Grandes exploration Project.
- The Company maintains offices in Santiago, Chile and Perth, Western Australia.
- A total of \$3,000,000 is allocated to exploring and developing the Los Pumas Manganese Project in the next two years, including funding the Definitive Feasibility Study, while \$2,000,000 is allocated to assessing and exploring the porphyry copper and other Projects. Where a Project consists of granted licences and applications, the expenditure is intended to be allocated to the granted licences. However, in Chile expenditure can be made on exploration while licences are still in application (such as applications for exploration licences or concessions and applications for exploitation licences and concessions). Two year budgets for the Los Pumas Manganese Project and 11 of the other Projects are set out in the Independent Geologist's Report at section 6.
- As a TSX-V listed company, Southern Hemisphere is subject to a disclosure regime. Announcements are available on www.sedar.com and recent announcements include the annual filings for the year ended 30 June 2009.



### The corporate structure of the Company is as follows.

### Notes:

Two of the licence interests constituting part of the Los Pumas Manganese Project are intended to be held by a company which will be either 50% or 100% held by Minera Hemisferio Sur SCM. These two licence interests are the subject of the Kaiora Option Agreement summarised at section 9.1 of this Prospectus.

### 3.3 Los Pumas Manganese Project

The primary focus of the Company is the completion of a Definitive Feasibility Study on the development of the Los Pumas Manganese Project so as to produce a Definitive Feasibility Study. The Los Pumas Manganese Project is located in northern Chile, approximately 175 km or three hours drive east of Arica, the major port city in the Number XV region of Chile. Africa is serviced by domestic flights between Santiago and a number of cities in Chile and is located within one hours drive of Tacna, the southernmost city of Peru.

The city of Arica has existing modern port infrastructure which currently handles base metal and tin concentrate exports from Bolivia.

Access from Arica to the Los Pumas Manganese Project is via the International Highway which runs from Arica to La Paz (CH11) to the regional administrative centre of Putre, then via the all weather gravel (A023)road to the Project area.



The main railway line between La Paz and Arica runs approximately 1km from the Los Pumas Manganese Project. The railway is currently being rehabilitated, however no official anticipated completion date is available and the Company expects that it will transport any future production by road.

In the event of production, the Company will use the Arica port to ship bulk manganese.

The manganese mineralisation at the Los Pumas Project is divided into the north and south targets. The north target is approximately 1.7km by 0.6km in area and approximately 1m to 10m in thickness, while the south target is 1km by 0.2km in area and a similar thickness. Mineralisation outcrops from surface in most cases, extending up to a maximum depth of 30m below the surface. The manganese occurs as mantle style mineralisation of cryptomelane.

# 

### Los Pumas Tenements

Drilling by the Company commenced on 16 December 2008. The data gathered from drilling 3,516m in 151 holes has been used in a JORC Code resource estimation .The resource is classified as Inferred status given the application of assumed bulk densities and the low confidence topography and drill collar survey information used. There is total Inferred Resource of 14.63 million tonnes at 9.98% Mn (using a 6% Mn cutoff).

Los Pumas Manganese Project Inferred Mineral Resource (October 16th 2009)			
Cutoff (% Mn)	Tonnes (Mt)	Mn (%)	
0	62.98	3.66	
1	42.11	5.25	
2	30.28	6.73	
3	24.41	7.76	
4	20.96	8.47	
5	17.66	9.21	
6	14.63	9.98	
7	12.06	10.71	
8	9.64	11.52	
9	7.16	12.58	
10	5.41	13.59	
11	3.79	14.93	
12	2.65	16.44	
13	1.94	17.92	
14	1.57	18.95	
15	1.26	20.06	

### Table 1: Los Pumas Manganese Project Inferred Mineral Resource

Southern Hemisphere commissioned a series of metallurgical test-work programs by Transmin Metallurgical Consultants in Lima in order to characterise the manganese ore and recovery from the Los Pumas Manganese Project. The programs included heavy liquid separation (HLS) at 2.8, 2.9, and 3.0 SG. Based on the HLS results reviewed by Coffey Mining Pty Ltd, a manganese concentrate of 37% Mn with low impurities will be targeted, which meets marketing specifications.

A Definitive Feasibility Study on the Los Pumas Manganese Project will be undertaken by the Company. This will include:

- the completion of the infill drilling to enable an upgrade of the resource to indicated and measured categories;
- topographic survey;
- hydrological studies and securing of water rights;
- environmental studies;
- further metallurgical testing on core samples. Crushing tests, dense media and specific gravity testing;
- detailed processing plant design and costing;
- tailing dam design;
- ore body modelling and optimised mine planning;
- negotiation and selection of mining, transport, and power supply contractors;
- completion of negotiations with the port at Arica;
- gaining of approvals from both provincial and central governments for the development and operation of the mine;
- finalising initial marketing and off-take agreements;
- completion of negotiations with community land holders; and
- detailed financial modelling of the Project, including all capital and operating costs.

### 3.4 Porphyry Copper and Other Exploration Projects

In addition to its primary manganese focus the Company owns a number of other exploration Projects the majority of which are prospective for porphyry copper mineralisation.

The exploration programs of the Company's porphyry copper and other Projects are subject to change and are contingent on positive progress, circumstances, results and other opportunities which may be identified in line with the Company's objectives and strategy. Expenditure may be reallocated amongst existing or new Projects or to general working capital. The final expenditure of funds may vary from the amount indicated in section 2.3 depending on the circumstances in which the business develops and operates.

The Independent Geologist has stated that the programmes and budgets proposed for the porphyry copper Projects and other Projects are adequate to achieve the stated objectives (see the Independent Geologist's Report at section 6). It is not possible to accurately determine the outcome of exploration and considerable variation to the proposed exploration programmes and budgets may be required as new data becomes available.

### **Original Projects**



### (a) Las Santas

The Las Santas Project, formerly known as the Coiron Project, is centred at 31°58'31"S and 70°41'36"W in the Comuna de Salamanca district of Region IV in central-northern Chile. The Las Santas Project is located approximately 320km or four hours drive north of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway northward to the regional coastal centre of Los Vilas, thence inland via sealed roads through the township of Illapel and the regional administrative centre of Salamanca to the village of Tranquilla, located on the northern perimeter of the property. Access within the property is via a series of recently upgraded unformed gravel roads and tracks.

The Las Santas area lies toward the northern extremity of a belt dominated by copper-molybdenum porphyry systems, to the north of which porphyry and epithermal deposits are dominated by precious metals.

Structurally the Las Santas Project lies along a 70km northeast trending lineament that links the Los Pelambres porphyry copper-molybdenum deposit (and adjacent El Pachon in Argentina), located 15km northeast of Las Santas, with the El Bronce epigenetic gold deposit 17km to the southwest.



Las Santas Geology and Mineralisation

The principal economic target within the Las Santas Project is porphyry copper mineralisation. Unlike the nearby porphyry copper-molybdenum deposits at Los Pelambres and El Pachon, however, metallogenic evidence within the Las Santas Project suggests that a porphyry copper-gold association is more likely. Extensive potassic alteration within both monzonitic and granodioritic intrusives has been identified at two localities within the property to date, one of which includes extensive zones of disseminated copper mineralisation.



Las Santas LandSat Image and Alteration

A secondary target includes the oxidised portions of copper-gold vein systems hosted by andesitic volcanics, associated with peripheral faulting and fracturing marginal to the Mount Tacho implosion breccia and intrusive complex. Several such vein systems have been identified within the Las Santas Project and these have been the subject of superficial artisanal mining activity over a long period of time.

### (b) El Arrayan

The El Arrayan Project is centred at 30°07'S and 71°00'W in Region IV of central-northern Chile, located immediately southeast of the regional capital of La Serena and 470km north of Santiago. The El Arrayan Project is located approximately 450km north of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway northward to the regional capital of La Serena, thence eastward 40km up the Elqui Valley via sealed road to the township of Coquimbo and thence15km south via formed gravel road to the Project area.

The El Arrayan Project is located within a well-developed north-northwest trending structural corridor that extends for some 150km from south of Andacollo to Los Choros Creek in the north, incorporating the Andacollo copper and gold deposits, and the El Arrayan, Gavilanes, Chinchillon and La Higuera prospects.

### El Arrayan Geology and Mineralisation



The El Arrayan Project is considered prospective for three principal styles of mineralisation, all of which are well represented within the Coastal cordillera, as follows:

- porphyry copper-gold systems of high iron affinity, essentially identical to that at the nearby Andacollo
  deposit. The argillic alteration, tonalitic to dacitic sub-volcanics and copper-gold lode/vein systems are
  interpreted to represent the upper peripheral expressions of an obscured porphyry system at depth;
- manto-style mineralisation within sedimentary or andesitic volcanic horizons, similar to those located at the Marquesa Prospect, 15km to the east-northeast of the Project, and the Andacollo gold deposit, located some 24km south-southwest of the Project; and
- structurally controlled lode or vein style copper-gold mineralisation, similar to the Manto Verde deposit near Copiapo some 300km to the north.

The primary exploration model associated with the El Arrayan Project is a porphyry copper-gold deposit of high iron affinity, essentially identical to that at Andacollo.

### (c) San Jose

The San Jose Project is centred at 36°49'S and 71°36'W in Region VIII of central-southern Chile, located 50km southeast of the regional city of Chillan and 390km south of the capital Santiago.

The San Jose Project is located in the foothills of the Andean pre-cordillera, equivalent to the older Coastal Cordillera of northern and central Chile. Although not represented within the Project itself, the known basement within the district comprises gneisses of the upper Cretaceous Los Azules Metamorphics. These are disconformably overlain by andesites of similar age comprising the El Sauce Formation. The basement stratigraphy has been intruded by a series of co-magmatic batholiths of the Santa Gertrudis Suite.

The principal economic target within the San Jose Project is porphyry copper-molybdenum mineralisation. Chalcopyrite and molybdenite is associated with extensive potassic alteration within a dominantly granodioritic intrusive lying along a faulted contact with younger volcano-sedimentary rocks. The mineralised assemblage and alteration is entirely consistent with a porphyry system, with zones of higher tenor mineralisation associated with stockwork veining and fracturing proximal to the fault contact.

Porphyry copper-molybdenum mineralisation has been identified in semi-continuous exposures of granodiorite and monzogranite along the deeply incised valleys of the San Jose, San Juanita and Pierna Blanca creeks. Mineralisation is best developed by over a width of 400m immediately adjacent to the faulted contact between the intrusives and younger Pierna Blanca Formation to the west. While the basement geology is obscured by the Cola de Zorro Formation between these valleys, it is reasonable to assume that alteration and mineralisation persist between and beyond these exposures over a distance of at least 3km.

### San Jose Geology and Mineralisation





Pan American Mining and South American Mining Project Locations

### (d) Chitigua Project

A porphyry copper Project, the Chitigua Project is in the northern portion (Region II) of Chile, 270km northeast of the port city of Antafogasta and 90 km north of the regional mining centre of Calama.

The Chitigua Project straddles (or more specifically lies immediately east of) the West Fault over a strike length of 18 km, located between the Quebrada Blanca and El Abra deposits, situated 70km to the north and 30km to the south respectively. The West Fault is a major north-trending crustal structure that can be semi-continuously traced through northern Chile for a distance of several hundred kilometres. The West Fault provides the locus for mineralised intrusions that comprise the northern porphyry copper molybdenum belt. This belt is one of the most heavily mineralised provinces in the world, incorporating some 29 major porphyry occurrences including several of the world's largest deposits. From south to north these include Escondida, Gaby, Chuquicamata, El Abra, Collahuasi and Quebrada Blanca.

While the Chitigua area generally is considered to be highly prospective for porphyry copper mineralisation. This potential primarily lies immediately west of the Project tenements, primarily centred on the excised Jovanka Mine and its immediate extensions to the north and south. The Jovanka Mine, which lies within a small tenement excised from the central northern portion of the Project (and therefore outside the Project area), provides the best exposed example of porphyry style mineralisation. While no Mineral Resources or Mineral Reserves have been defined, the style and setting of the mineralisation within the Chitigua Project in general, is similar to the major Chuquicamata porphyry deposit located along the west fault some 80km to the south.

While the Chitigua area is considered to be highly prospective, the more obvious potential is primarily dependent on acquiring tenure over the trace of the West Fault itself and the Jovanka deposit in particular.

### Chitigua Project – Geology



### (e) Santa Gracia Project

A porphyry copper Project, the Santa Gracia Project is in the central portion (Region IV) of Chile, 22 km northeast of the provincial capital of La Serena. The Santa Gracia Project includes the Chackay Gold Prospect and covers an area of 37.5 square kilometres.

The Santa Gracia Project is located within a well-developed north-northwest trending structural corridor that extends for some 150km from South of Andacollo to Los Choros Creek in the north. The mineralised corridor includes the Andacollo copper and gold deposits, and the El Arrayan, Gavilanes, Chinchillon and La Higuera prospects.

The primary exploration model associated with the Santa Gracia Project is a porphyry copper deposit. Given the immediate proximity of the Los Loros porphyry deposit, it is likely that the mineralisation may be accompanied by molybdenum. The presence of porphyry style alteration and high level intrusives of appropriate composition support the potential for a discovery of this style.

The secondary exploration model associated with the Santa Gracia and neighbouring Chakay properties involves parallel, high grade mesothermal gold lodes developed towards the northern end of the property, possibly parallel to and overlying the shallowly plunging extent of the Los Loros porphyry.



Santa Gracia Project - Geology

### (f) Angel Project

A porphyry copper Project the Angel Project is in the central northern portion of Chile (Region IV), some 20km south of the regional capital of La Serena and proximal to the port of Coquimbo. Tenements cover an area of 8 square kilometres.

The Angel Project is located within a well developed north-northwest trending structural corridor that extends for some 150km from South of Andacollo to Los Choros Creek in the north, incorporating the Andacollo copper and gold deposits and the El Arrayan (Southern Hemisphere), Gavilanes, Chinchillon and La Higuera prospects.





An initial mobile metal ion soil sampling program was completed and principal porphyry elements of interest (being copper-gold mineralisation) returned a subdued response. The style, nature and setting of mineralisation justifies an initial limited diamond drilling program.

### (g) Tres Cruces Project

The Tres Cruces Project is in the central northern portion (Region IV) of Chile 73 km north of the provincial capital of La Serena.

The primary exploration model associated with the Tres Cruces Project is 'manto' style mineralisation, involving sub-horizontal, stratabound deposits (or mantos) and their sub-vertical feeder zones. While the primary target is copper, various combinations of copper, silver, barite and manganese are represented in the artisanal workings scattered throughout the Project area.





Manto style copper mineralisation is best expressed within a small excised tenement near the southern extremity of the Project, where mineralisation is exposed in the steep northern slopes of Colorada Creek. Mineralisation is being exploited via a small underground mining operation. Although extremely inconsistent and difficult to trace, manto copper mineralisation is reportedly up to 30m thick and dips shallowly towards the east.

The potential exists to identify manto style mineralisation, however, the size of the deposits is likely to be modest and the grade marginal. No work to date has been completed by the Company on the Tres Cruces Project.

### (h) Romeral Project

The Romeral Project is located in the central northern portion (Region IV) of Chile 20 km north of La Serena. **Romeral Project – Geology** 



Referred to as the Juan Soldado Project in the Solicitors Report the Project encompasses a 6 km strike length of a major regional structure termed the Romeral Fault. This structure is associated with several major iron oxide-copper-gold deposits over a known strike length of at least 60km. To the north of the Romeral Project (from north to south) these deposits include Santa Dominga (copper, gold and iron), El Tofo (iron) and Caballo Blanco (copper and iron), while the El Romeral deposit (iron and gold) lies immediately to the south of the Project area.

The primary exploration model associated with the Romeral Project relates to iron oxide-copper-gold deposits associated with A-type or I-type intrusive complexes, frequently described as being of porphyry affiliation. The secondary exploration model associated with the Romeral Project involves copper-gold mineralisation associated with mesothermal quartz-carbonate stockwork, sheeted vein, and breccia systems. No work of significance has yet been completed by the Company on the Romeral Project.

### (i) Cunlagua Project

The Cunlagua Project is near the city of Salamanca in the Choapa Province (Region IV) of Chile.

The Cunlagua Project lies within the north trending Neogene metallogenic belt which runs along the Andean Cordillera Principal, straddling the border between Chile and Argentina. Magamatism associated hydrothermal alteration and mineralisation progressed northward and eastward along this trend. The Culagua area lies towards the northern extremity of a belt dominated by copper-molybdenum porphyry systems, to the north of which porphyry and epithermal deposits are dominated by precious metals.





Structurally the Cunlagua Project lies immediately to the west of a 70km northeast trending lineament that links the Los Pelambres porphyry copper-molybdenum deposit (and adjacent El Pachon in Argentina), located 12km northeast of Cunlagua, with the El Bronce epigenic gold deposit lying further to the south.

Mineralisation occurs within a strong and persistant zone of brecciated granodiorite and calcite veining, annealed by calcite (possibly mangano-calcite) and limonite. Ore minerals include tetrahedrite, chalcopyrite and niccolite. Although no uranium minerals have been positively identified one assay sample of material from the Project recorded a grade of  $4.3\% U_3O_8$ . By international standards, the uranium potential within the Project is limited, however, in a Chilean context where future power supplies are uncertain, it may prove to be of strategic significance. Further investigation for uranium is justified.

### (j) Meteoritica Project

The Meteoritica Project is in the northern portion (Region II) of Chile, 220km north-northeast of the port city of Antofagasta and 66km northwest of the regional mining centre of Calama.

The geology of the Meteoritica Project is poorly exposed, however the local basement appears to comprise a north trending succession of steeply west dipping limestones, conglomerates (fanglomerates), sandstones, mudstones and evaporates of the lower Miocene to Upper Pliocene El Loa Formation.

The primary exploration target is iron ore, developed as deflationary deposits of resistant magnetitehaematite boulders and cobbles that have accumulated at or near the surface.

The secondary target is the primary source of iron ore, believed to be derived from contact metamorphosed ferruginous sandstones (quartzites), mudstones, limestones (marble) within the El Loa Formation.

The tertiary target is for porphyry copper systems, based on the likelihood that the iron deposits are indeed of replacement origin, associated with the upper levels of a mineralised porphyry body that has preferentially intruded along faults bounding the eastern margin of the Rio Loa graben.

Limited reconnaissance and grab sampling have been completed to date and a limited work program is anticipated as the Project has more strategic (as surrounding tenements are held by Vale and Codelco) rather than immediate commercial value.

### (k) Carbon Project

The Carbon Project is in the northern portion (Region II) of Chile. The Carbon Project lies along the western margin of the Upper Tertiary Domeyko Precordillera, which extends north-south for several hundred kilometres through northern Chile.

The Carbon Project lies on the north-south Palaeocene to Eocene mineralised trend that hosts several major porphyry copper deposits including Spence, Cerro Colorado (BHP Billiton), Mocha (Codelco), Sierra Gorda (Quadra mining) and El Tesoro and Esperanza (Anaconda).

The geology of the Carbon Project is completely obscured by cover sequences, however past drilling suggests that the local basement comprises a north trending succession of flat to gently west dipping conglomerates (fanglomerates), mudstones and shales.

The primary exploration target is for coal, presumably lignite, associated with carbonaceous shales developed towards the base of the El Loa Formation.

The secondary target is porphyry copper systems lying below the El Loa Formation, associated with the intersection of two major regional lineaments, one of which is consistant with the eastern margin of the Rio Loa graben.

Tertiary targets include the potential for secondary uranium (and possibly gold) deposits precipitated along a redox front associated with carbonaceous shales at the base of the El Loa Formation.

The economic potential of the Carbon Project is considered by the Independent Geologist to be limited.

### (I) Mantos Grandes and Tuina Projects

The Mantos Grandes Project is in Region III Chile and was purchased from Sundance Resources Limited in early 2008. The Project was an operating mine based on a skarn ore body. It includes a 200 tonne per day processing plant, a 923 hectare rural property and water rights.

No funds have been specifically allocated from this Prospectus to this Project as the Company will consider alternatives such as selling its interest in this Project or seeking a joint venture partner to assume responsibility for progressing exploration upon this Project.

The Tuina Project is located close to the regional centre of Calama. It is a small tenement holding with evidence of past small scale manganese mining.

The Company has not engaged Coffey Mining Pty Ltd to report on either the Mantos Grandes or Tuina Projects in the Independent Geologist's Report in section 6 as they are deemed by the Company to be low priority targets at this time and not material to the prospects of the Company at this time.

### 4.1 Directors

### **Trevor Tennant**

### Chairman and Managing Director

4.

Trevor Tennant is a mining engineer with over 37 years experience in the mining industry. Much of this experience has been gained in the base metals and industrial minerals sectors of the industry. He has been an executive director of Portman Mining Limited, OM Holdings Limited and Territory Iron Limited. All these companies have developed and gone on to operate mines during Mr Tennant's tenure on their boards. Portman developed manganese and iron ore operations, OM Holdings developed a manganese mining operation at Bootu Creek in the Northern Territory and Territory Iron developed the Frances Creek iron ore mine.

DIRECTORS AND CORPORATE GOVERNANCE

Mr Tennant's earlier work experience has included positions as underground manager of a tin mine in Indonesia, an engineer involved in the feasibility study for the OK Tedi mine, and manager of an iron ore mine and General Manager of the Groote Eylandt manganese mine.

### James Pearson

### **Executive Director**

James Pearson is a mining engineer with nearly 30 years experience in the mining and civil engineering construction industries. He is a past director of OM Holdings Limited and Haddington Resources Limited. Mr Pearson is also the principal of Featly Pty Limited, a private company that provides consulting services to the mining industry.

Mr Pearson has had experience in the development and operation of a variety of mining operations. He has held positions as planning engineer, mine manager, and operations manager in coal, gold, nickel, manganese and iron ore operations.

### Eduardo Valenzuela

### Non-executive Director

Eduardo Valenzuela has qualifications as a mining engineer and a master of business in international management. He has over 25 years of experience in mine operations, project management, technical services and project financing in many commodities including copper, iron ore, nickel, gold and coal.

Mr Valenzuela's experience includes senior roles in Australia, Latin America and the USA. He has held numerous positions including that of industry specialist with the International Finance Corporation, mining manager at Murrin Murrin nickel operations, project manager at Escondida copper mine and manager Latin America with BHP Engineering Pty Ltd in Chile. Mr Valenzuela speaks fluent Spanish and English.

### **Richard Billingsley**

### Non-executive Director

Richard Billingsley is a company director and mineral explorationist who acquired extensive experience in geochemical sampling and geophysical field work early in his career. During the late 1990's Mr Billingsley specialised in restructuring failed mining companies and developed a land management system for the Province of British Columbia. He is currently a director of listed companies, Glass Earth Limited and Luiri Gold Limited.

### **Glenn Laing**

### Non-executive Director

Glenn Laing holds a B.Sc Eng (Mining Geology) degree from the University of Witwatersrand, Johannesburg and an M.Sc (Mining Engineering) degree from Colorado School of Mines, USA. Mr. Laing has been involved in the natural resources and financial sectors for over 30 years. He has extensive experience in the mining and exploration industry beginning in 1973 with underground, surface mining and exploration experience in Southern Africa, Europe, Central Asia, Australia and Canada. In the 1990s his experience extended to investment banking and financing to the mining and oil and gas sectors.

In total, he has over 25 years experience in a Managing Director and /or President / CEO position of publicly listed companies. In 1999 he formed Silverbridge Capital Inc. an exempt market dealer

registered in Ontario of which he is currently President. Mr. Laing is the Managing Partner of Bridge Capital Partners Pty Limited, an Australian corporate finance and advisory firm, and Director of Colossus Capital Partners Pty Limited an Australian investment advisory firm.

### **David Craig**

### Non-executive Director

David Craig is a lawyer who has held and holds executive and board positions in the fields of law, financial services and the resources industry. As a partner of a major Perth law firm, he specialised in resources and commercial legal advice, which included work on resources joint ventures, the acquisition and disposal of interests in companies and projects, and capital raisings by companies. This was followed by ten years in the financial services industry as a stockbroker and an executive director in a national stockbroking and investment banking company. Mr Craig then spent five years working with Woodside Petroleum Ltd in an executive position in the field of public and government affairs. He brings to the Board expertise in law, financial markets, stakeholder engagement, relationship management, strategic planning and risk management. In terms of ASX listed companies he is Non-executive Chairman of Moly Mines Limited and a Non-Executive Director of United Minerals Corporation NL, ADG Global Supply Limited and Entek Energy Ltd.

### 4.2 Corporate governance

The primary responsibility of the Board is to represent and advance Shareholders' interests and to protect the interests of all stakeholders. To fulfil this role the Board is responsible for the overall corporate governance of the Company including its strategic direction, establishing goals for management and monitoring the achievement of these goals.

The responsibilities of the Board include:

- protection and enhancement of Shareholder value;
- formulation, review and approval of the objectives and strategic direction of the Company;
- approving all significant business transactions including acquisitions, divestments and capital expenditure;
- monitoring the financial performance of the Company by reviewing and approving budgets and monitoring results;
- ensuring that adequate internal control systems and procedures exist and that compliance with these systems and procedures is maintained;
- the identification of significant business risks and ensuring that such risks are adequately managed;
- the review and performance and remuneration of executive directors and key staff;
- the establishment and maintenance of appropriate ethical standards; and
- evaluating and, where appropriate, adopting with or without modification, the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations.

The Board recognises the need for the Company to operate with the highest standards of behaviour and accountability.

Subject to the exceptions outlined below the Company will adopt the ASX Corporate Governance Council's Corporate Governance Principles and Recommendations to determine an appropriate system of control and accountability to best fit its business and operations commensurate with these guidelines.

As the Company's activities develop in size, nature and scope the implementation of additional corporate governance structures will be given further consideration.

The Board sets out below its "if not, why not" report in relation to those matters of corporate governance where the Company's practices will depart from the recommendations.

Recommendation Reference - ASX Guidelines	Notification of Departure	Explanation for Departure
		The Company has 6 Directors of which 2 Directors are executive and 4 Directors are non-executive, however, one of the non-executive Directors is not independent in terms of the ASX Corporate Governance Council's definition of independent director. The Board considers that the Company is not currently of a size, nor are its affairs of such complexity to justify the expense of the appointment of a majority of independent non-executive Directors. The Board believes that the individuals on the Board
2.1	No majority of independent directors	can make, and do make, quality and independent judgements in the best interests of the Company on all relevant issues. Directors having a conflict of interest in relation to a particular item of business must absent themselves from the Board meeting before commencement of discussion on the topic.
	Chairman not independent and roles of Chairman and Chief Executive Officer are exercised by the	The Company's Chairman, Mr Trevor Tennant, is considered by the Board not to be independent in terms of the ASX Corporate Governance Council's definition of independent director as he is an executive of the Company and a substantial Shareholder. However, the Board believes the Chairman is able and does bring quality and independent judgment to all relevant issues falling
2.2 and 2.3	same person	within the scope of the role of a Chairman.

The Company will adopt corporate governance policies common with other public listed companies of similar size and business. Copies of these policies will be accessible on the Company's website www.shmining.com.au.

### 5.1 Introduction

An investment in the Shares the subject of this Prospectus is highly speculative as the Company is a resource exploration and development company. The Board recommends that investors consider the risks described below and information contained elsewhere in this Prospectus, as well as consulting with their professional advisers before deciding whether or not to apply for Shares.

The following is a non-exhaustive list of the risks that may have a material effect on the financial position and performance of the Company and the value of its securities, as well as the Company's exploration, any development and mining activities and an ability to fund those activities.

The specific risks below are some of the risks specific to the Company including specific exploration and development business risks. The general investment risks below are some of the risks to the Company of a general economic nature.

### 5.2 Specific risks

### **Exploration risk**

Investors should understand that exploration is by its nature a high risk undertaking.

Currently there is a JORC Code Inferred Resource within the Los Pumas Manganese Project and there is no guarantee that this resource or other resources discovered will lead to a commercial mining operation. There can be no assurance that the Company's exploration of the licences currently controlled by the Company or any other exploration Projects that may be acquired in the future will result in the delineation or discovery of mineral resources in addition to the Inferred Resource within the Los Pumas Manganese Project. There can be no guarantee of a positive outcome of a Definitive Feasibility Study into the establishment of manganese mining and processing operations at Los Pumas.

### Development and mining risk

Possible future development of a mining operation at any of the Company's Projects is dependent on a number of factors including, but not limited to, the acquisition and/or delineation of economically recoverable mineralisation, favourable geological conditions, receiving the necessary approvals from all relevant authorities and parties, seasonal weather patterns, unanticipated technical and operational difficulties encountered in extraction and production activities, mechanical failure of operating plant and equipment, unexpected shortages or increases in the price of consumables, spare parts and plant and equipment, cost overruns, access to the required level of funding and contracting risk from third parties providing essential services.

If the Company commences production, its operations may be disrupted by a variety of risks and hazards which are beyond its control, including environmental hazards, industrial accidents, technical failures, labour disputes, unusual or unexpected rock formations, flooding and extended interruptions due to inclement or hazardous weather conditions and fires, explosions or accidents. No assurance can be given that the Company will achieve commercial viability through the development or mining of its Projects and treatment of ore.

### Resource and Reserve estimation risk

Resource and reserve estimates are expressions of judgment based on knowledge, experience and industry practice. As such, resource and reserve estimates are inherently imprecise and rely to some extent on interpretations made.

Additionally, estimates may change over time as new information becomes available. If the Company encounters mineralisation or geological formations different from those predicted by past drilling, sampling and interpretations, any estimates may need to be altered in a way that could adversely affect the Company's operations.

### Commodity price volatility risk

Commodities prices including the price of manganese fluctuate and are affected by numerous factors beyond the control of the Company. These factors include world and regional supply and demand for commodities, general world economic conditions and the outlook for interest rates, inflation and other economic factors on both a regional and global basis. These factors may have a positive or negative affect on the Company's exploration, project development and production plans and activities, together with the ability to fund those plans and activities.

### Exchange rate risk

Commodities are principally sold throughout the world in United States dollars. The Company's future revenue so far as concerns its operations in Chile are likely to be in United States dollars whilst its costs will be payable in either Chilean pesos, Australian dollars or Canadian dollars.

The exchange rates between the various currencies are affected by numerous factors beyond the control of the Company. These factors include economic conditions in the relevant country and elsewhere and the outlook for interest rates, inflation and other economic factors. These factors may have a positive or negative effect on the Company's exploration, project development and production plans and activities, together with the ability to fund those plans and activities.

### Licence applications and renewal risk

The licence or tenement interests of the Company are held in Chile. A number of the licences are in application being applications for exploration licences or concessions and applications for exploitation licences and concessions. The licences are subject to applications for renewal or grant (as the case may be). The renewal or grant of the terms of each licence is usually at the discretion of the relevant government authority. Additionally, licences are subject to a number of specific legislative conditions. The inability to meet these conditions could affect the standing of a licence or restrict its ability to be renewed.

If a licence is not renewed or granted, the Company may suffer significant damage through the loss of opportunity to develop and discover mineral resources on that licence.

Investors are referred to the Solicitor's Report on the Licences in section 8 for information generally on the licences.

### Sovereign risk

The Projects of the Company are located in Chile. Chile is a representative democracy. Commodity exports, and copper in particular, make up a significant proportion of gross domestic product.

The political conditions in Chile are generally stable, however, changes may occur in the political, fiscal and legal systems which may affect the ownership or operations of the Company including changes in exchange rates, control or fiscal regulations, regulatory regimes, political insurrection or labour unrest, inflation or economic recession.

### Environmental risk

The Company's Projects are subject to rules and regulations regarding environmental matters including obtaining the approval of an Environmental Impact Study or Assessment depending on location and impacts. As with all mineral projects, the Company's Projects are expected to have a variety of environmental impacts should development proceed. Development of any of the Company's Projects will be dependent on the Company satisfying environmental guidelines and, where required, being approved by government authorities.

Failure to obtain such approvals will prevent the Company from undertaking its desired activities. The Company is unable to predict the effect of additional environmental laws and regulations that may be adopted in the future, including whether any such laws or regulations would materially increase the Company's costs of doing business or affect its operations in any area.

### Water supply risk

The mining and processing of minerals often requires considerable quantities of water. Finding sufficient water and negotiating for its use are risks faced in developing viable mining operations.

### Seismic risk

Chile lies adjacent to the convergent boundary between the Nazca and South American tectonic plates. As such it is subject to frequent seismic activity and is home to numerous active volcanoes. The Company's Projects are potentially at risk from future seismic and volcanic events.

### Reliance on key personnel risk

The Company's success largely depends on the core competencies of its Directors and management and their familiarity with, and ability to operate in, the mining industry and the Company's ability to retain its key executives.

### Insurance risk

The Company, where economically feasible, intends to insure its operations in accordance with industry practice. However, in certain circumstances, the Company's insurance (if obtained) may not be of a nature or level to provide adequate insurance cover. The occurrence of an event that is not covered or fully covered by insurance could have a material adverse effect on the business, financial condition and results of the Company.

Insurance of all risks associated with mineral exploration and development is not always available and where available the costs can be prohibitive.

### Future capital needs and additional funding risk

The funds raised by the Offer will be used to carry out the Company's objectives as detailed in this Prospectus. The Company's ability to raise further capital (equity or debt) within an acceptable time, of a sufficient amount and on terms acceptable to the Company will vary according to a number of factors, including prospectivity of Projects (existing and future), the results of exploration, subsequent feasibility studies, development and mining, stock market and industry conditions and the price of relevant commodities and exchange rates.

No assurance can be given that future funding will be available to the Company on favourable terms (or at all). If adequate funds are not available on acceptable terms the Company may not be able to further develop its Projects and it may impact on the Company's ability to continue as a going concern.

### Competition risk

The Company competes with other companies, including major mineral exploration and mining companies. These companies will likely have greater financial and other resources than the Company and, as a result may be in a better position to compete for future business opportunities. Many of the Company's competitors not only explore for and produce minerals, but also carry out downstream operations on these and other products on a worldwide basis. There can be no assurance that the Company can compete effectively with these companies.

### Managing growth risk

As the Company and its operations expand, it will need to upscale its operational and financial systems, procedures and controls and expand, retain and manage and train its employees. There is a risk of a material adverse impact on the Company's financial performance if it is not able to manage its growth.

### 5.3 General investment risks

### Securities investments and share market conditions risk

There are risks associated with any securities investment. The price at which the securities trade may fluctuate in response to a number of factors.

Furthermore, the stock market, and in particular the market for exploration and mining companies may experience extreme price and volume fluctuations that may be unrelated or disproportionate to the operating performance of such companies. These factors may materially adversely affect the market price of the securities of the Company regardless of the Company's operational performance. Neither the Company nor the Directors warrant the future performance of the Company, or any return of an investment in the Company.

### Economic risk

Changes in both the world and Chilean economic conditions may adversely affect the financial performance of the Company. Factors such as inflation, currency fluctuations, interest rates, industrial disruption and economic growth may impact on future operations and earnings.

### Legislative risk

Changes in relevant taxes, legal and administration regimes, accounting practice and government policies in Chile, Australia or Canada may adversely affect the financial performance of the Company.

### Litigation risk

Litigation risks to the Company include, but are not limited to, contractual disputes, personal injury claims and employee claims and actions in relation to infringement of intellectual property rights. If any claim were to be pursued and be successful it may adversely impact the Company. As at the date of this Prospectus, there are no material legal proceedings affecting the Company and the Directors are not aware of any legal proceedings pending or threatened against or affecting the Company.

### 6. INDEPENDENT GEOLOGIST'S REPORT



THIN IS

# Independent Geologist's Report on the **Chilean Mineral Properties of Southern** Hemisphere Mining Limited Prepared by Coffey Mining Pty Ltd on behalf of: **Southern Hemisphere Mining Ltd** 23 November 2009 40709 Coffey Mining Pty Ltd ABN 52 065 481 209 1162 Hay Street, West Perth WA 6005 Australia


# **Independent Geologist's Report**

23 November 2009

The Directors Southern Hemisphere Mining Ltd Suite 7, Level 1 1200 Hay Street West Perth W.A. 6005 Australia

Dear Sirs

Coffey Mining Pty Ltd ('Coffey Mining') has been commissioned by Southern Hemisphere Resources Limited ('SHM'), to provide an Independent Geologist's Report its various exploration properties located in Chile, South America. This report is to be included in a Prospectus to be lodged with the Australian Securities and Investments Commission ('ASIC') on or about 1 December 2009, offering for subscription 32 million Shares at an issue price of 25¢ per Share (the 'Prospectus'), to raise a total of A\$8 million (before costs associated with the issue). The funds raised will be primarily used for the purpose of exploration and evaluation of the mineral properties.

Coffey Mining has not been requested to provide an Independent Valuation, nor have we been asked to comment on the Fairness or Reasonableness of any vendor or promoter considerations. Coffey Mining has therefore not offered any opinion on these matters.

Coffey Mining has based its review of the Mineral Projects on information provided by SHM, along with technical reports prepared by Government agencies and previous tenement holders, and other relevant published and unpublished data. A site visit was conducted to the Los Pumas Manganese Project area between 5 and 8 August 2009. The remaining projects were visited by Coffey Mining in May 2006 (Las Santas, El Arrayan & San Jose) and February 2007 (remaining properties). Coffey Mining has endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the Independent Geologist's Report is based. A final draft of the report was also provided to SHM, along with a written request to identify any material errors or omissions, prior to lodgement. Where appropriate, and in accordance with ASIC Practice Note 55 and Update 183, consent has been obtained to quote opinions expressed in unpublished reports prepared by other professionals on the properties concerned.

The SHM mineral properties described in this report comprise 12 separate projects namely Las Santas, San Jose, El Arrayan, Romeral, Meteoritica, Cunlagua, Chitigua, Tres Cruces, Santa Gracia, Carbon, Angel and Los Pumas. The projects collectively comprise 116 granted Exploration Concessions, 67 Exploration Applications,110 granted Exploitation Concessions and 5 Exploitation Applications collectively covering an aggregate area of approximately 707km<sup>2</sup>. SHM is understood to hold or has the right to acquire a 100% interest in the properties. The legal status associated with the tenure of the properties is understood to be the subject of a separate Solicitor's Report and Coffey Mining has not independently verified these matters. The present status of tenements and agreements listed in this report is based on information provided by SHM, and the report has been prepared on the assumption that the tenements are, or will prove to be, lawfully accessible for evaluation and development.



The Independent Geologist's Report has been prepared in accordance with the Code and Guidelines for the Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports ('The VALMIN Code'), which is binding upon Members of the Australasian Institute of Mining and Metallurgy (AusIMM), the Australian Institute of Geoscientists (AIG), and the rules and guidelines issued by such bodies as the ASIC and Australian Securities Exchange (ASX) which pertain to Independent Expert Reports.

The properties are considered to represent 'Exploration Projects' which are speculative in nature. Coffey Mining considers, nonetheless, that the projects have generally been acquired on the basis of sound technical merit. The properties are also considered to be sufficiently prospective, subject to varying degrees of exploration, development and policy risk, to warrant further evaluation of their economic potential, consistent with the proposed programs.

Exploration, evaluation and feasibility programs summarised in the report amount to a total expenditure of approximately A\$5.0 million, of which SHM plans to spend approximately A\$2.3 million in the first year of assessment. At least half the liquid assets held, or funds proposed to be raised by SHM, are understood to be committed to the acquisition, exploration, development and administration of the mineral properties, satisfying the requirements of ASX Listing Rules 1.3.2(b) and 1.3.3(b). Coffey Mining also understands that SHM has sufficient working capital to carry out its stated objectives, satisfying the requirements of ASX Listing Rule 1.3.3(a). SHM has prepared staged exploration and evaluation programs, specific to the potential of the projects, which are consistent with the budget allocations. Coffey Mining considers that the relevant areas generally have sufficient technical merit to justify the proposed programs and associated expenditure, satisfying the requirements of ASX Listing Rule 1.3.3(a). The proposed exploration budgets also exceed, or are consistent with, the anticipated minimum annual statutory expenditure commitments on the various project tenements.

The Independent Geologist's Report has been prepared on information available up to and including 23 November 2009. Coffey Mining has provided consent for the inclusion of the Independent Geologist's Report in Section 6 of the Prospectus in the form and context in which the report appears and has not withdrawn that consent prior to lodgement of the Prospectus with the ASIC.

Coffey Mining is an integrated mineral industry consulting firm, which has been providing services and advice to international mining companies and financial institutions since 1987. The primary authors of this report are Mr Richard Yeates and Mr Beau Nicholls. Mr Yeates is a professional geologist with 27 years experience in the exploration and evaluation of mineral properties internationally. Mr Yeates is an Associate Senior Principal Consultant of Coffey Mining and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geosciences (AIG), and has the appropriate relevant qualifications, experience and independence to be considered an Expert as defined in the Valmin Code. Mr Yeates visited all projects with the exception of the Los Pumas Manganese Project during May 2006 and March 2007.

Mr Nicholls is a professional geologist with 15 years experience in the exploration and evaluation of mineral properties internationally. Mr Nicholls is the Geology Manager - Brazil with Coffey Mining and a Member of the AIG, and has the appropriate relevant qualifications, experience, competence and independence to be considered as an 'Expert' under the definition provided in the VALMIN Code. Mr Nicholls visited the Los Pumas manganese project between 5 and 8 August 2009.

Neither Coffey Mining, nor the authors of this report, have or have had previously, any material interest in SHM or the mineral properties in which SHM has an interest. Our relationship with SHM is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

For and on behalf of Coffey Mining Pty Ltd

BSC (Geology) MAIG, AusIMM

Rick Yeates Associate Senior Principal Consultant

# EXECUTIVE SUMMARY

## Introduction

Coffey Mining Pty Ltd (Coffey Mining) has been commissioned by Southern Hemisphere Mining Limited (SHM) to prepare an Independent Geologist's Report on the company's mineral properties located in the South American country of Chile, pursuant to the listing of SHM on the Australian Securities Exchange.

The SHM Chilean projects represent a total of 12 separate projects covering 707km<sup>2</sup> of mineral permits, located over a 2,000km strike length of Chile, South America. The projects are variously prospective for copper, iron, uranium, gold and manganese. The most advanced project is the Los Pumas manganese project located in the north of Chile, which is currently undergoing a scoping study.

## Location, Access, Physiography and Infrastructure

The 12 projects are spread throughout Chile commencing to the south with the San Jose Project (located approximately 300km south of the capital Santiago) to the Los Pumas manganese project in northern Chile, approximately 3 hours drive east of Arica, the major port city. (Figure 1 below).



The projects experience a range of climates, characterised by hot dry summers and cool damp winters. The annual average rainfall is 250mm, while average maximum temperatures range from -6°C in winter to 35°C in summer. Temperatures and precipitation are modified to some extent by the influence of altitude and distance from the sea, with the projects lying at elevations from 1,000m to 4,000m on the edge of the Cordillera Principal to the high Andes and being within 300km from the coast.

All projects are located within relatively close proximity to bitumen roads and grid power, and water is available in numerous river systems. Commercial goods and services are readily available at the regional administrative centres.

## Tenure

The SHM mineral permits are summarised in Table 1 below. The 12 projects collectively contain 116 granted Exploration Concessions, 67 Exploration Applications, 110 Exploitation Applications and 5 Exploitation Concessions. The tenements collectively cover an area of approximately 707km<sup>2</sup>. It is understood that SHM holds, or has the right to acquire, a 100% interest in the properties. The legal status associated with the tenure of the properties and associated agreements is understood to be the subject of a separate Solicitor's Report and Coffey Mining has not independently verified these matters.

Table 1 Chilean Projects SHM Tenure Summary						
Project	Prospective Commodity	Exploration Applications Ped.	Exploration Concession Exp.	Exploitation Concession Expt.	Exploitation Applications Man.	Area Sq km
Las Santas	Porphyry Copper	16	13		15	109
El Arrayan	Porphyry Copper				39	59
San Jose	Porphyry Copper	2	17		12	84
Romeral	IOCG		4			12
Meteoritica	Iron Ore				8	20
Cunlagua	Porphyry Copper/Uranium		6		5	28
Chitigua	Porphyry Copper				20	45
Tres Cruces	Manto Copper		18	1	2	57
Santa Gracia	Copper/Molybdenum	7	41	2	4	122
Carbon	Coal	9				27
Angel	Porphyry Copper		3			8
Los Pumas	Manganese	33	14	2	5	136
Total		67	116	5	110	707

A Pedimento (Ped.) is an application for an exploration concession. An Exploration Concession (Exp.) is a granted exploration concession.

An Exploitation Application, Manifestacion (Man.), is an application for an exploitation concession. An Exploitation Concession, Pertenencia (Expt.) is a granted exploitation concession.

## Los Pumas Manganese Project

The Los Pumas Manganese Project is currently the most advanced project for SHM as it is at a scoping study level and as such is summarised in more detail.

The project is located in northern Chile, approximately 175km or 3 hours drive east of Arica, the major port city in the number 15 region of Chile. The port in Arica handles all the base metal and tin concentrate products currently transported by trucks on the main road from Bolivia to the Arica port. The main railway line between La Paz and Arica runs approximately 1km from the Los Pumas manganese project but is currently not operational.

The Los Pumas manganese project is located immediately to the west of the Taapaca volcano in a geographical area called the "altiplano" (high plateau) area. It is adjacent to the north-south trending river Lluta, where several other minor manganese occurrences have been identified. The manganese mineralisation at Los Pumas is divided into the north and south targets and is separated by the Taapaca Volcanic dacitic-andesitic flow (approximately 1km apart). The north target is approximately 1.7km by 0.6km in aerial extent and approximately 1m to 10m in thickness, while the south target is 1km by 0.2km in area and approximately 1m to 10m thickness. Mineralogy completed by SHM indicates that only one type of manganese mineral is found in cryptomelane.

SHM commissioned a series of metallurgical testwork programs completed by Transmin Metallurgical Consultants (Trasmin) in Lima in order to characterise the manganese ore and recovery from the Los Pumas manganese project. The programs included heavy liquid separation (HLS) at 2.8, 2.9 and 3.0 SG. Based on the HLS results reviewed by Coffey Mining, a manganese concentrate grade of 37% with low impurities appears to be achievable, which meets the required marketing specifications.

The Los Pumas Project was drilled in 2008/9 by a total of 151 reverse circulation (RC) holes for a total of 3,516m. Holes were mostly drilled vertically to approximately 5m below the ignimbrite into the volcanic sediments. Holes were drilled on a spacing of approximately 100m by 100m.

The drilling, sampling and analytical methods are appropriate for the style of mineralisation. This data has been used in the resource estimation completed by Marco Carrasco Gajardo and reviewed by Coffey Mining. The geological model produced a mineralised envelope concentrated mainly around the ignimbrite unit which is the main host to the mantle style mineralisation. The resource was reclassified by Coffey Mining to Inferred status, given the application of assumed bulk densities and the low confidence topography and drill collar survey information used. There is a total inferred resource of 14.63Mt at 9.98% Mn (using a 6% Mn cutoff) with the range of cutoffs utilised in the table below.

Table 2 Los Pumas Manganese Project Inferred Mineral Resource (October 16th 2009)			
Cutoff (% Mn)	Tonnes (Mt)	Mn (%)	
0	62.98	3.66	
3	24.41	7.76	
6	14.63	9.98	
9	7.16	12.58	
12	2.65	16.44	
15	1.26	20.06	

Coffey Mining considers the Los Pumas Project to be an exciting discovery which is very well located to take advantage of the existing infrastructure, which includes good access and proximity to port facilities. The work to date has seen the project advance from the discovery stage to a scoping level in less than 12 months.

Coffey Mining recommends a staged development approach, including increasing the resource confidence via additional drilling, to be followed by a definitive feasibility study.

### **Exploration Potential – Remaining Projects**

The remaining 11 projects are predominantly porphyry copper early stage exploration projects that have received regional reconnaissance and preliminary scout reverse circulation and diamond core drilling. This scout drilling has generally intersected large low grade porphyry systems that require additional follow-up exploration work. The projects are briefly summarised below:

<u>Las Santas</u> - The exploration activities to date at Las Santas including soil sampling, rock chipping, geophysical surveys and drilling have all confirmed the existence of a geologically prospective Cu porphyry system although results to date have been sub-economic confirming the existence of a low grade Cu porphyry system.

<u>Arrayan</u> - The Arrayan District displays a hydrothermal development normally associated with intrusive events. The main mineral occurrences are located in the intrusive margin contacts of the wallrocks. The El Arrayan Project is at an immature stage of exploration, with limited rock chip samples collected and mapping. Soil sampling and aster targeting by SHM has been successful in locating surface anomalies and these represent potential drill targets.

<u>San Jose</u> - The drilling to date at San Jose has confirmed the existence of a Cu porphyry system with low levels of copper detected.

<u>Romeral</u> - The Santa Dominga, El Tofo, La Higuera, Caballo Blanco and El Romeral deposits lie immediately along strike to the north and south of the Romeral project area, providing excellent type examples of the iron oxide-copper-gold (IOCG) association that represents the primary exploration objective. SHM has not completed any exploration beyond very limited grab and rock chip sampling on the Romeral Project.

<u>Meteoritica</u> - The apparently extensive iron ore concentrations at surface within the Meteoritica Project are extremely deceptive. These are the product of deflationary processes over a long period of time and concentrations diminish extremely rapidly within tens of centimetres of the surface. As such, these deposits are suggested to be of extremely limited tonnage and do not justify further assessment.

<u>Cunlagua</u> - While no drilling has ever been undertaken within the Cunlagua Project, and comparatively little is known of the Descubridora Uranium Prospect, exploration completed to date suggests that the tonnage potential is likely to be restricted, and the grades generally low and erratically distributed. By international standards, the uranium potential is therefore considered to be limited. However, in a Chilean context where future power supplies are uncertain, it may well prove to be of strategic significance.

<u>Chitigua</u> - Some 29 major porphyry occurrences, including several of the world's largest deposits lie along the West Fault to the north and south of the Chitigua Project, over a strike length of some 300km. The Chitigua Project lies directly between the Quebrada Blanca and El Abra deposits, which are situated 70km to the north and 30km to the south respectively. While these deposits are not located immediately adjacent to the Chitigua Project, they clearly serve to support the mineral potential of the area.

<u>Tres Cruces</u> - While the potential exists to identify manto style copper mineralisation within the Tres Cruces Project, the size of any deposits is likely to be modest and the grade marginal. Although the subdued terrain on the plateau is conducive to ease of assessment, exploration for sub-horizontally disposed deposits within an area of relatively flat lying volcanics with limited topographic relief can be challenging. In view of this, only limited exploration for this style of mineralisation can be justified.

SHM has not completed any exploration on the Tres Cruces Project and, as such, there are no results to be reported or interpreted.

<u>Santa Gracia</u> - MMI soil geochemistry completed at the Santa Gracia Project identified strong coincident copper and molybdenum anomalies (and PMF-score anomalies). These clearly identify the excised Los Loros porphyry deposit along with a second anomaly of similar size and amplitude located immediately northwest of the San Sebastian Prospect. This second anomaly is partially situated with the Minera Panamericana SCM tenements. The intensity of the second anomaly is considered equivalent to (or greater than) that of porphyry occurrences elsewhere in Chile, readily justifying further exploration.

<u>Carbon</u> - The carbonaceous shale horizon encountered in drillhole RL-01 would appear to satisfactorily explain the significant TEM geophysical conductor. While SHM consider that the project has potential for coal, there is no reference to any form of coal in drill logs.

Notwithstanding this, the geophysical anomaly was originally modelled at a depth of approximately 180m below surface, which was broadly confirmed in drilling at 142m down-hole depth. This depth would exclude open pit mining of coal and only a well-developed seam of metallurgical coal (anthracite) would justify underground development. This is considered highly improbable and the project is considered to have extremely limited potential for coal deposits of any form.

<u>Angel</u> -The Andacollo porphyry copper deposit, owned by AUR Resources Inc, is located only 12km south of the Angel Project in a similar setting

The broad sampling pattern undertaken by SHM failed to specifically identify the known mineralisation, and the principal porphyry elements of interest generally returned a subdued response. The plotted results did not identify the likely presence of Cu-Au mineralisation extending from the Angel Prospect beneath the alluvial plain.

Although broad scale MMI soil geochemistry completed at the Angel Project failed to identify any cohesive response indicative of porphyry style mineralisation, it is considered that the inconsistency and relative immaturity of the transported soil cover (alluvium) may still be masking a bedrock response.

### **Conclusions and Recommendations**

The Los Pumas Manganese Project represents the most advanced project for SHM in Chile. Coffey Mining considers the Los Pumas Project to be an exciting discovery which is very well located to take advantage of the existing infrastructure, which includes good access and proximity to port facilities. The work to date has seen the project advance from the discovery stage to a scoping level in less than 12 months.

The remaining 11 projects are predominantly porphyry copper early stage exploration projects that have received regional reconnaissance and preliminary scout reverse circulation and diamond core drilling. This scout drilling has generally intersected large low grade porphyry systems that justify additional follow-up exploration work.

# 1 INTRODUCTION

Coffey Mining Pty Ltd (Coffey Mining) has been commissioned by Southern Hemisphere Mining Limited (SHM) to prepare an Independent Geologist's Report on the company's mineral properties located in the South American country of Chile, as shown in Figure 1\_1 below, pursuant to the listing of SHM on the Australian Securities Exchange.



The SHM Chilean projects represent a total of 12 separate projects covering 707km<sup>2</sup> of mineral permits, located over a 2,000km strike length of Chile. The projects are prospective for porphyry copper, iron, uranium, gold and manganese. The most advanced project is the Los Pumas manganese project located in the north of Chile, on which a scoping study is currently being completed.

The legal status of the SHM properties is the subject of a separate Solicitor's Report that appears in Section 8 of this Prospectus. These matters have not been independently verified by Coffey Mining. The present status of tenements listed in this report is based on information provided by SHM and the report has been prepared on the assumption that the tenements are, or will prove to be, lawfully accessible for evaluation and development.

The Independent Geologist's Report has been prepared in accordance with the Code and Guidelines for Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports ('The VALMIN Code'), which is binding upon Members of the Australasian Institute of Mining and Metallurgy (AusIMM), the Australian Institute of Geoscientists (AIG), and the rules and guidelines issued by such bodies as the ASIC and Australian Securities Exchange (ASX), which pertain to Independent Expert Reports.

The Independent Geologist's Report has been prepared on information available up to and including 23 November 2009. Coffey Mining has provided consent for the inclusion of the Independent Geologist's Report in Section 6 of the Prospectus in the form and context in which the report appears and has not withdrawn that consent prior to lodgement of the Prospectus with the ASIC.

Coffey Mining is an integrated mineral industry-consulting firm, which has been providing services and advice to international mining companies and financial institutions since 1987.

The primary author of eleven projects (exclusive of the Los Pumas manganese project) is Mr Richard Yeates, who is a professional geologist with 27 years experience in the exploration and evaluation of mineral properties internationally. Mr Yeates is an Associate Senior Principal Consultant with Coffey Mining and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geosciences (AIG), and has the appropriate relevant qualifications, experience and independence to be considered an Expert as defined in the Valmin Code. Mr Yeates visited 11 of the 12 projects during May 2006 and February 2007.

The primary author of the Los Pumas manganese project is Mr Beau Nicholls, who is a professional geologist with 15 years experience in the exploration and evaluation of mineral properties internationally. Mr Nicholls is the Geology Manager - Brazil with Coffey Mining and a Member of the AIG, and has the appropriate relevant qualifications, experience, competence and independence to be considered as an 'Expert' under the definition provided in the VALMIN Code. Mr Nicholls visited the Los Pumas Manganese Project between 5 and 8 August 2009.

Neither Coffey Mining, nor the authors of this report, have or have had previously, any material interest in SHM or the mineral properties in which SHM has an interest. Our relationship with SHM is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

# 2 BACKGROUND INFORMATION ON CHILE

Chile is one of Latin America's most important mining countries and maintains its role as the world's largest copper producer. As a result, Chile has one of Latin America's strongest growing economies. Chile has grown by over 4% per year since 1999, with the GDP at US\$162.5 billion. Mining accounted for almost 13% of the total GDP with copper the main export.

The extent of cupriferous porphyry ore bodies that exist along the Andean Cordillera are responsible for Chile's vast copper and molybdenum reserves. Some of the world's largest open pit mines are located at high altitudes and in harsh environments along the cordillera.

Since the 1990's, Chile has been the first port of call in terms of investing in South America and, as a result, numerous foreign companies have developed the country's burgeoning mining sector. Chile is recognised as the most mature mining economy of Latin America, and can be credited with initiating the investment surge to make Latin America the world's primary mineral exploration destination. Apart from Codelco and the private Chilean mining company Antofagasta Minerals, all the major international mining houses are active in Chile (BHP Billiton, Anglo American, Rio Tinto, Phelps Dodge, Barrick Gold, Newmont, etc.).

# 3 LOS PUMAS PROJECT

## 3.1 Location, Access, Climate, Physiography and Infrastructure

### 3.1.1 Project Location and Access

The Los Pumas manganese project is located in northern Chile, approximately 175km or 3 hours drive east of Arica, the major port city in the number 15 region of Chile (Approximately 1,700km north of the capital city Santiago) (Figure 1\_1). Arica is serviced by domestic flights between Santiago and a number of cities in Chile, and is located within 1 hours drive from Tacna, the southernmost city of Peru. Access from Arica to the Los Pumas Manganese Project is via the International Highway from Arica to La Paz (CH11) to the regional administrative centre of Putre, then via the all weather gravel road (A023) to the project area.

The geographic coordinates of the Los Pumas Manganese Project are Latitude -18.04, Longitude -69.63.

The main railway line between La Paz and Arica runs approximately 1km from the Los Pumas manganese project. Figure 3.1.1\_1 below shows the railway passing approximately 20m from the "Railway target" (which is one of the early stage exploration prospects of SHM located 1km from Los Pumas). This railway is currently being rehabilitated, however no official anticipated completion date is available.



## 3.1.2 Physiography and Climate

The Los Pumas Manganese Project is located in the High Andes, on the edge of the Gorge Allan Lluta River, with elevations ranging from 3,500m to 5,000m. The project elevation is at 3,500m.

The temperature ranges between -15° to -5°C at night and 5° to 20°C during the day, with an annual rainfall of between 100 and 440mm.

## 3.1.3 Infrastructure and Local Resources

It is important to highlight in this section the infrastructure given that Manganese is a bulk commodity and infrastructure becomes very important to a projects economics when considering the transport to the nearest market.

The project is located 175km by a very good sealed road from the port facilities in Arica, with this route being the major road to Bolivia. Figure 3.1.3\_1 below is the current port facilities in Arica which handle all the base metal and tin concentrate products currently transported by trucks on the main road to Arica.



Coffey Mining reviewed the Arica port, which at the time of the visit was loading lead concentrate from Bolivia for export. The containment shed was negatively ventilated and well sealed with new equipment as would be expected from the main export port for Bolivia. The port storage facility has a capacity of approximately 25,000t and would require shuttling of material from a designated storage stockpile to the port during the loading of larger vessels.

The city of Arica has a population of over 300,000. There is limited industry in the region that is not associated with farming and the import and export industry. A suitable workforce would be available in Arica and the local town of Putre as required for developing a mine. Professional personnel would possibly not be available in the city as no Mining culture is evident, although Chile has many mining professionals that can easily access the project via numerous weekly domestic flights to Arica.

## 3.2 Tenure

The Los Pumas Manganese Project comprises 14 granted Exploration Concessions, 33 Exploration Applications, 2 Exploitation Concessions and 5 Exploitation Applications. The tenements collectively cover an area of approximately 135km<sup>2</sup> as shown in Figure 3.2\_1 below.



A Pedimento (Ped.) is an application for an exploration concession. An Exploration Concession (Exp.) is a granted exploration concession.

An Exploitation Application, Manifestacion (Man.), is an application for an exploitation concession. An Exploitation Concession, Pertenencia (Expt.) is a granted exploitation concession.

Table 3.2_1			
Los Pumas Manganese Project Tenement Schedule			
Tenement Name	Туре	Area (ha)	
Putre 1	Exp.	300	
Putre 2	Exp.	300	
Putre 3	Exp.	300	
Putre 4	Exp.	300	
Putre 5	Exp.	300	
Putre 6	Exp.	300	
Lluta 1	Exp.	300	
Lluta 2	Exp.	300	
Puma 1	Exp.	300	
Puma 2	Exp.	300	
Puma 3	Exp.	200	
Puma 4	Exp.	200	
Puma Norte 4	Exp.	200	
Belen 1	Ped	300	
Belen 2	Ped	200	
Belen 3	Ped	300	
Nacimiento1	Ped	300	
Nacimiento2	Ped	300	
Nacimiento3	Ped	300	
Puma Norte 6	Ped.	200	
Puma Norte 7	Ped.	200	
Pascuala 4	Ped	300	
Pascuala 5	Ped	200	
Pascuala 6	Ped	300	
Puma Norte 8	Ped.	200	
Pascuala 2	Ped.	300	
Yucra 1	Ped.	100	
Putre 7	Exp	100	
Putre 8	Exp	100	
Puma Norte 1	Ped	200	
Puma Norte 2	Ped	300	
Puma Norte 3	Ped	300	
Puma Norte 4	Ped	200	
Tren 1	Ped	300	
Abundancia 1	Ped	300	
Abundancia 2	Ped	300	
Abundancia 3	Ped	300	
Abundancia 4	Ped	300	
Abundancia 5	Ped	300	
Abundancia 6	Ped	300	
Abundancia 7	Ped	300	
Pascuala 3	Ped	300	
Puma Norte 9	Ped	200	
Puma Norte 10	Ped	200	
Mateo 3	Ped.	200	
Mateo 4	Ped.	200	
Pascuala 1	Ped.	300	
Putre I 1 AL 20	Man.	200	
Putre II 1 AL 20	Man.	200	
Lluta I 1 AL 60	Man.	300	
Lluta1	Exp.	300	
Lluta 2	Ped	300	
Puma Norte 5	Ped.	200	
Mateo 1 1 AL 20	Man.	200	
Mateo 2 1 AL 20	Man.	200	
Awahou 1-20	Expt	200	
Emanuel Del 1 al 20	Expt	200	
Total		13600	

The tenement schedule is summarised in Table 3.2\_1 below.

Annual costs for the collective tenements (560 CLP to 1 US\$) is approximately US\$19,140.

All tenements are held 100% by SHM's wholly-owned Chilean subsidiary, Minera Hemisferio Sur SCM (MHS). MHS entered in an option agreement with Kaiora International Limitada to purchase the exploitation tenements named Emannuel and Awahou for a total payment of US\$2 million. All requirements of this agreement had been met by SHM at the time of this report.

# 3.3 Geological Setting

## 3.3.1 Regional Geology

The Los Pumas Manganese Project is part of the Tertiary and Quaternary volcanic sequences that forms the Andes Mountains in northern Chile.

The oldest rocks are of Oligocene – Miocene age, comprising volcano-sedimentary sequences including basaltic to dacitic flows and pyroclastic rocks. The rocks can be found outcropping to the south, west and east of the Los Pumas manganese project.

The Lower Miocene to Middle volcanic complex is represented by partially eroded lava flows, and pyroclastic rocks of andesitic composition, basaltic to dacitic flows and sedimentary sequences. These latter units have been variously called the Atacama Gravels and Altos de Pica Formation.

The Upper Miocene - Pliocene is characterised by volcanic sequences (domes, lava flows and pyroclastic deposits) of andesitic to dacitic composition with intercalated alluvial material.

The Pliocene - Pleistocene volcanic complex consists of lava flows and pyroclastic rocks of variable composition from rhyolites to andesites.

The Pleistocene - Holocene and Quaternary sequences are again represented by strata volcanoes and volcanic complexes of basaltic to rhyolitic composition. This includes the Taapacá, Parinacota and Lascar volcanoes which are found in the region.

The main river system that exposes the Los Pumas mineralisation runs in a north-south direction and possibly represents a major shear structure that potentially has a strong control on the location of manganese mineralisation in the region.

## 3.3.2 Project Geology

The Los Pumas manganese project is located immediately to the west of the Taapaca volcano in a geographical area called the "altiplano" (high plateau). It is adjacent to the north-south trending Lluta River, where several other minor manganese occurrences have been identified.

The geology of the Los Pumas Manganese Project is dominated by volcanic rocks of the Huaylas Formation (Upper Miocene age) and the Lauca Ignimbrite (Upper Pliocene) as shown in Figure 3.3.2\_1. These have been subsequently overlain by Pleistocene pyroclastics, andesites and dacites and sedimentary units including primarily pumice, ignimbrites and a mixture of acid volcanic rocks (dacites and rhyodacites). Six major volcanic centres are clearly visible from the Los Pumas manganese project with the closest being approximately 4km to the east.



Figure 3.3.2\_2 below shows a schematic stratigraphic column with the manganese mineralisation shown in green.

The major formations are summarised below:

#### Huaylas Formation (Msh)

This is Miocene in age, as defined by Salas (1966), comprising sedimentary and subhorizontal volcanics, which fill depressions in the Precordillera and high Andes Mountains.

At the Los Pumas manganese project the footwall to the mineralisation is semi-consolidated gravel, sandstone and limonitic volcanic sediments, moderately stratified, in continuous layers that are centimetres to 10's of metres in thickness.



## Lauca Formation (PIPI)

The Lauca Formation (Pliocene - Pleistocene) was defined by Munoz (1988) as a continental sub-horizontal sedimentary sequence.

In the Los Pumas area, the Lauca Formation is represented by a subunit called the Lauca Ignimbrite, which consists of a pyroclastic flow deposit, composed of mainly rhyolite.

There are two pyroclastic flow units in the Los Pumas area, each about 5m to 10m thick. The lower unit is strongly pink in colour, rich in ash and pumice, while the upper level is less pink in colour.

The Lauca Ignimbrite is important in that this unit hosts the majority of the manganese mineralisation at Los Pumas. The manganese has formed mantle style mineralisation, having been hydrothermally injected into the flat ignimbrite layer along paths of weakness associated with subvertical faults, preferentially orientated NNW, with subordinate structures oriented N-S and ENE.

In the Los Pumas area, the Lauca Ignimbrite is interrupted by a dacitic to andesitic ignimbrite flow derived from the Taapaca Volcanic Complex (TVC).

#### Taapaca Volcanic Complex (TVC)

The Taapaca Volcano is a large dacitic to andesitic volcano located to the east of the Los Pumas Manganese Project. The main products of this volcano are block flow and ash flow rocks, with a dacitic-andesitic composition.



### 3.3.3 Mineralisation

The manganese mineralisation at Los Pumas is divided into the north and south targets and is separated by the Taapaca volcanic dacitic-andesitic flow (approximately 1km). The north target is approximately 1.7km by 0.6km in area and approximately 1m to 10m in thickness, while the south target is 1km by 0.2km in area and a similar thickness.

Mineralisation outcrops from surface in most cases, extending up to a maximum depth of 30m below surface.

The Lauca Ignimbrite is important in that this unit hosts the majority of the manganese mineralisation identified at Los Pumas. The manganese has formed mantle style mineralisation having been hydrothermally injected into the flat ignimbrite layer along paths of weakness associated with subvertical faults, preferentially oriented N-NW, with subordinate structures oriented N-S and ENE as shown in Figures 3.3.3\_1 and 3.3.3\_2.

The metallurgical testwork completed by SHM indicates that cryptomelan is the only manganese mineral represented.





The volcanic sediments located in the footwall of the mineralisation are more ductile in nature and have not been as pervasively mineralised, although still contain narrow, high grade manganese veinlets and stockwork mineralisation. This style of mineralisation is also observed in the andesite flow that separates the north and south targets. This narrow, high grade mineralisation was the focus of small underground mining activity undertaken by the Germans during World War II.

Figure 3.3.3\_3 below is a graphical representation of the possible genesis of the manganese mineralisation with the source potentially being a deeper porphyry body.



## 3.4 History

The Los Pumas manganese project has been explored by a German company during World War II with the small trenches and underground workings related to this period.

SHM's wholly-owned Chilean subsidiary, Minera Hemisferio Sur SCM (MHS) entered in an option agreement with Kaiora International Limitada to purchase the exploitation tenements in 2008.

No relevant exploration has been completed prior to the acquisition by SHM.

## 3.5 Exploration

The Los Pumas manganese project was first identified during World War II when a German company excavated a number of small trenches and underground openings in both the mantle and vein mineralisation. The result of this work is not available, nor is there any record of additional exploration up until the work commenced by SHM in September 2008.

The project opportunity was identified by the SHM Exploration Manager, Mr Igor Collado, who has been responsible for initially identifying the potential and for all exploration work completed to date. The work completed by SHM to date has included:

- Regional reconnaissance mainly in the form of travelling to various farming areas and asking if people have seen "black rock".
- Project scale mapping of the Los Pumas Project.
- 22 grab samples from outcrop.
- 151 reverse circulation (RC) holes for a total of 3,516m.

The regional grass roots prospects identified to date comprise:

- Colpitas Prospect Limited grab samples with manganese noted within andesite host associated to NNE faults.
- Railway Prospect Located within 20m of the existing railway, this project comprises mantle style manganese mineralisation, which is clearly visible over about 2m thickness.
- Abundancia Prospect Limited grab samples and 6 RC drillholes completed, however no significant results were returned.

### 3.5.1 Resource Data

#### Drilling

The Los Pumas Manganese Project was drilled in early 2009 by SHM with the first hole commenced on the  $16^{th}$  December 2008. A total of 151 holes were completed for 3,516m. The company contracted to undertake the drilling was AC Perforationcs, utilising an Ingersoll Rand reverse circulation drill rig with a 5 ½" face sampling hammer. Holes were mostly drilled vertically to approximately 5m below the ignimbrite into the volcanic sediments. Holes were drilled on a spacing of approximately 100m by 100m.

Coffey Mining considers the drilling type and methodology appropriate for the project and style of mineralisation although would recommend angled holes to try to define the sub vertical manganese mineralisation associated with the regional faults.

#### **Downhole Surveys**

No downhole surveys have been completed as the holes are vertical and less than 30m in depth. Coffey Mining considers hole deviations will be minimal with this style of drilling and will have little material impact given the flat lying deposit morphology, however downhole surveys are recommended for angled holes >30m depth.

#### Topography and Collar Surveys

Drillhole collar positions have been recorded using a handheld global positioning system with an error of +/- 7m. SHM plans to pick up the collar positions along with the topography using a total station at completion of the second phase of diamond drilling, which is currently underway.

No topography has been formally recorded, with the current topographic surface extrapolated and modelled from the GPS collar positions.

Coffey Mining considers that this total station survey work should be a priority, prior to any future resource estimation work.

#### **Bulk Density**

No bulk density measurements have been made, with an assumed bulk density being applied in resource estimations to date.

Physical bulk density measurements are planned for the current diamond drilling campaign. Coffey Mining considers this a high priority, with the assumed densities being of very low confidence.

#### Sampling

The RC samples were taken on 1m intervals and split to 5kg using a riffle splitter. The 5kg samples were then sieved with the RC chips stored in a chip tray for later reference, and the chip trays were photographed. The chips were then logged by SHM taking note of the manganese mineralisation and lithology. The bulk reject samples have been retained at the Los Pumas Project for reference purposes. Samples were not weighed by SHM but Coffey Mining noted that the sample bags (shown in the Figure 3.5.1\_1 below) are of relatively equal size, suggesting good (or at least consistent) recoveries from the RC drilling.



(even sample size observed)

5kg samples were then transported to the Andes Analytical Assay Limitada (AAA) laboratory located at Arica airport for sample preparation. 5kg samples were crushed to 80% passing 10# then split using a Jones riffle splitter to generate a 1kg fraction. This was then pulverised using an LM2 pulveriser to 90% passing 75 microns to produce a 50g sub-sample for analysis.

Coffey Mining considers this sampling and sample preparation methodology to be of international industry standard. The chain of custody noted by Coffey Mining is also to accepted industry standards with little room for error and sample mixing given the procedures in place.

## <u>Assay</u>

50g pulps were then sent by air to the AAA laboratory in Santiago. This laboratory has an ISO 9001:2008 certification. The samples were then analysed by four acid digest and ICP AES (34 elements).

## <u>QAQC</u>

## Standard Data

No certified standards have been included in the assay methodology by SHM. Coffey Mining recommends that in future SHM submit certified manganese standards at a rate of 5% of the total samples to ensure laboratory accuracy.

## Duplicate Data

Field duplicates were prepared in the field (1 in 20 or 5%) by passing the bulk RC 1m sample through the splitter to produce a second 5kg sample. This was then sent to the laboratory to be prepared and analysed in the same manner described above.

The results are presented in Figure 3.5.1\_2 below and show excellent precision which suggests that the current sampling methodology is adequate.

No laboratory pulp duplicate data are available from AAA laboratory.



### Umpire Assays

A total of 9 pulp samples were sent to ALS Chemex in La Serena for analysis by four acid ICP-AES (and by AAS for Mn >10%).

ALS submitted 1 standard, one blank and one pulp duplicate as part of the QAQC program. Coffey Mining reviewed the ALS QAQC report and noted no issues with the internal QAQC.

Nine samples are not adequate to establish any quantitative bias in the data, but the simplistic comparison in Table 3.5.1\_1 below shows AAA laboratory returning on average approximately 10% higher manganese results.

Table 3.5.1_1 Los Pumas Manganese Project Umpire Assay Results			
Sample Id	ALS Mn by ME-ICP61	ALS Mn by AA62	AAA by ICPAES
LP-1 5-6	1.84	1.89	2.14
LP-2 9-10	0.325	0.29	0.35
LP-1 10-11	1.705	1.75	1.82
LP-2 11-12	0.857	0.85	0.88
LP-2 12-13	>10	26.5	29.79
LP-3 13-14	7.54	7.8	8.30
LP-3 14-15	0.972	0.98	0.95
LP-3 23-24	0.0451	0.04	0.05
LP-3 24-25	0.965	0.96	1.00
Average	4.53 (*excluding >10)	4.56	5.03

No comparison has been made with XRF analysis.

Coffey Mining considers the sample preparation and analytical method to be broadly appropriate for Los Pumas and the data suitable for resource estimation but recommends that certified standards be utilised in future to be able SHM to monitor assay accuracy.

#### 3.5.2 Exploration Potential

The Los Pumas manganese project represents a unique discovery in Chile. The mineralisation has been known since World War II, but the full potential has never been assessed until SHM acquired the project in September 2008. The mineralisation is clearly identified on surface and is strongly associated with the north-south structural feature corresponding to the Lluta River.

Additional manganese mineralisation has been identified in the area, with mantle style mineralisation associated with the ignimbrites presenting a very exciting target to be tested.

Limited geological mapping exists in the area and regional exploration has never targeted manganese mineralisation. SHM have already identified a number of other manganese occurrences by simply asking local farmers if they have identified any 'black rocks'. Some of these targets have been tested with a limited rock chip sampling and RC drilling, but drilling has returned no significant results to date outside of the Los Pumas Project.

This style of mineralisation (and commodity) is uncommon in Chile and has not been a significant focus of exploration, with copper being the traditional focus. The area represents an exciting geological setting, with the potential to define additional deposits of manganese.

### 3.5.3 Exploration and Development Strategy

SHM has provided Coffey Mining with a comprehensive exploration program for the Los Pumas Manganese Project.

A diamond drilling program is currently in progress, designed to generate additional material for metallurgical testwork and bulk density determination.

This will be followed by infill drilling prior to resource re-estimation and commencement of a definitive feasibility study.

Coffey Mining considers that the proposed exploration and evaluation strategy is entirely consistent with the potential of the Los Pumas Project, providing it is appropriately staged to allow a review at the completion of each phase of development.

## 3.6 Metallurgy

#### 3.6.1 Introduction

A series of metallurgical testwork programs were undertaken by Transmin Metallurgical Consultants (Trasmin) in Lima in order to characterise the manganese ore and determine likely recoveries from the Los Pumas manganese project.

The programs included heavy liquid separation (HLS) at 2.8, 2.9 and 3.0 SG.

## 3.6.2 Source of Information

The documents used to produce this element of the report are listed below:

- Heavy liquid Separation Results, Project No: TM-576 by Trasmin Metallurgical Consultant, 27-05-2009.
- Mineralogy report By BISA, 08-07-2009.
- Email on the partial results from Gravity Test and X-Ray diffraction analysis Phase III, 10-07-2009.

## 3.6.3 Assumptions

The following assumptions were made in undertaking this review:

- The samples selected were representative of the deposit in term of mineralogy.
- The samples selected were representative of the variability of the deposit.
- The sampling methods used are representative of the deposit in term of assay distribution.

## 3.6.4 Metallurgical Sampling

There have been a series of three metallurgical testwork programs conducted on the Los Pumas mineralisation. The first HLS tests were performed on 16 drill chip samples. Detailed information and results from this program were not provided and hence were not reviewed by Coffey Mining.

The second testwork program was carried out on 22 samples. HLS was carried out at three different SGs by Transmin. From the results of the HLS program, 10 samples were selected and the mineralogy analysed by X-ray diffraction (XRD).

The last testwork program was conducted on the fine fraction (-0.5mm) of 5 composites. The composites were tested in a Knelson concentrator and XRD examination was conducted.

Coffey Mining has not reviewed the sample preparation methodology and how representative the samples are of the overall mineralisation.

## 3.6.5 Mineralogy

Two mineralogical studies were conducted by BISA in July 2009 as part of the Transmin metallurgical testwork program.

The first study was done on a selection of 10 samples from the HLS samples tested (from HM-22 to 40). The results indicate that only one type of manganese mineral is found, being cryptomelane. The other minerals identified were in the majority with a low density (below 3.0). The mineral Andesine, was present in almost all samples (90%) with a mineral distribution in the sample varying between 5% and 52%.

The second study was done on the "fines" fraction of 5 composites (C\_HMS6 to C\_HMS10) prepared after being treated via a gravity separator (Knelson or Falcon). Four of the five samples confirmed that criptomelene is the dominant mineral. The remaining one sample indicated that Andesine is the dominant mineral at 52%. Andesine was also present in almost all of the other samples with a distribution averaging 17%.

The maximum content of cryptomelane in all the fines fraction composite samples analysed by XRD was 59% and 75% (average of 35%) for the 10 HLS samples selected.

The manganese content in the Cryptomelane is 59.38% and the specific gravity of this mineral is 4.36.

Table 3.6.5\_1 below indicates the identified minerals with their chemical formulas and specific gravities.

Table 3.6.5_1 Mineralogy Identification			
Mineral	Empirical Formula	Density	
Cristobalite	SiO <sub>2</sub>	2.27	
Microcline	KAISi <sub>3</sub> O <sub>8</sub>	2.56	
Orthoclase	KAISi <sub>3</sub> O <sub>8</sub>	2.56	
Albite	NaAlSi₃O <sub>8</sub>	2.62	
Quartz	SiO <sub>2</sub>	2.62	
Andesine	(Na,Ca)(Si,Al) <sub>4</sub> O <sub>8</sub>	2.67	
Bytownite	(Ca,Na)(Si,Al) <sub>4</sub> O <sub>8</sub>	2.71	
Anorthite	CaAl <sub>2</sub> Si <sub>2</sub> O <sub>8</sub>	2.73	
Amorphous		2.9	
Actinolite	Ca <sub>2</sub> (Mg,Fe) <sub>5</sub> Si <sub>8</sub> O <sub>22</sub> (OH) <sub>2</sub>	3.04	
Biotite	K(Mg,Fe) <sub>3</sub> AlSi <sub>3</sub> O <sub>10</sub> (OH,F) <sub>2</sub>	3.09	
Krautite	MnAsO <sub>3</sub> (OH) <sub>2</sub> .(H <sub>2</sub> O)	3.3	
Cryptomelane	K(Mn) <sub>8</sub> O <sub>16</sub>	4.36	

Based on the mineralogy results, the specific gravity used to separate the manganese should be higher than 3.1, and 3.5 is commonly used in the industry. The final manganese concentrate should be very low in impurities. If krautite is found to be a major mineral component then the arsenic content will be a good indication of this, and the final manganese grade will be lower as a consequence. If the mineralogical results are representative of the deposit, and adequate liberation can be achieved then separation should be efficient, generating a good marketable concentrate.

Metallurgical domains in the pit will need to be clearly identified in order to characterise different sectors of the deposit and validate their beneficiation performance.

## 3.6.6 Metallurgical Testwork

In May 2009, a metallurgical testwork program conducted by Transmin tested samples to densimetric characterisation using three densities 2.8kg/L, 2.9kg/L and 3.0kg/L.

The products from the density separation (sinks and floats) were assayed for Mn, Fe, P, SiO<sub>2</sub>,  $AI_2O_3$  CaO and MgO. The top size of each sample was 10mm and the minimum size was 0.5mm.

Mineralogical examination and Knelson testwork were carried out on the fine fractions (-0.5mm) of the 5 composites samples. Unfortunately, however, these results were not available at the time of reporting.

The procedures used for the metallurgical testwork programs were not available and therefore could not be reviewed by Coffey Mining.

## 3.6.7 Testwork Results

The metallurgical testwork conducted at Transmin, showed that the HLS results did not adequately reproduce the mineralogy results. Manganese liberation will need to be defined and grind establishment testing should be completed in combination with HLS results.

Figure 3.6.7\_1 below presents the manganese head grade as a function of the final manganese concentrate obtained at an HLS of 3.0 SG. The graph clearly indicates that the manganese head grade is not an indicator of the final concentrate grade. However, most of the samples produced a final manganese concentrate grade within the desired specifications.



Figure 3.6.7\_2 below indicates the weight recovery from the HLS @ 3.0 SG associated with the manganese concentrate. This graph shows variation in the mineralogy or manganese liberation. A concentrate grade of 40% Mn produced a weight recovery of 20% and a 45% Mn concentrate grade produced a weight recovery of 25%. Localisation and identification of the samples in the deposit will improve the understanding of the sample variability and more clearly define the beneficiation parameters of the resource.



Figure 3.6.7\_3 below indicates the manganese concentrate grade from HLS @ 3.0SG as a function of the "Mn/Fe" ratio. A high "Mn/Fe" ratio produces a high manganese concentrate grade with very low iron content and shows that manganese is associated with potassium (cryptomelane mineral). A high ratio with lower manganese grade indicates that krautite mineralisation is present as well as As. A ratio below 50 with good manganese content shows the presence of iron with other associated elements such as Mg or AI (Mg is present in both biotite and actinolite, and AI is present only in the biotite). More data and relationships will need to be established and K assays should be included in the typical assay suite.



Based on the HLS results, a manganese concentrate grade of 37% with low impurities seems to be achievable and is appropriate to meet marketing specifications.

## 3.6.8 Recommendations

Based on the assumptions previously mentioned and from the results of mineralogical and metallurgical testwork, it is recommended that the following be determined:

- The sampling adequately represents the mineralogical domains and contributing tonnage within the deposit.
- Variability samples need to be selected for mineralogical verification. These variability samples would also be used for marketing testwork (bulk sample).
- It is also considered necessary that PQ diamond core samples would be used for the comminution testwork program, rather than percussion drill samples.
- One of the key aims of the future testwork program will be to determine whether the assumptions pertaining to metallurgical domains are accurate and whether there are simple relationships in terms of mineralogy throughout the deposit.
- Head grade assay distribution should be carried out to obtain a better understanding of the material and verify the sample variability.

- The following tests should be conducted to verify the material amenability to generate a lump product:
  - Bulk Density (compacted and uncompacted)
  - The Tumble and Abrasion Index
  - The Decrepitation Index
  - The Reduction Disintegration Index test (RDI)
  - The Reducibility Index (RI)
- Manganese liberation will need to be defined and grind establishment testing should be done in combination with the HLS results.
- K assays should be included in the typical assay suite.
- HLS should include the 3.6 SG fraction.

### 3.7 Resource Estimate

## 3.7.1 Introduction

Coffey Mining completed a review of the Mineral Resource for the Los Pumas deposit estimated by consultant Marco Carrasco Gajardo (Gajardo) in February 2009. Gajardo completed the estimation via Ordinary Kriging (OK) and also Inverse Distance (ID2 and ID3) methods.

Coffey Mining reviewed the estimate reports and digital data such as databases, wireframes, composite data and block models. Domain interpretation, grade estimation and resource classification were investigated in detail.

Coffey Mining does not support the Measured, Indicated and Inferred classification of the February 2009 resource completed by Gajardo because of the limitations on accuracy posed by the lack of collar surveys, topography and bulk density data and has reclassified the resources as Inferred under the JORC Code guidelines.

### 3.7.2 Database Development

Coffey Mining was provided with the digital databases, topography, geological and mineralisation wireframes.

Coffey Mining inspected photos of the reverse circulation chip trays against geological logging and manganese assays. A reasonable correlation was seen between lithology, logging and assays. No major data issues were identified. The data were found to be internally consistent with appropriate coding of data types and mineralisation domains.

## 3.7.3 Geological Modelling

SHM interpreted two solids which constrain the mantle mineralisation named manto\_mn\_nn located in the north of Los Pumas and manto\_mn\_ss located in the south.

The two domains were based on lithological logging and interpretation including "Low Grade Mantle"; "Manganese Mantle"; "Pink ignimbrite and tuff" and the "Pink vitric ignimbrite" as shown in the table Table 3.7.3\_1 below.

Table 3.7.3_1 Los Pumas Mn Project Lithology Zones		
Code	Туре	Lithology
1	1	Gravels and modern sediment
2	1	Recent Ignimbrites flows
3	1	Ignimbrites flows
4	1	Conglomerate Andesitic
5	1	Andesitic Rocks
6	1	Amorphous Silica
7	2	Low Grade Mantle
8	2	Manganese Mantle
9	2	Pink ignimbrite and tuff
10	2	Pink vitric ignimbrite
11	3	Tuff low density (clay)
12	3	Sandstones
13	3	Volcanic Sediment
14	3	Argilized volcanic sediments

The geological interpretation was based on 100m spaced E-W cross sections.

Coffey Mining reviewed the interpreted zones in 3D, using Surpac software, and concludes that the interpretation is reasonable, whilst noting the limitations on accuracy posed by the wide drillhole spacing of 100m and low accuracy on surface topography. Infill drilling, to for instance 25 to 50m spacing, is likely to result in local revisions of the interpreted zones and move Inferred Resources into the Indicated and Measured Resource categories.

Typical E-W cross sections are shown for North (Figure 3.7.3\_1) and South (Figure 3.7.3\_2), mineralisation showing manganese drillhole grades versus the OK block model estimation.





## 3.7.4 Grade Estimation

Gajardo composited the drillhole data to regular downhole lengths of 1m and assigned a code number according to the respective lithology.

The block model has a parent cell size of 5m in northing and easting and 1m in elevation. The resolution for volume modelling is the same as the parent cell size. Coffey Mining considers that this approach is not adequate given the current data spacing (100x100m). Given the current drill spacing Coffey Mining considers a block size of 50m N-S by 1m with a sub-block of 25m N-S by 1m.

Manganese (%) grades were estimated by OK, ID2, ID3 and by polygonal methods in one estimation pass ( $200 \times 100 \times 2.5m$  search). A minimum of 1 composite and a maximum of 16 composites were used for the single pass.

Coffey Mining considers that this approach is not adequate given the possibility that a single sample can be used to define a block grade value over a 300m distance. Figure 3.7.4\_1 below shows the search elipse with this potential limitation.



There is a cross validation test to the OK estimation that shows a poor correlation.

Coffey Mining considers the modelling approach and the search parameters used to interpolate the various domains will require revision to increase the current resource confidence.

## 3.7.5 Resource Classification

Gajardo classified the resource as Measured, Indicated and Inferred on the basis of kriging variance and interpolation passes. The estimation strategy applied by Gajardo below, resulted in a "bull eye" classification without taking into account geological continuity.

Coffey Mining does not support the Measured, Indicated and Inferred classification of the February 2009 resource completed by Gajardo because of the limitations on accuracy posed by the low confidence of the grade estimation methodology, the lack of collar surveys, topography and bulk density data and has elected to reclassify the resources as Inferred.



## 3.7.6 Tonnage Factor

Bulk density information has been assumed from typical material and assigned a value of 2.5 with no actual test work having been completed.

#### 3.7.7 Mineral Resource

The Mineral Resource for the Los Pumas Manganese Project is given in Table 3.7.7\_1.

The estimation and classification of the resources by Coffey Mining are in accordance with the guidelines set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves of December 2004 as prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).
Table 3.7.7_1 Los Pumas Mn Project Inferred Mineral Resource (October 16th 2009)			
Cutoff (% Mn)	Tonnes (Mt)	Mn (%)	
0	62.98	3.66	
1	42.11	5.25	
2	30.28	6.73	
3	24.41	7.76	
4	20.96	8.47	
5	17.66	9.21	
6	14.63	9.98	
7	12.06	10.71	
8	9.64	11.52	
9	7.16	12.58	
10	5.41	13.59	
11	3.79	14.93	
12	2.65	16.44	
13	1.94	17.92	
14	1.57	18.95	
15	1.26	20.06	

Bernardo Viana is a professional resource geologist with 8 years experience in resource and mining geology, assumes responsibility for the resource estimate for the Los Pumas manganese deposit. Mr Viana is a member of the Australian Institute of Geoscientists (MAIG) and has the appropriate relevant qualifications, experience and independence as defined in the Australasian VALMIN and JORC codes. Mr Viana is currently employed as the Resource Manager – Brazil for Coffey Mining.

# 3.7.8 Comparative Estimates

Coffey Mining has completed a nearest neighbour (NN) estimate to validate the Gajardo resource estimation. The plots below shows the correlation between Gajardo; OK, ID2 and ID3 estimation and to the Coffey Mining NN estimate using the E, N and RL coordinates.

The coordinate comparison shows a good correlation between all the estimation methods.







# 3.8 Conclusions and Recommendations

Coffey Mining considers the Los Pumas manganese project to be an exciting discovery which is very well located to take advantage of the existing infrastructure, which includes good access and proximity to port facilities. The work to date has seen the project advance from the discovery stage to a scoping level in less than 12 months.

The resource was reclassified by Coffey Mining to Inferred status, given the application of assumed bulk densities and the low confidence topography and drill collar survey information used. The in-situ resources are wholly contained within the SHM tenements.

Coffey Mining considers the next phase of any work at Los Pumas would be to establish a number of concepts, namely:

- Complete the current diamond drilling to enable bulk density and metallurgical samples to be taken. This diamond drilling should use angled holes and oriented core to enable a better structural model to be developed to define the controls on manganese mineralisation in regards to the sub-vertical faults in the project.
- Complete a topographical and drillhole collar survey using a high precision survey instrument with >3cm accuracy.
- To complete a scoping study to evaluate the economic viability and potential mining scenarios.

- In the high likelihood of a positive outcome for the scoping study, Coffey Mining would recommend additional infill Reverse Circulation (RC) drilling to 50m by 50m to upgrade the resource to a combination of measured and indicated:
  - This additional drilling should include the use of certified manganese standards at rate of 1 in 20 to ensure laboratory accuracy is determined.
  - Undertake an umpire assay program which will involve an independent certified laboratory to analyze up to 10% of all mineralised pulps.
  - Routine assaying for potassium to determine the distribution of krautite (and hence arsenic) in the ore.

### 3.9 Exploration and Development Strategy

SHM has provided Coffey Mining with a comprehensive exploration and development strategy for the Los Pumas Project to cover an initial two year period following listing. SHM has separated the proposed exploration strategy into two phases.

Phase One of SHM's exploration strategy is focussed on infill and extension diamond drilling (180 holes; 4,150m) to expand and increase confidence in the existing resource base, and generate sufficient material for metallurgical testwork.

Phase Two is contingent on positive results being delivered in Phase One, and includes the re-estimation of resources, comprehensive metallurgical testwork and commencement on a definitive feasibility study into the establishment of a manganese mining and processing operation at Los Pumas.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Los Pumas Project.

### 3.10 Exploration and Development Budget

SHM has also provided Coffey Mining with an exploration and development budget for the Los Pumas Project covering the initial two year period to December 2011 as summarised in Table 3.10\_1 below.

Coffey Mining considers that the proposed exploration and development budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

Table 3.10_1					
Los Pumas Project					
Proposed Exploration and Feasibility Expenditure					
Decem			1		
Item / Activity	Phase 1 A\$	Phase 2 A\$	Total A\$		
Project Management	340,000	340,000	680,000		
Geological Services	130,000	130,000	260,000		
Core Drilling	150,000	0	150,000		
RC Drilling	266,000	0	266,000		
Analysis	80,000	0	80,000		
Hydrology	150,000	0	150,000		
Water Drilling	0	150,000	150,000		
Environmental Studies	0	275,000	275,000		
Metallurgy	100,000	78,000	178,000		
Process Plant Design	100,000	40,000	140,000		
Resource Evaluation	45,000	0	45,000		
Contract Documentation 0 150,000 150,000					
In-country Administration 238,000 238,000 476,000					
Total 1,599,000 1,401,000 3,000,000					

# 4 LAS SANTAS PROJECT

### 4.1 Location, Access, Climate, Physiography and Infrastructure

#### 4.1.1 Project Location and Access

The Las Santas Project, formerly known as the Coiron Project, is centred at 31°58'31"S and 70°41'36"W in the Comuna de Salamanca district of Region IV in central-northern Chile as shown in Figure 1\_1.

The Las Santas Project is located approximately 320km or four hours drive north of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway northward to the regional coastal centre of Los Vilas, thence inland via sealed roads through the township of Illapel and the regional administrative centre of Salamanca to the village of Tranquilla, located on the northern perimeter of the property. Access within the property is via a series of recently upgraded unformed gravel roads and tracks.

### 4.1.2 Climate and Physiography

The Las Santas Project experiences a Mediterranean climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 250mm, while average maximum temperatures range from -6°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the influence of altitude and distance from the sea, with the project lying at elevations from 1,230m to 3,140m and being some 100km from the coast.

The Las Santas Project is situated along the western edge of the Cordillera Principal of the Andes. The property lies south of the Choapa River on the slopes of the Cordon de Quelon, an east-west trending ridge, at elevations ranging from 1,230m above sea level at the northern project boundary to 3,140m above sea level in the south-eastern part of the tenement block.

The vegetation comprises low shrubs and cacti, interspersed with annual grasses and perennial herbs. Isolated trees remain in protected gullies at lower altitude. The land use is confined to limited livestock grazing, principally goats and cattle.

#### 4.1.3 Local Resources and Infrastructure

The centre of the Las Santas Project is located 4km from the village of Tranquilla, which is serviced by bitumen roads and grid power, and water is available in the adjacent Choapa River. Commercial goods and services are readily available at the nearby regional administrative centre of Salamanca.

# 4.2 Tenure

The Las Santas Project comprises 13 granted Exploration Concessions, 16 Exploration Applications and 15 Exploitation Applications covering an aggregate area of 109km<sup>2</sup> as shown in Table 4.2\_1 below.

	Table 4.2_1			
Las Santas Project Tenement Schedule				
Santa Cristina	200	Exp.		
Santa Elba	300	Exp.		
Santa Elisa	300	Exp.		
Santa Isaura	300	Exp.		
Santa Juana	300	Exp.		
Santa Romina	200	Exp.		
Santa Roxana	200	Exp.		
Santa Ana 1	200	Exp.		
Santa Ana 2	300	Exp.		
Santa Ana 3	300	Exp.		
Santa Ana 4	300	Exp.		
Santa Ana 5	300	Exp.		
Santa Ana 6	300	Exp.		
Santa Ana 7	200	Ped.		
Santa Ana 8	200	Ped.		
Santa Ana 9	300	Ped.		
Santa Ana 10	300	Ped.		
Santa Ana 11	300	Ped		
Santa Ana 12	300	Ped		
Santa Ana 13	300	Ped		
Santa Ana 14	300	Ped		
Santa Ana 15	300	Ped		
Santa Ana 16	300	Ped		
Santa Ana 17	300	Ped		
Santa Ana 18	300	Ped		
Santa Ana 19	300	Ped		
Santa Ana 20	200	Ped		
Santa Ana 21	200	Ped		
Santa Ana 27	300	Ped.		
Santa Natalia 1 AL 40	200	Man		
Santa Camila 1 AL 27	122	Man		
Santa Carrilla TAL 27	200	Man.		
Santa Sanura TAL 40	200	Man		
Santa Cianta TAL 40	200	Man.		
Santa Magarona 1 AL 40	200	Maa		
Santa Macarena TAL 40	200	ivian.		
Santa Alla I AL OU	300	ivian.		
Santa Maria TAL 60	300	ivian.		
Santa Cecilia I AL 20	97			
Santa Norma 1 AL 40	200			
Santa Ines 1 AL 40	200	ivian.		
Santa Aimena 1 AL 60	289	ivian.		
Santa Mariela 1 AL 40	200	Man.		
Santa Ema 1 AL 27	132	Man.		
Santa Guadalupe 1 AL 39	194	Man.		
Total	10,934			

Tenement boundaries are defined in UTM coordinates (Datum Sudamericano La Canoa 1956) and have not been surveyed in the field.

All licences are held 100% by Chilean registered company, Minera Hemisferio Sur (MHS), which is a wholly-owned subsidiary of SHM.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of tenements associated with the Las Santas Project, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

#### 4.2.1 Agreements and Encumbrances

It is understood that no private royalties are applicable to the Las Santas tenements and no additional payments are required. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future application or granting of mining rights.

Coffey Mining is not qualified to provide significant comment on legal matters pertaining to the Las Santas Project and we have relied entirely on information provided by SHM.

### 4.3 Geological Setting

### 4.3.1 Regional Setting

The Las Santas Project lies within the north trending Neogene metallogenic belt which runs along the Andean Cordillera Principal, straddling the border between Chile and Argentina. Magmatism and associated hydrothermal alteration and mineralisation progressed northward and eastward along this trend from Oligocene to Pliocene times. The Las Santas area lies toward the northern extremity of a belt dominated by copper-molybdenum porphyry systems, to the north of which porphyry and epithermal deposits are dominated by precious metals.

Structurally the Las Santas Project lies along a 70km northeast trending lineament that links the Los Pelambres porphyry copper-molybdenum deposit (and adjacent El Pachon in Argentina), located 15km northeast of Las Santas, with the El Bronce epigenetic gold deposit 17km to the southwest.

### 4.3.2 Project Geology

The geology of the Las Santas Project is dominated by a succession of late Cretaceous andesitic to rhyodacitic flows, agglomerates and tuffs, along with subordinate shallow marine carbonaceous pelites and limestones, of the Vinita (or Salamanca) Formation. This gently undulating succession is folded into a series of broad anticlines and synclines, however the stratigraphy within the project area is essentially sub-horizontal.

The Vinita Formation was intruded by granodiorite of the Cogoti Supersuite in the early to mid Eocene. Granodiorite and its various phases comprise the adjacent Cerro Carmen and Cerro Macote hills within the lower altitude, northern portion of the project. A porphyritic intrusive stock, termed the Igor Monzonite, is exposed along the northern and southern flanks of the Cordon de Quelen ridge within the southern portion of the property. Although assumed to comprise part of the Cogoti Supersuite, field evidence suggests the stock post-dates the granodiorite and has been assigned a mid Eocene age. The monzonite is closely associated with an extensive multi-phase quartz-tourmaline implosion breccia that dominates the ridge-line in the vicinity of Mount Tacho. The figure below shows the geology in the area.



The Vinita Formation and associated intrusives have been mildly deformed and metamorphosed to greenschist facies assemblages during the late Eocene.

At higher elevations within the southern portion of the property, the Vinita Formation is unconformably overlain by andesitic flows, tuffs and agglomerates comprising the lower-most units of the Oligocene aged Los Elquinos Formation. Unlike the older Vinita Formation, the isolated erosional remnants of the Los Elquinos Formation can be readily distinguished, as they predate deformation and metamorphism.

The entire stratigraphic succession was influenced by thrusting in the Pliocene. The position of the Servando Thrust is considered to be broadly consistent with the present erosional surface, while the Zarzaparilla Thrust lies toward the base of the project stratigraphy, suggesting that the mineral potential of the property remains intact and essentially unaffected by this late deformational phase.

#### 4.3.3 Deposit Types

The principal economic target within the Las Santas Project is porphyry copper mineralisation. Unlike the nearby porphyry copper-molybdenum deposits at Los Pelambres and El Pachon, however, metallogenic evidence within the Las Santas Project suggests that a porphyry copper-gold association is more likely. Extensive potassic alteration within both monzonitic and granodioritic intrusives has been identified at two localities within the property to date, one of which includes extensive zones of disseminated copper mineralisation (Figure 4.3.3\_1).



A secondary target includes the oxidised portions of copper-gold vein systems hosted by andesitic volcanics, associated with peripheral faulting and fracturing marginal to the Mount Tacho implosion breccia and intrusive complex. Several such vein systems have been identified within the Las Santas Project and these have been the subject of superficial artisanal mining activity over a long period of time.

#### 4.3.4 Mineralisation

Four styles of mineralisation have been identified within the Las Santas Project to date. However, while their style and geographic distribution are distinct, all are interpreted to relate to a larger undisclosed porphyry intrusive system.

#### Mount Tacho Breccia Complex

The principal target within the Las Santas Project is an area of intense hydrothermal brecciation and associated alteration that is exposed in the vicinity of Mount Tacho, comprising a marginally higher portion of the Cordon de Quelen. The breccia forms a north-south oriented ellipse measuring some 2km by 1km that broadly occupies the centre of the Igor Monzogranite. The monzogranite demonstrates pervasive potassic alteration, which is in turn flanked by concentric zones of phyllic, propylitic and argillic alteration, typical of those systems immediately overlying porphyry copper deposits throughout the northern half of Chile.

The breccia is essentially bi-mineralic, composed almost solely of small angular cherty siliceous fragments, resulting from total silicification of the precursor, set in a black finegrained tourmaline matrix. Tourmaline typically represents between 10% and 40% of the rock, increasing in abundance towards the centre. Pyrite is a common accessory constituent of the breccia matrix, occurring as narrow veinlets and aggregates surrounded by tourmaline. Limonitic aggregates and boxworks (presumably after pyrite) are also disseminated within the fractured and silicified host in peripheral portions of the breccia system. Figure 4.3.4\_1 shows the brecciation and alteration characteristics in outcrop at Mt Tacho.

Vertical and horizontal elements are evident within the breccia, with the former clearly representing feeder zones or the direction of fluid migration, and a suggestion of locally preserved flow textures. The origin of the horizontal elements is more problematic, possibly representing an upper cap or ceiling to the system, or alternatively reflecting the original attitude of the silicified volcanics. The silicified breccia fragments are generally small in size, but the morphological integrity of the original host is frequently maintained. This texture is essentially identical to the 'jigsaw' breccias described from upper portions of the nearby Los Pelambres deposit, and is consistent with other porphyry systems within northern Chile.

The breccia and associated monzogranite coincide with distinct magnetic and chargeability anomalies generated by localised ground geophysical surveys. Three stratigraphic diamond drillholes were completed to evaluate the breccia, monzogranite and their associated geophysical response. Drilling indicates that the system has a cauliform structure, with the monzogranite developed as a series of convective lobes leading upward and outward into the wedge-like breccia. The system can be classified as a hydrothermal implosion breccia resulting from progressive stages of boiling, fracture failure and decompression associated with a hydrous magma.



Drilling confirmed that the monzogranite represents the dominant host to the breccia. Where not overprinted by the breccia, the intrusion was found to be modified by a pervasive potassic alteration assemblage. This assemblage comprises abundant magnetite, pink potassic feldspar and blue-green chlorite porphyroblasts, along with a pink and green matrix of similar composition. The magnetite concentration is directly proportional to the intensity of alteration and has clearly been enhanced by this process, however total magnetite destruction accompanies breccia development within the core of the complex. Little remnant biotite is evident, as sites are pseudomorphed by later chlorite, and late indistinct potassium feldspar veinlets also traverse the rock. A similar mineralogy is observed within the adjacent andesitic volcanics of the Vinita Formation, however chlorite is predictably dominant over potassium feldspar.

Although essentially drilled for stratigraphic purposes, 2m intervals of diamond core were assayed for copper, gold and silver. The only significant results (up to 0.5% Cu) were returned from late quartz-chlorite-calcite veins containing up to 15% chalcopyrite near the margin of the hydrothermal breccia. A sample of an individual vein reportedly returned 7% Cu.

#### Cordon de Quelen Copper Vein-Breccia System

A complex array of copper-silver vein and breccia zones traverse the crest of the Cordon de Quelen ridge immediately southeast of the Mt Tacho breccia system. The array comprises a series of intersecting north and northeast trending argentiferous and auriferous quartz veins and cupriferous breccia zones that predominantly dip steeply towards the west and northwest. Despite their morphological and mineralogical distinctions, the two structural styles appear to be broadly synchronous and are reasonably presumed to represent peripheral mineralised phases to the adjacent Mount Tacho quartz-tourmaline breccia system. The breccia zones and quartz veins have been exploited by pirquineros over an extended period via a series of adits.

The system is best developed over a 1km strike length on the northern flank of the ridge crest, but is mapped to extend over a total length of at least 2.5km. Individual structures have been mapped in outcrop over strike lengths ranging from 300m to 800m, several of which have inferred strike lengths of up to 1,500m. The mineralised structures range in width from 2m to 25m, with the copper-rich breccia zones generally being the wider. The principal mineralised breccia zones include the Pilar 1, Pilar 2 and Marcela structures, while the more significant precious metal vein is the Carolina structure.

The north to northeast trending copper-bearing breccia zones are pervasively silicified and contain abundant iron oxides, forming resistant rust-coloured outcrops that can be readily distinguished from the enveloping bleached sericitic alteration. The breccia clasts comprise highly altered volcanic rocks (presumably andesite) that have not been milled or contaminated by exotic lithologies, and textures demonstrate multi-phase brecciation and annealing. Early silicification is accompanied by sparsely disseminated tourmaline and pyrite, providing further evidence of a genetic link to the adjacent Mount Tacho breccia complex. Copper minerals are dominated by chalcocite, malachite and cuprite, along with subordinate azurite, atacamite and chrysocolla. Copper is dominantly hosted by the breccia matrix, but also occurs in peripheral fractures or as disseminations within the clasts and wallrocks.

The variable argentiferous and auriferous quartz veins are essentially subvertical and preferentially trend in an east to northeast orientation. In several instances the veins appear to displace the copper breccia zones, however the larger Carolina Vein is consistent in attitude. The veins are invariable less than 3m wide and comprise vuggy quartz containing abundant haematite, limonite and relict pyrite.

Outcrop, trench and adit channel sampling of the vein-breccia system over 1m to 3m intervals has generated maximum individual values of 4.58% Cu, 12.7g/t Au and 143g/t Ag. Although somewhat inconsistent, silver appears to accompany copper and gold in both the breccia zones and quartz veins respectively. The Pillar 1, Marcela and Carolina zones have been tested by four diamond drillholes, however the results are somewhat inconclusive due to poor core recoveries within the peripheral sericitic alteration zone. Copper grades were rarely found to exceed 1% below a vertical depth of approximately 30m, and it would generally appear that higher grades are associated with secondary copper minerals within the oxide profile.

#### Cerro Carmen Disseminated Copper Zone

The granodiorite that comprises Cerro Carmen includes broad zones of disseminated copper mineralisation associated with potassic alteration assemblages along the western flank of the hill. This mineralisation has been partially exploited by a small open pit developed by French interests in the 1930s, which trammed ore to the base of the hill for processing. An adit is also developed approximately 36m into the hill immediately below the open pit.

Alteration and mineralisation appear to be confined to an area of at least 100m in diameter, which remains open to the east beneath the broad alluvial valley of the Quebrada de Culenco (Culenco Creek). Although the granodiorite is well exposed across the hill slope, surface leaching of copper provides little indication of the precise extent of mineralisation. A road cutting excavated to provide access for drilling on Cordon de Quelen during 1998, exposed further mineralisation some 70m vertically below the open pit.

Mineralisation comprises occasional chalcopyrite, chalcocite and pyrite blebs up to 5cm diameter and more common fine grains disseminated throughout the rock. Chalcopyrite aggregates are frequently rimmed by chalcocite, while malachite and atacamite are common along fine shallowly dipping fracture planes. The alteration minerals accompanying silicification include chlorite, red-brown biotite, clinopyroxene and recrystallised quartz and feldspar. Pink orthoclase has also been noted to fill veinlets and fractures.

Individual grab sample grades from the open pit returned up to 2.97% Cu and trace silver, while a composite grab sample returned 0.20% Cu, 0.035g/t Au and 0.6g/t Ag. The weighted average of four composite chip samples collected over the 36.5m length of the adit returned 0.08% Cu, 0.03g/t Au and 0.83g/t Ag. A 12m long composite chip sample collected from the road cutting returned 0.55% Cu, 0.13g/t Au and 2.2g/t Ag.

#### Cerro Macote Gold Veins

Cerro Macote comprises a variably silicified granodiorite hill that lies immediately adjacent to Cerro Carmen and the Culenco Creek valley. Pirquineros have exploited numerous small gold-silver veins that predominantly trend northeast to northwest. The majority of quartz veins are less than 10cm wide, and display low temperature crustiform banding and comb structures, indicative of a complex hydrothermal history. Vein margins are frequently encrusted with haematite and limonite, commonly accompanied by azurite. Little exploration or sampling of the Cerro Macote veins appears to have been undertaken.

#### 4.4 History

#### 4.4.1 Ownership History

Artisanal miners (or pirquineros) have locally exploited copper-gold veins within the southcentral portion of the property to a limited extent, however little systematic modern exploration has been completed.

The project was held by French interests in the 1930s, which commenced a small open pit copper mining and processing operation at Cerro Carmen.

The project, then referred to as Coiron, was assessed by geologists from the nearby Los Pelambres mine in 1995. Despite recognising the similarities with Los Pelambres, the property was relinquished due to the low prevailing copper price.

The project was briefly held by Cia de Exploraciones Mineras Los Lobos SA during 1996 and 1997.

In 1997 the project was acquired by Rock Resources Limited, a Canadian forestry company with little mineral exploration experience. Despite a reasonably comprehensive exploration effort, interest waned in 2001 and ownership was allowed to lapse.

The Las Santas Project was ultimately acquired in 2003 by Minera Hemisferio Sur (MHS), whose principals include a geologist from Los Pelambres who initially recognised the project's potential.

### 4.4.2 Exploration History

In the 1930's the high grade gold-copper veins in the southern area of the project were exploited by pirquineros with interest mainly in the gold portion of the system. Surface and underground mining was also undertaken by a French company in the 1930's on the flanks of Cerro Carmen. Most of the information from this period is anecdotal and no production records exist.

The first documented exploration was undertaken in the mid 1990's by geologists from the Los Lobos Group, with similarities between geology, alteration and mineralisation recognised. The Los Lobos Group completed mapping, rockchip sampling and trenching. The work intersected veins up to 15m in width, with grab samples returning values of up to 2.79% Cu.

Canadian junior Rock Resources Limited acquired licences covering a part of the project area in 1997, and completed ground geophysics (magnetic and IP) over the Mount Tacho, Cordon de Quelen and Cerro Carmen areas.

Rock Resources Limited completed seven diamond holes (1,525m) in 1998. The first four of these (421m), comprising holes 98-1, 98-2, 98-3 and 98-4, were drilled to test the Marcela, Carolina and Pillar 1 structures within the Cordon de Quelen area beneath encouraging trench sampling results. Hole 98-3 was abandoned prematurely at 42m due to drilling difficulties. The remaining three diamond holes (1,104m), comprising 98-5, 98-6 and 98-7, were principally designed as stratigraphic holes to assess the nature of the Mount Tacho hydrothermal breccia at depth. A summary of the more significant intersections from both areas is included in Table 4.4.2\_1 below.

Table 4.4.2_1 Las Santas Project Summary of Significant Diamond Drilling Results								
Hole	HoleProspectEasting (mE)Northing (mN)From (m)Interval (m)Grade (% Cu)Grade (g/t Ag)Grade 							Grade (g/t Au)
				66.3	2.6	0.17	2.8	-
98-1	Cordon de Quelen	339630	6461700	82.2	0.9	0.17	5.9	0.14
				84.9	0.5	0.27	7.8	-
00.2	Cordon do Quelon	220675	6461045	78.5	0.2	1.22	3.5	-
90-2		339075	0401945	118.6	0.3	1.55	10.7	-
98-3	Cordon de Quelen	339890	6461740	20.8	5.9	0.65	13.5	-
98-4	Cordon de Quelen	339890	6461740	49.7	1.4	0.14	3.6	-
98-5	Mount Tacho	338985	6462115	NSI				
98-6	Mount Tacho	338985	6462115	NSI				
				173	2	0.36	11.5	-
98-7	Mount Tacho	338985	6462115	251	2	0.45	1.6	-
				269	2	0.35	0.6	-

All drill sites were located during the Coffey Mining site visit, however the existence and location of the diamond core is unknown. Nevertheless, the described mineralisation and assay results are entirely consistent with the observed mineralisation at surface and there is no reason to doubt the validity of the results.

### 4.4.3 Production History

Limited informal underground pirquinero production is evident associated with the higher grade copper-gold vein systems located in the south-central portion of the property, however no production records are available.

A French company developed a small open pit and underground mining operation on the upper flanks of Cerro Carmen during the 1930s. The processing method was not recorded however the foundations of the plant are still evident at the base of the hill. No production records are available.

### 4.5 Exploration

Detailed geological mapping by SHM since 2006 has identified a porphyry to the east of Culenca gulch which was named Cerro Marcoleta (located at 343400E, 6465100N). Although the outcrop is highly weathered and leached there is evidence of abundant sulphides including Cu sulphides. Minerals identified include pyrite, chalcopyrite, chalcosite, bornite covalite, arsenopyrite and magnetite. The main outcrop area is approximately 300mx350m however additional evidence of mineralised porphyry has been mapped across the north side of the hill although largely obscured by scree and float. On the south side of the hill, outcrops of mineralised porphyry have also been identified however scree and rock float largely obscure significant outcrop. Field mapping on the northern side of the valley (Cerro Viscachas – 0343300E, 6466200N) has also identified mineralised porphyry. The total strike length between the northern and southern identified porphyry occurrences is in excess of 1.2km.

A total of 28 rock chip samples were collected and sent for analysis at ALS Chemex (via ICP-OES method). The significant results with copper greater than 0.01% are summarised below (Table 4.5\_1).

Table 4.5_1 Las Santas Project SHM Rock Chip Samples							
Sample No	East	North	Cu %	Mo ppm	Au g/t	Ag g/t	Description
37	343570	6464600	2.10	24	0.02	4.9	Porphyry
21	343286	6464767	1.20	19	0.20	25.6	Porphyry
36	343540	6464600	1.20	24	0.05	10.7	Porphyry
43	343850	6464200	1.0	57	0.07	12.1	Porphyry
11	343260	6465175	1.0	7	0.03	8.2	Porphyry
09	343365	6465070	0.54	7	0.01	2.7	Porphyry
34	343150	6464930	0.28	6	0.02	1.6	Porphyry
40	343980	6464340	0.02	7	14.45	15.8	Hydrothermal quartz breccia
41	343870	6464380	0.02	53	4.56	0.5	Hydrothermal quartz breccia
42	343940	6464330	0.01	23	3.45	0.4	Hydrothermal quartz breccia
06	343385	6465100	0.03	327	0.01	1.4	Porphyry

### 4.5.1 Geochemistry

The previous soil survey was completed primarily over Culenco gulch and most sample lines terminated on the flanks of the Cerro Marcoleta and Cerro Viscachas. The original survey did however highlight the eastern side of the gulch as a priority area. As a consequence of the reconnaissance field mapping previous sampling lines were extended east. A total of 10 lines were extended by SHM collecting 40 samples. The results are displayed in Figure 4.5.1\_1 below.



The geochemistry highlighted the areas on the eastern side of the Gulch. Of significance is the Cu/Mo/Nd/Rb index that identifies the two porphyries Marcoleta and Viscachas. Adjacent is a Zn trend with an Ag/Pb/As/Co anomaly further to the west.

### 4.5.2 Geophysics

A detailed review of the ground magnetic, IP and resistivity survey data undertaken previously was completed. This review identified 11 drill targets including 6 targets within the Eastern Porphyry Area (EPA) target, three targets 1km to the SE of EPA and two targets located on the west side of Culenco gulch closer to the Carmen porphyry target area.

The targets are summarised by SHM below as follows:

- R/C 1: Line 6000, Zonge Station 49, Co-ordinates: 343080; 6465175. This is in an area of old underground workings associated with an extensive Cu-Mo-Nd-Rb anomaly which appears to have been overprinted with an Au-Ag-Ce signature. The IP anomaly amplitude is moderate which could suggest chalcopyrite rather than pyrite. The resistivity values are moderately high suggesting some form of felsic intrusion covered by a thin veneer of overburden.
- R/C 2: Line 6000, Zonge Station 56, Co-ordinates: 343260; 6464870. South of the old underground workings and still within the Cu-Mo-Nd-Rb anomaly but out of the Au-Ag-Ce anomaly. This target is on a separate IP zone from that above. IP values are similar and so is the resistivity signature except that there is very little overburden. There is a small magnetic anomaly associated with this target.
- R/C 3: Line 6200, Zonge Station 48, Co-ordinates: 343220; 6465325. An extension of the R/C 1 target. Similar comments apply but the IP amplitudes are much greater. This implies either a greater volume of sulphides or possibly an increase in the pyrite concentration. The two IP zones start to merge on this line.
- R/C 4: Line 6200, Zonge Station 53, Co-ordinates: 343350; 6565110. The extension of the R/C 2 target. IP values are again higher. This portion of the IP anomaly would appear to be fault controlled. Again there is a modest magnetic anomaly associated with this target.
- R/C 5: Line 6400, Zonge Station 51, Co-ordinates: 343465; 6465300. The two IP zones above have merged into one anomaly here. There is no geochemical coverage but the target is on a direct extension of the Cu and Au anomalies. Again high IP amplitudes and a small magnetic anomaly. SHM noted that the above recommended drillholes are on two separate IP zones which merge together. Both zones have the potential to be related to economic mineralisation. In addition the IP is open to the east and was not fully defined on Lines 6600 and 6800. The geochemistry is similarly open to the east. The small magnetic anomalies are likely to be alteration features and they do not indicate magnetite that would give rise to the IP anomalies.

- R/C 6: Line 6600, Zonge Station 30, Co-ordinates 343100; 646220. This is on a strong IP anomaly which is to the northeast of, the geochemical sampling. It may be connected at depth to the previous targets selected and would appear to be covered by a thin veneer of cover, so it does not show up on the geological mapping. The IP amplitudes are moderately high good for chalcopyrite -- in a relatively electrically resistive bedrock environment. There is a small magnetic association and from the geophysical aspect in general this is a very important target. In addition, this appears to be the main, deeper, down-plunge part of the target proposed for drilling on geological grounds on Line 5800 at Station 34, where there is a weak Cu-Mo-Nd-Rb anomaly. The IP actually shows a very shallow, depth limited response at Line 5800, Station 34, which the resistivity suggests may be right over the cusp of an eroded porphyry, but not necessarily the best place for large volumes of economic mineralisation.
- R/C 7: Line 5800, Zonge Station 23, Co-ordinates: 342260; 6466190. This is a good small volume, moderately high amplitude, IP anomaly again outside the area of geochemical coverage. It lies on the northern edge of the interpreted porphyry cusp described above and would appear to be a more promising target at depth than the drill target proposed on strictly geological reasons at Station 34, for the reasons stated above. Possibly this is the western limit of the main target to be tested by proposed R/C 6 above. (See Fig. 3). Note: The drillhole proposed on geological grounds between Lines 5600 and 5800, at the equivalent of about Station 47, is close to a very small volume, moderately high amplitude IP anomaly that is better tested by R/C 1 on Line 6000, where the IP anomaly suggests a greater volume of sulphides as the main zones start to increase in size. The Cu and Au factors are also better at R/C 1 and R/C 2. Similarly, the drillhole proposed on geological reasoning at Station 57 on Line 5800 is better tested by R/C 2 again for similar reasons.
- R/C 8: Line 5600, Zonge Station 72. Co-ordinates: 343320; 6463960. Again, just outside the geochemical coverage but close to extensions of a major Cu-Mo-Nd-Rb and a moderate Au-Ag-Ce anomaly. This target has a good moderately high IP anomaly associated with a resistivity fault-like feature. Either a buried horizontal aquifer or possibly supergene enrichment is inferred from the resistivity picture. The IP/resistivity zone extends to the very southern end of Line 5800 where it comes up to surface but is poorly resolved and open. (However, a thorough geological re-investigation at the end of Line 5800 -- Stations 72 to 78 -- would be worthwhile to look more closely for signs of both copper oxide and copper sulphide mineralisation). (See Fig. 4).
- R/C 9: Line 4800, Zonge Station 67. Co-ordinates: 342530; 6463740. This may or may not be the western extension of target R/C 8 above. It is outside the geochemical coverage but on the southern projection of a major Au-Ag-Ce anomaly. It comprises a very good moderately high IP anomaly associated with a very extensive and pronounced magnetic anomaly which runs approximately NW SE. Unlike the previous target there is no indication of an aquifer or supergene enrichment, just an electrically resistive, felsic body. However, geophysically this is an excellent target. (See Fig. 4).

- R/C 10. Line 4800. Zonge Station 55. Co-ordinates: 342230; 6464260. This is a smaller sized but good IP anomaly to the north of the previous target, within the major Au-Ag-Ce anomaly described above. It is also in the same magnetic anomaly as the previous target. (See Fig.5).
- Co-ordinates: 341690; 6465990. R/C 11: Line 5200. Zonge Station 20. This moderately sized, moderately high amplitude IP anomaly is in the centre of a major Au-Ag-Ce anomaly and on the flank of a major Cu-Mo-Nd-Rb anomaly. It is close to an old pit and workings in an area of veining with evidence of chalcopyrite boxworks. It is associated with a well defined electrically resistive high which could indicate a felsic stock below. The IP anomaly is not especially large but it could have reasonable depth extent. (See Fig. 6). Should this target produce interesting results there are three other low priority targets in this area that would be upgraded and possibly merit drilling. Note: From the IP results there does not seem too much justification for drilling the geologically proposed hole at Station 17 on Line 5400. There are good Cu and Au factor anomalies here over an electrically conductive overburden which appears to be alluvium. The conductive cover could tend to mask the underlying IP effect, but it does seem as if there is not much encouragement at depth at this location.

#### 4.5.3 Drilling

SHM undertook a reverse circulation (RC) drilling program in 2008 consisting of 15 scout RC holes for a total of 2,658m. The drill rig utilised was limited to vertical holes to a maximum of 250m depth. SHM reported that the eastern porphyry zone was very siliceous and all holes encountered problems with water inflow. The western area is less siliceous and the drilling had very little problem with water.

The best result received was hole LSRC 01 which returned 196m at 631ppm Cu with the entire hole intersecting mineralised porphyry until its final depth of 224m. The porphyry returned pyrite, chalcopyrite, chalcosite, covelite, bornite, molybdenite and magnetite mineralisation.

The RC drilling was completed by a company called "Rockdrilling" using an Ingersoll Rand RC rig. Analysis was completed by ALS Chemex at the La Serena Laboratory using ICP OES.

### 4.6 Exploration Potential

The exploration activities to date including soil sampling, rock chipping, geophysical surveys and drilling have all confirmed the existence of a geologically prospective copper porphyry system. Although results to date have been sub-economic, the drilling has confirmed the existence of a low grade copper porphyry system.

SHM has proposed additional drilling to test the Cerro Marcoleta porphyry at depth and also the Gulch to the south of Cerro Macote. In addition, detailed structural and remote sensing studies will be undertaken covering the entire project, combined with additional soil, rock chip and channel sampling.

Coffey Mining considers that the proposed exploration and evaluation strategy is entirely consistent with the potential of the project, providing it is appropriately staged to allow review at the completion of each phase of exploration.

# 4.7 Exploration Strategy

SHM has provided Coffey Mining with a comprehensive exploration strategy for the Las Santas Project to cover an initial two year period following listing. SHM has separated the proposed exploration strategy into two phases.

Phase One of SHM's exploration strategy follows on from the RC drilling program of 15 RC holes completed in the first half of 2008. Detailed mapping of the porphyry will be followed by a scout drilling program of 5 RC holes, each to a depth of 200m.

Phase Two is contingent on positive results being delivered in Phase 1 and will include a further 15 RC holes, each to a depth of 250m.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Las Santas Project.

### 4.8 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Las Santas Project covering the initial two year period to December 2011 as summarised in Table 4.8\_1 below.

Table 4.8_1 Las Santas Project Proposed Exploration Expenditure December 2009 to December 2011					
					Item / Activity
Mapping	20,000		20,000		
Ground Geophysics					
Surface Sampling	15,000		15,000		
Drilling and Assaying	20,000	200,000	220,000		
Salaries and Wages	25,000	25,000	50,000		
n Country Administration 23,500 23,500 47,000					
Fotal 103,500 248,500 352,000					

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 5 EL ARRAYAN PROJECT

### 5.1 Location, Access, Climate, Physiography and Infrastructure

#### 5.1.1 Project Location and Access

The El Arrayan Project is centred at 30°07'S and 71°00'W in Region IV of central-northern Chile, located immediately southeast of the regional capital of La Serena and 470km north of Santiago as shown in Figure 1\_1.

The El Arrayan Project is located approximately 450km north of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway northward to the regional capital of La Serena, thence eastward 40km up the Elqui Valley via sealed road to the township of Coquimbo and thence15km south via formed gravel road to the project area. Access within the property is via unformed gravel roads and mining tracks.

### 5.1.2 Climate and Physiography

The El Arrayan Project experiences a Mediterranean to semi-arid continental climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 75mm, while average maximum temperatures range from -2°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the project's proximity the sea, with the project situated only 30km from the coast.

The El Arrayan Project is situated within the Coastal Cordillera of north-central Chile at elevations ranging from 300m to 800m above sea level.

The vegetation comprises low shrubs and cacti, interspersed with perennial herbs. The land use is confined to limited livestock grazing, principally goats.

### 5.1.3 Local Resources and Infrastructure

The El Arrayan Project is well located with respect to infrastructure, being only 40km from the regional capital of La Serena and the neighbouring major port city of Coquimbo. The project is well serviced by sealed and formed gravel roads, and grid power is available within 15km of the property. Considerable quantities of groundwater are understood to be locally available and surface supplies can be accessed from the Elqui River, approximately 15km to the south. All commercial goods, services and laboratories are readily available in nearby La Serena.

# 5.2 Tenure

The El Arrayan Project comprises 39 exploitation applications covering an aggregate area of 58.93km<sup>2</sup> as shown in Table 5.2\_1 below.

Tenement boundaries are defined in UTM coordinates (Datum Sudamericano La Canoa, 1956) and all have not been surveyed in the field.

All licences are held 100% by Chilean registered company, Minera Hemisferio Sur (MHS), which is a wholly-owned subsidiary of SHM.

	Table 5.2_1			
El Arrayan Project				
Tenement Schedule				
Tenements	Area (ha)	Туре		
San James 1, 1 AL 100	53	Man		
San James 1, 101 AL 200	79	Man		
San James 2, 1 AL 60	26	Man		
San James 2, 61 AL 200	127	Man		
San James 3, 1 AL 200	147	Man		
San James 4, 1 AL 300	300	Man		
San James 5, 1 AL 300	300	Man		
San James 6, 1 AL 30	270	Man		
San James 7, 1 AL 100	45	Man		
San James 8, 1 AL 20	12	Man		
San James 9, 1 AL 15	12	Man		
San James 10, 1 AL 24	11	Man		
San James 11, 1 AL 6	6	Man		
San Trevor 1, 1 AL 300	256	Man		
San Trevor 2,1 AL 300	267	Man		
San Trevor 3, 1 AL 150	98	Man		
San Trevor 3, 151 AL 300	150	Man		
San Trevor 4, 1 AL 150	90	Man		
San Trevor 4, 151 AL 300	150	Man		
San Trevor 5, 1 AL 300	300	Man		
San Trevor 6, 1 AL 250	250	Man		
San Trevor 7, 1 AL 60	300	Man		
San Trevor 8, 1 AL 60	300	Man		
San Trevor 9 1 AL 60	300	Man		
San Trevor 10. 1 AL 75	32	Man		
San Trevor 10. 76 AL 150	70	Man		
San Trevor 10, 151 AL 225	39	Man		
San Jose Uno 1 AL 23	76	Man		
San Jose Dos 1 AL 34	170	Man		
San Jose Tres 1 AL 54	241	Man		
San Alfonso Uno 1 AL 38	174	Man		
San Alfonso Dos 1 AL 25	125	Man		
San Alfonso Tres 1 Al 36	163	Man		
San Alfonso Cuatro 1 AL 50	242	Man		
San Jorge Lino 1 Al 12	<u> </u>	Man		
San Jorge Dos 1 Al 49	101	Man		
San Jorge Tres 1 AL 36	144	Man		
San Jorge Cuatro 1 AL 60	300	Man		
San Jorge Cinco 1 AL 11	33	Man		
Total	5803ha			

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of tenements associated with the El Arrayan Project, and has relied on information provided by SHM. In preparing this report, Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

### 5.2.1 Agreements and Encumbrances

It is understood that no private royalties are applicable to the El Arrayan tenements and that no additional payments are required. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future application or granting of mining rights.

Coffey Mining is not qualified to provide significant comment on legal matters pertaining to the El Arrayan Project, and we have relied entirely on information provided by SHM.

### 5.3 Geological Setting

#### 5.3.1 Regional Setting

The El Arrayan Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The El Arrayan Project is located within a well-developed north-northwest trending structural corridor that extends for some 150km from south of Andacollo to Los Choros Creek in the north, incorporating the Andacollo copper and gold deposits, and the El Arrayan, Gavilanes, Chinchillon and La Higuera prospects.

The Coastal Cordillera was largely ignored by modern exploration, in favour of the Cordillera Principal, where major porphyry copper deposits have been discovered since the mid twentieth century. The Coastal Cordillera has long been associated with large iron deposits, copper lode systems and the older porphyry deposits, however during the last decade an improved understanding of the iron oxide-copper-gold (IOCG) association and its affiliation with porphyry systems has resulted in renewed exploration attention. Unlike many of their younger counterparts within the Cordillera Principal, porphyry systems of the Coastal Cordillera frequently contain appreciable quantities of gold.

The Candelaria porphyry deposit, located some 400km north of El Arrayan, represents a prime example of the copper-iron paragenetic association characterising the Coastal Cordillera. The reserves associated with Candelaria are reported to comprise in the order of 500Mt at 0.95% Cu, 0.22g/t Au and 3.1g/t Ag. A further example is the Andacollo porphyry deposit, owned by AUR Resources Limited, which is located only 12km south-southwest of the El Arrayan Project in an identical setting. The reserves associated with Andacollo copper deposit are reported to comprise 423Mt at 0.38% Cu and 0.13g/t Au. The Andacollo gold deposit, located a further 12km to the south-southwest again, is owned by Dayton Mining Company The deposit comprises low grade sub-horizontal stratabound (or manto) mineralisation, over-printed by high grade vein systems. The mine has reportedly been on 'care and maintenance' since 2000 when the remaining resource associated with Andacollo gold deposit are reported comprise some 48Mt at 0.68g/t Au.



### 5.3.2 Project Geology

The El Arrayan Project is almost exclusively dominated by an extensive succession of andesitic lavas, agglomerates and tuffs representing the mid-Cretaceous Quebrada Formation. These are generally flat lying to gently undulating and are readily recognised by their characteristic red colour.

Although no intrusives have been formally mapped within the El Arrayan Project, small stocks of suspected tonalitic composition and dacite dykes were identified during the site visit. These are considered likely to be of late Cretaceous age, marginally younger than the extensive granodiorite batholith located immediately northwest of the project boundary.

The El Arrayan Project tenements cover the full extent of a substantial alteration system measuring some 10km long and 3km wide (Figure 5.3.2\_1), which from processed satellite imagery appears to be effectively identical to that defining the nearby Andacollo system to the south-southwest. The alteration is dominated by an argillic assemblage comprising clays, haematite and limonite, along with more localised silica and sericite development. This assemblage appears to over-print an earlier and more pervasive propylitic event, responsible for the characteristic red coloration in the peripheral andesitic host rocks.

Within the overall north-trending tectonic corridor, the principal structural elements comprise a series of steeply dipping north-northwest striking brittle faults that host the majority of known copper and gold mineralisation.

#### 5.3.3 Deposit Types

The El Arrayan Project is considered prospective for three principal styles of mineralisation, all of which are well represented within the Coastal cordillera, as follows:-

- Porphyry copper-gold systems of high iron affinity, essentially identical to that at the nearby Andacollo deposit. The argillic alteration, tonalitic to dacitic sub-volcanics and copper-gold lode/vein systems are interpreted to represent the upper peripheral expressions of an obscured porphyry system at depth.
- Manto-style mineralisation within sedimentary or andesitic volcanic horizons, similar to those located at the Marquesa Prospect, 15km to the east-northeast of the project, and the Andacollo gold deposit, located some 24km south-southwest of the project.
- Structurally controlled lode or vein style copper-gold mineralisation, similar to the Manto Verde deposit near Copiapo some 300km to the north.

The primary exploration model associated with the El Arrayan Project is a porphyry coppergold deposit of high iron affinity, essentially identical to that at Andacollo. While no mineralisation of this style has been identified to date, the extent and intensity of alteration and the presence of high level intrusives of appropriate composition support the potential for a discovery of this style.



# 5.3.4 Mineralisation

Mineralisation of two principal styles has been identified by limited reconnaissance exploration within the El Arrayan Project to date, both of which are associated with steeply dipping, north-northwest trending brittle fault systems.

In the south central portion of the project, copper mineralisation is associated with brecciation and quartz-haematite veining within a series of parallel fault structures that have been mined to a limited extent by pirquineros. Five principal mineralised faults have been identified over an aggregate width of some 400m and a strike length of approximately 1000m, with individual structures ranging in width from 1m to 3m.

Rare primary mineralisation is dominated by chalcopyrite and bornite, with chalcocite and covellite present in transitional environments. More prevalent copper oxide mineralisation is dominated by malachite and atacamite. Limited grab and channel sampling has generated grades up to 2% Cu and 9g/t Au within the structures themselves, with evidence of lower grade disseminated copper in the adjacent alteration haloes. Associated gold mineralisation primarily appears to be confined to quartz veins or their brecciated remnants.

A highly altered sub-volcanic rock, identified during the site visit in close proximity to the veinlode system, was found to contain abundant box-works after disseminated sulphides. However, no secondary copper minerals were evident and no assaying of this material has been completed.

The entire zone is characterised by strong argillic alteration, with a phyllic assemblage locally developed adjacent to mineralised structures. A more amorphous zone of weak silicification appears to traverse the central portion of the vein zone, apparently more closely related to the periphery of the altered intrusive than the mineralised structures themselves.

In the north-western portion of the project, a similar series of structures host laminated auriferous quartz-haematite veins. Although the majority of these structures are excised from the project tenements, they can be intermittently traced over strike lengths up to 2km where exposed in pirquinero workings. Grab sampling of individual veins has generated results ranging from 0.4g/t to 2.4g/t Au. The associated alteration is consistent with that described above for the copper vein/lode systems.

One of the most intense areas of argillic alteration is located within the central northern portion of the project, however there is no existing evidence of any associated mineralisation.

#### 5.4 History

### 5.4.1 Ownership History

Portions of the El Arrayan Project have been held by pirquineros and local family interests over an extended period, some of which remain as tenements excised from the current project area.

The property was acquired by Cia. Minera del Pacifico S.A., the then owner of the nearby Andacollo copper mine, in 1999 prior to the company completing limited reconnaissance exploration.

The present project tenements have subsequently been progressively acquired by individuals associated with SHM since 2001.

### 5.4.2 Exploration History

The vicinity of El Arrayan has been extensively exploited for gold and copper by artisanal mining over a long period, with considerable evidence of extensive pre-colonial alluvial gold workings along creeks and rivers draining the property and surrounds. The region continued to be a significant producer of primary copper and gold during the Spanish colonial period. Between 1979 and 1983, ancient alluvial workings were extensively reworked by pirquineros, and small quartz-haematite-gold veins continue to be exploited within excised portions of the El Arrayan property.

No systematic modern exploration has been undertaken, as the project lies within the low lying Coastal Cordillera, previously considered 'unfashionable', rather than the high Andes where the majority of significant porphyry copper deposits have identified. No drilling has been completed and much of the area remains unmapped and unsampled. In 1999, reconnaissance exploration involving limited mapping, trenching and channel sampling was completed over the property by Canadian company Majestic Resources Inc, the company then holding the nearby Andacollo copper deposit.

#### 5.4.3 Resource History

No Mineral Resources have been quantified for the El Arrayan Project.

#### 5.4.4 Production History

Limited informal underground pirquinero production is evident associated with the higher grade quartz-haematite-gold veins and oxidised copper lodes systems located in the southern and north-western portions of the property, however no production records are available.

#### 5.5 Exploration

Dr Bob Agar was retained by SHM to complete an ASTER image study over the main area of alteration at El Arrayan for use in conjunction with the soil survey to identify additional areas for drill testing within the large area of intensely altered surface rocks.

A total of 187 soil samples were collected at a reconnaissance scale (400 x 800m) over the main alteration area some 10km in strike and 2km wide and also at a more detailed scale around and on strike of El Águila to the south. The samples were analysed at ALS Chemex laboratories Perth using an ionic partial extraction.

Within the El Arrayan area coincident ASTER alteration and very anomalous soil geochemistry responses for Cu, Mo, Nd and Rb, characteristic of porphyry systems, have been identified. Surface reconnaissance by SHM has shown intense alteration with Fe dominant, potassic alteration along with historical informal mining.



#### 5.6 Exploration Potential

The Arrayan District displays a hydrothermal development normally associated with intrusive events. The main mineral occurrences are located in the intrusive margin contacts of the wallrocks. This type of mineralisation style is found mainly in the Coastal Range of north of Chile. The most prospective areas for exploration are the contacts and margins with the intrusive. The northwest side seems to have the highest density of mineral occurrence, while the high molybdenum anomalies suggest good potential on the east side of the batholith, towards El Arrayán Gulch.

The El Arrayan Project is at an immature stage of exploration, with limited rock chip samples collected and mapping. Soil sampling and aster targeting has been successful in locating surface anomalies and these represent potential drill targets.

The El Arrayan Project is located at low altitude and is conveniently situated with respect to infrastructure. The property is readily accessible from the major service centre of La Serena and its twin port city of Coquimbo.

SHM have proposed structural studies will continue, utilising remote sensing data covering the entire project, combined with additional soil, rock chip and channel sampling, followed by RC drilling targeting geological and geochemical targets.

Coffey Mining considers that the proposed exploration and evaluation strategy is entirely consistent with the potential of the Project, providing it is appropriately staged to allow review at the completion of each phase of exploration.

# 5.7 Exploration Strategy

SHM has provided Coffey Mining with a comprehensive exploration strategy for the El Arrayan Project to cover an initial two year period following listing. SHM has separated the proposed exploration strategy into two phases.

Phase 1 of SHM's exploration strategy follows on from the past exploration activity. Phase 1 will include detailed mapping of the northern areas of the tenement group.

Phase Two includes a limited drill program in the northern section of the tenement group and will consist of 5 scout drill holes, each to a depth of 200m

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the El Arrayan Project.

### 5.8 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the El Arrayan Project covering the initial two year period to December 2011 as summarised in Table 5.8\_1 below.

Table 5.8_1 El Arrayan Project					
Proposed Exploration Expenditure December 2009 to December 2011					
Item / Activity	Phase 1 A\$	Phase 2 A\$	Total A\$		
Mapping	20,000		20,000		
Ground Geophysics					
Surface Sampling	15,000		15,000		
Drilling and Assaying		65,000	65,000		
Salaries and Wages	15,000	15,000	30,000		
n country Administration 10,500 10,500 21,000					
Fotal 60,500 90,500 151,000					

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 6 SAN JOSE PROJECT

### 6.1 Location, Access, Climate, Physiography and Infrastructure

#### 6.1.1 **Project Location and Access**

The San Jose Project is centred at 36°49'S and 71°36'W in Region VIII of central-southern Chile, located 50km southeast of the regional city of Chillan and 390km south of the capital Santiago (Figure 1\_1).

The San Jose Project is located approximately 390km south of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway southward to the regional capital of Chillan, thence southeast a further 40km up the Chillan River valley via sealed road towards the village of Recinto, before turning left to follow San Jose Creek on a formed gravel road to the project area. Access within the property is via a limited series of unformed farm and forestry tracks.

### 6.1.2 Climate and Physiography

The San Jose Project experiences a temperate maritime climatic regime, characterised by mild dry summers and cool wet winters. The annual average rainfall is 1,000mm, while average maximum temperatures range from 0°C in winter to 25°C in summer.

The San Jose Project occupies the upper reaches of the Chillan River and its deeply incised tributaries, San Jose, San Juanito and Pierna Blanca creeks, situated at an average elevation of approximately 650m within the foothills of the Andes pre-cordillera. The vegetation comprises dense temperate forest, interspersed with timber plantations and areas cleared for cattle grazing and horticulture. Both the physiography and vegetation are likely to present access, and potentially environmental, constraints for exploration.

#### 6.1.3 Local Resources and Infrastructure

The San Jose Project is well located with respect to infrastructure, being only 50km from the regional capital of Chillan. The project area is well serviced by sealed and formed gravel roads, and grid power is available within 4km of the property. Access within the project area itself is limited, requiring substantial track development along valley margins. Water is readily available from the Chillan River and its tributaries, the San Jose, San Juanito and Pierna Blanca creeks, all of which flow through the project area. The majority of commercial goods and services are available in nearby Chillan.

### 6.2 Tenure

The San Jose Project comprises 17 granted Exploration Licences (an additional 2 Exploration Licences under application) and 12 Mining Licences covering an aggregate area of 84km<sup>2</sup> as shown in Table 6.2\_1 below.

Table 6.2_1				
San Jose Project				
Tenement Schedule				
Tenements Area Type				
Yanet 1	300	Ped.		
Yanet 2	300	Exp.		
Yanet 3	100	Exp.		
Yanet 4	300	Exp.		
Yanet 5	300	Exp.		
Yanet 6	300	Exp.		
Yanet 7	300	Exp.		
Yanet 8	200	Exp.		
Yanet 9	100	Exp.		
Yanet 10	300	Exp.		
Yanet 11	300	Exp.		
Yanet 12	300	Exp.		
Yanet 13	100	Ped.		
Yanet 14	300	Exp.		
Yanet 15	300	Exp.		
Ignacia 1	300	Exp.		
Ignacia 2	300	Exp.		
Ignacia 3	300	Exp.		
Ignacia 4	300	Exp.		
Leyla 1 AL 60	300	Man		
Patricia 1 AL 60	200	Man		
Andrea 1 AL 60	300	Man		
Eduardo 1 AL 60	300	Man		
Teresa 1 AL 60	300	Man		
Pacita 1 AL 60	300	Man		
David 1 AL 60	300	Man		
Basilio 1 AL 60	300	Man		
Rodolfo 1 AL 60	300	Man		
San Gonzalo 1 AL 30	300	Man		
San Alberto 1 AL 30	300	Man		
San Cristián 1 AL 20	200	Man		
Total	8400			

Tenement boundaries are defined in UTM coordinates (Datum Sudamericano La Canoa, 1956) and all have not been surveyed in the field.

It is understood that SHM has the right to acquire/earn a 100% interest in the El Arrayan tenements via acquiring 100% of Minera Hemisferio Sur Limitada (MHS).

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of tenements comprising the San Jose Project, and has relied on information provided by Southern Hemisphere Mining Limited. In preparing this report, Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

### 6.2.1 Agreements and Encumbrances

It is understood that no private royalties are applicable to the San Jose tenements and that no additional payments are required. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future application or granting of mining rights.

Coffey Mining is not qualified to provide significant comment on legal matters pertaining to the San Jose Project, and we have relied entirely on information provided by SHM.

### 6.3 Geological Setting

#### 6.3.1 Regional Setting

The San Jose Project is located in the foothills of the Andean pre-cordillera, equivalent to the older Coastal Cordillera of northern and central Chile. Although not represented within the project itself, the known basement within the district comprises gneisses of the upper Cretaceous Los Azules Metamorphics. These are disconformably overlain by andesites of similar age comprising the El Sauce Formation. The basement stratigraphy has been intruded by a series of co-magmatic batholiths of the Santa Gertrudis Suite.

The basement succession and intrusives are unconformably overlain by (or in fault contact with) mildly deformed andesitic volcanics and sediments of the lower to mid Tertiary Pierna Blanca Formation, which are in turn unconformably overlain by extensive flat lying and undeformed andesitic to basaltic volcanics of the upper Tertiary Cola de Zorro Formation.

Known mineralisation within the vicinity of the San Jose Project comprises extensive historic alluvial gold production along the Chillan River and its tributaries. Although the source of the gold has never been confirmed, it is widely assumed to be derived from eroded low sulphidation epithermal vein systems reasonably prevalent within southern Chile.

Although isolated porphyry occurrences are recorded in southern Chile, including the Polcura and Galletue Prospects to the south of San Jose, the El Teniente porphyry copper deposit, located some 250km north of the San Jose Project, is broadly acknowledged as being the most southern major example. This general understanding has significantly limited exploration for porphyry systems in the southern regions of Chile and, by comparison with their northern counterparts, the prolific vegetation cover significantly inhibits identification of the associated alteration systems.

### 6.3.2 Project Geology

The Pierna Blanca Formation represents the oldest stratified rocks within the San Jose Project. Potassium-argon dating of ignimbrites suggests a lower Miocene (mid Tertiary) age, however fossil evidence within the sedimentary units more broadly indicates a lower Tertiary age. The formation is best exposed within the Chillan River valley and, to a lesser extent, the lower reaches of the San Jose and Pierna Blanca creeks. Within the project area the formation is dominated by deformed sandstones, mudstones (including minor coal seams) and conglomerates, with intercalated andesitic volcanics and agglomerates. The formation locally strikes 315° and dips 80° to the southwest.



Within the valleys of the Pierna Blanca, San Juanito and San Jose creeks, the Pierna Blanca Formation is in faulted contact with intermediate intrusives to the east. Although the intrusives are dominated by granodiorite, monzogranite and quartz porphyry varietals are also represented. While the intrusives are dated as upper Cretaceous, thereby pre-dating the Pierna Blanca Formation, this cannot be precisely confirmed by field relationships.

106

Both the Pierna Blanca Formation and intrusives are unconformably overlain by an extensive succession of basaltic to andesitic volcanics, pyroclastics and agglomerates comprising the Pleistocene Cola de Zorro Formation. The volcanics are essentially sub-horizontal and undeformed, dipping at approximately 5° towards the west. The formation attains a maximum thickness of approximately 250m within the project area, but is deeply incised along the Pierna Blanca, San Juanito and San Jose valleys to expose the basement geology. The basement includes dykes and sills of similar composition and age to the Cola de Zorro Formation that are interpreted to represent sub-volcanic equivalents.

The basement within the project area is largely obscured by the younger Cola de Zorro Formation. The only relevant identifiable structures are two parallel normal faults or steeply dipping thrusts that separate the Pierna Blanca Formation to the west from granodioritic intrusives to the east, with the western-most structure extending into the adjacent Pierna Blanca Formation. The structures dip at approximately 80° to the west, essentially consistent with the adjacent stratigraphy.

#### 6.3.3 Deposit Types

The principal economic target within the San Jose Project is porphyry copper-molybdenum mineralisation. Chalcopyrite and molybdenite is associated with extensive potassic alteration within a dominantly granodioritic intrusive lying along a faulted contact with younger volcano-sedimentary rocks. The mineralised assemblage and alteration is entirely consistent with a porphyry system, with zones of higher tenor mineralisation associated with stockwork veining and fracturing proximal to the fault contact.

#### 6.3.4 Mineralisation

Porphyry copper-molybdenum mineralisation has been identified in semi-continuous exposures of granodiorite and monzogranite along the deeply incised valleys of the San Jose, San Juanita and Pierna Blanca creeks. Mineralisation is best developed by over a width of 400m immediately adjacent to the faulted contact between the intrusives and younger Pierna Blanca Formation to the west. While the basement geology is obscured by the Cola de Zorro Formation between these valleys, it is reasonable to assume that alteration and mineralisation persist between and beyond these exposures over a distance of at least 3km.

The age of mineralisation has not been confidently determined, however evidence of alteration within the adjacent Pierna Blanca Formation suggests that it post-dates this early Tertiary to Miocene succession and predates the overlying Pleistocene Colla de Zorro Formation.

The alteration is variously characterised by incipient biotite development, indicative of a potassic assemblage, along with moderate to strong quartz-sericite-chlorite alteration and silicification associated with mineralisation. More pervasive early propylitic alteration is locally over-printed by these assemblages, but persists into peripheral areas of the granodiorite and locally extends into the Pierna Blanca Formation.
Mineralisation comprises pervasively disseminated chalcopyrite and pyrite, along with subordinate fine-grained molybdenite, and minor galena, sphalerite and magnetite. Traces of arsenopyrite and pyrrhotite have also been recorded. More intense alteration and mineralisation (especially molybdenite) is associated with steeply dipping zones of veins and fractures that broadly trend northwest. While superficial chalcocite and malachite staining is evident in broken rock exposures, there is essentially no oxide or supergene component to the mineralisation.

# San Jose Creek

The more prospective of the three valley exposures are those along San Jose Creek. The most comprehensive sampling is that completed by Minera Joaquin Galvez in 1969 and the MMAJ-IIG cooperative venture between 1977 and 1979. The latter identified five main altered and variably mineralised exposures, however there is little doubt that mineralisation will prove to persist beneath alluvium, scree and vegetative cover between each. A summary of these zones and the associated sampling results is as follows:-

- Zone 1 Granodiorite located 70m upstream from the faulted contact with the Pierna Blanca Formation. Chip/channel sampling was completed over 1m intervals along a 24m section of outcrop, returning an average grade of 0.16% copper and 0.001% Mo, with individual values ranging from 0.04% to 0.58% copper.
- Zone 2 Intensely altered granodiorite located 120m upstream from the faulted contact with the Pierna Blanca Formation. The outcrop is reported to be approximately 10m wide, however no sampling appears to have been completed by MMAJ-IIG. Instead, the venture relied on results returned from sampling completed by Minera Joaquin Galvez in 1969 discussed in Section 6.13.
- Zone 3 Porphyritic granodiorite exposed over a 75m interval, located 200m upstream from the faulted contact with the Pierna Blanca Formation. Sampling by Minera Joaquin Galvez in 1969 is reported to have returned values between 0.10% and 0.12% Cu, while selective grab sampling completed by MMAJ-IIG in 1977 returned an average of 0.40% copper, along with trace gold and molybdenum. The average grade of a further 15 samples collected by MMAJ-IIG in 1979 averaged 0.17% Cu and 0.001% Mo.
- Zone 4 Veined and fractured potassic altered granodiorite exposed between 200m and 400m upstream from the faulted contact with the Pierna Blanca Formation. Grab sampling by MMAJ-IIG generated results ranging from 0.29% to 8.40% Cu and 0.041% to 0.16% Mo.
- Zone 5 Silicified and fractured granodiorite over a 30m interval, located 400m upstream from the faulted contact with the Pierna Blanca Formation. The exposure is broadly continuous with Zone 4, but located on the northern side of San Jose Creek. Sampling by Minera Joachim Galvez in 1969 generated average grades of 0.37% Cu. These results are considerably higher than those returned from MMAJ-IIG sampling in 1979, which averaged 0.12% Cu and 0.001% Mo. Zone 5 is also that assessed by the Minera Joaquin Galvez drillhole (DDH-1) in 1969, which returned 40m at 0.27% Cu from surface to the end of the hole, including the upper 20m that averaged 0.45% Cu.

Fine grained silicified granodiorite persists for a further 500m upstream from Zone 5, however mineralisation is largely confined to isolated veins and fractures. The final identified mineralised exposure, similar in character to Zones 4 and 5, lies 1,000m east of the fault contact. Sampling of a 20cm wide vein at this locality by Minera Joaquin Galvez in 1969 returned average values of 0.20% Cu to a maximum of 1.80% Cu.

#### San Juanito Creek

The principal mineralised zone with San Juanito Creek lies 1km upstream from its confluence with San Jose Creek and extends over a distance of approximately 100m. The exposure comprises fine grained granodiorite that exhibits potassic alteration, including incipient biotite development. The rock is intensely fractured, with an average density of 10 quartz veinlets per metre.

Five samples collected in 1977 averaged between 0.2% and 0.3% Cu, while 1m chip / channel sampling over a 50m interval in 1979 generated average grades of 0.12% Cu and 10ppm Mo, with maximum values of 0.41% Cu, 0.009% Mo, 40ppb Au and 0.4ppm Ag.

#### Pierna Blanca Creek

Weak mineralisation is developed within Pierna Blanca Creek, located some 2.5km north of exposures in San Jose and San Juanito creeks. Mineralisation is principally associated with fine veinlets in silicified granodiorite. Limited sampling completed in 1977 returned values ranging from 116ppm to 210ppm Cu.

A distinctly porphyritic variant of the granodiorite has been mapped within the Pierna Blanca valley over an area of 150m by 500m.

# 6.4 History

# 6.4.1 Ownership History

The San Jose Project area was initially prospected by private Chilean company, Minera Joaquin Galvez, in 1969.

Between 1976 and 1977 the San Jose property was held by the El Teniente Division of the major Chilean copper company, Codelco, which was then government owned.

In 1977, the project was acquired by the Metals and Minerals Agency of Japan (MMAJ) under a cooperative arrangement with Chilean government agency Instituto de Investigaciones Geologicas (IIG) until 1979, which was later renamed Servicio Nacional de Geología y Minería (SERNAGEOMIN).

The project was subsequently held by a private Chilean company controlled by the Engel family (Empresa Minera Engel) from 1979 to the early 1990's.

The San Jose property was acquired in 2003 by a private individual, Tihomir Domic, from whom Minera Hemisferio Sur (MHS) acquired the project in 2005.

## 6.4.2 Exploration History

Government mapping of the San Jose area was completed at 1:250,000 scale during 1969, leading to discovery of the San Jose mineralisation.

In the same year, Minera Joaquin Galvez completed detailed mapping and rock chip sampling of mineralised exposures within San Jose Creek, along with stream sediment sampling of major drainages within the current project area.

A three-hole diamond drilling program was designed and executed in a sub-optimal manner, with the holes being poorly sited due to access difficulties and improperly collared. The first hole was abandoned at 40m depth, while the second and third holes were abandoned at 7m and 9m depth respectively. Irrespective of this, the initial hole (DDH-1) encountered 40m of mineralisation averaging 0.27% Cu from surface to the end of the hole, including the first 20m interval that averaged 0.45% Cu to a maximum of 2.25% Cu. No significant molybdenum was recognised in the diamond core, with a maximum value of 110ppm Mo recorded.

The stream sediment geochemistry included assaying for copper, molybdenum, zinc and lead. The results returned some anomalous values however only limited information is available and follow-up work is required.

Outcrop mapping and sampling along drainages defined extensive zones of altered and mineralised granodiorite within the valleys of the San Jose and San Juanito creeks, and to a lesser extent Pierna Blanca Creek, immediately upstream (east) of a fault contact with the adjacent Pierna Blanca Formation. Copper grades recorded from outcrop sampling along San Jose and San Juanito creeks appear to average between 0.15% and 0.55%, with individual grades up to 8.4% Cu recorded. Sampling of more intensely veined and fractured zones indicate molybdenum grades averaging between 0.016% and 0.04%, including individual values up to 0.16% Mo recorded.

Codelco is understood to have completed stream sediment and rock-chip sampling, however no documentation relating to this work appears to exist within the public domain.

The Metals and Mining Agency of Japan (MMAJ) completed further stream sediment sampling, outcrop mapping and chip sampling along drainages, along with a limited ground geophysical survey. Limited soil sampling was also undertaken within the vicinity of the principal mineralised creek exposures, however the results were inconclusive in the steep, heavily vegetated terrain and scree-dominated profile of the valley margins.

The ground geophysical program involved an induced polarisation (IP) survey completed on four 100m spaced lines over a length of 4,400m and 50m station spacings. Two discrete anomalies were identified at depths of 100m and 150m respectively, however these were interpreted to reflect conductive horizons within overlying volcanics of the Cola de Zorro Formation.

No meaningful exploration was completed by either Empresa Minera Engel or Tihomir Domonic until the project was acquired by MHS.

# 6.5 Exploration

SHM has commenced identifying and compiling all available historic exploration data. They then completed project scale mapping combined with rock chip sampling. Of the 31 rock chip samples taken the best results included SJ4 at 1.73% Cu, SJ7 at 4.24% CuSJRC15 at 1.1% Cu, SJRC24 at 0.6% Cu and SJRC27 at 1.3% Cu.

Soil sampling between San Jose and San Juanita creeks (JJ Plateau) and to the north of San Juanito porphyry was completed by SHM in 2008. A total of 65 samples were dispatched for analysis using an ionic leach to ALS Chemex Laboratories, Perth. The results are displayed below and suggest:

• A large anomalous area 1km to the NE of the current target area.



A smaller target 500m west of the current drill position.

SHM commenced diamond core drilling on 17th, July 2008. A total of 4 holes were completed for a total of 948.15m. All holes were drilled into mineralised porphyry targets. The results are summarised as an average of the entire hole completed in Table 6.5\_1 below.

The drilling confirmed the existence of a copper porphyry system with low levels of copper detected.

Table 6.5_1					
San Jose Project					
Diamond Drillhole Results (Average of entire hole)					
Hole Id From Width Cu ppm					
SJDH01	0	290.85	890		
SJDH02 0 277.45 746					
SJDH03 0 106 566					
SJDH04 0 273.85 966					

Samples were assayed by ALS Chemex at the La Serena Laboratory using ICP OES

### 6.6 Mineral Processing and Metallurgical Testing

In 1969, Minera Joaquin Galvez completed limited copper solubility testwork on two samples derived from Zone 2 within San Jose Creek, located 120m upstream from the faulted contact with the Pierna Blanc Formation. The testwork was evidently conducted on selective channel samples of specific mineralised structures over intervals of 0.1m and 0.8m respectively. The results were as follows:

•	Sample 1	Insoluble copper	2.05%
		Soluble copper	0.70%
		Total molybdenum	0.09%
•	Sample 2	Insoluble copper	1.09%
		Soluble copper	0.85%

Coffey Mining is not aware, nor have we been made aware, of any other mineral processing or metallurgical studies that may have been completed on material from the San Jose Project.

### 6.7 Exploration Potential

Rock chip sampling and mapping by SHM has identified additional surface outcrops of mineralised Cu porphyry. The soil sampling program highlighted these anomalous rock chip locations and also defined extensive areas with coincident, cohesive, multi-element anomalies (Cu, Mo, Au, Ag, Zn, As) that identify Cu/Mo cores with adjacent mineral shells expected to surround a porphyry intrusive. These targets are yet to be tested by the drilling to date by SHM. The drilling to date has confirmed the existence of a copper porphyry system with low levels of copper detected.

SHM has proposed structural studies will continue, utilising remote sensing data covering the entire project, combined with additional soil, rock chip and channel sampling, followed by RC and DC drilling targeting geological and geochemical targets.

Coffey Mining considers that the proposed exploration and evaluation strategy is entirely consistent with the potential of the Project, providing it is appropriately staged to allow review at the completion of each phase of exploration.

# 6.8 Exploration Strategy

SHM has provided Coffey Mining with a comprehensive exploration strategy for the San Jose Project to cover an initial two year period following listing. SHM has separated the proposed exploration strategy into two phases.

Phase One of SHM's exploration strategy is focussed on locating primary mineralisation sources by way of structural studies, geological mapping and surface sampling.

Phase Two is contingent on positive results being delivered in Phase One, and includes RC drilling (600m), confirmatory DD drilling (450m).

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the San Jose Project.

## 6.9 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the San Jose Project covering the initial two year period to December 2011 as summarised in Table 6.9\_1 below.

Table 6.9_1 San Jose Project Proposed Exploration Expenditure December 2009 to December 2011					
					Item / Activity Phase 1 Phase 2 Total A\$ A\$ A\$
Mapping	20,000		20,000		
Surface Sampling	15,000		15,000		
Drilling and Assaying	50,000	170,000	220,000		
Logistic Support			0		
Salaries and Wages	15,000	15,000	30,000		
In Country Administration 25,500 25,500 51,000					
Total 125,500 210,500 336,000					

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 7 ROMERAL PROJECT

# 7.1 Location, Access, Climate, Physiography and Infrastructure

### 7.1.1 Project Location and Access

The Romeral Project is centred at 6717500mS and 282000mE in the central northern portion (Region IV) of Chile, 20km north of the provincial capital of La Serena. (Figure 1\_1).

The Romeral Project is accessed from La Serena by travelling north for 10km on the Pan American Highway, thence 13km northeast on the sealed and formed gravel road D155 (past the Romeral magnetite mine) to its junction with the D165 road, thence a further 6km northwest on the gravel D155 road to the central portion of the project. Individual prospects can be accessed via powerline service roads which traverse the property.

## 7.1.2 Climate and Physiography

The Romeral Project experiences a Mediterranean to semi-arid continental climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 75mm, while average maximum temperatures range from -2°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the project's close proximity the sea.

The Romeral Project is situated within the Coastal Cordillera of north-central Chile at elevations ranging from 150m to 400m above sea level.

The vegetation comprises low shrubs and cacti, interspersed with perennial herbs. The land use is confined to limited livestock grazing, principally goats.

## 7.1.3 Local Resources and Infrastructure

The Romeral Project is reasonably well located with respect to infrastructure, being only 30km from the regional capital of La Serena and the neighbouring major port city of Coquimbo. The project is well serviced by sealed and formed gravel roads, and grid power extends the entire length of the property. Groundwater is understood to be available within 10km distance. All commercial goods, services and laboratories are readily available in nearby La Serena.

# 7.2 Tenure

The Romeral Project comprises four granted Exploration Concessions (Exp.) covering an aggregate area of 1,200ha as shown in Table 7.2\_1 below. The tenements are held 100% by Minera América del Sur SCM.

Tenement boundaries are defined in UTM coordinates (Datum Sudamericano La Canoa, 1956) and all have not been surveyed in the field.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of tenements comprising the Romeral Project, and has relied on information provided by Southern Hemisphere Mining Limited. In preparing this report, Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

Table 7.2_1 Romeral Project Tenement Schedule			
Tenements	Area (ha)		
Azul 5	300		
Azul 6	300		
Azul 7	300		
Azul 8	300		

### 7.2.1 Agreements and Encumbrances

The Romeral Project is held 100% by Minera America del Sur SCM. It is understood that Southern Hemisphere Mining Limited has a priority agreement to acquire a 100% interest in the project if it so chooses.

It is understood that no private royalties or agreements are applicable to the Romeral Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Romeral Project and we have relied entirely on information provided by SHM.

# 7.3 Geological Setting

#### 7.3.1 Regional Setting

The Romeral Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The project encompasses a 6km strike length of a major regional structure termed the Romeral Fault. This structure is associated with several major iron oxide-copper-gold (IOCG) deposits over a known strike length of at least 60km. To the north of the Romeral Project (from north to south) these deposits include Santa Dominga (Cu, Fe, Au), El Tofo (Fe) and Caballo Blanco (Cu, Fe), while the El Romeral deposit (Fe, Cu) lies immediately south of the project area.

The Coastal Cordillera was largely ignored by modern exploration, in favour of the Cordillera Principal, where major porphyry copper deposits have been discovered since the mid twentieth century. The Coastal Cordillera has long been associated with large iron deposits, copper lode systems and the older porphyry deposits, however during the last decade an improved understanding of the IOCG association and its affiliation with porphyry systems has resulted in renewed exploration attention. Unlike many of their younger counterparts within the Cordillera Principal, porphyry systems of the Coastal Cordillera frequently contain appreciable quantities of gold.

The Candelaria IOCG deposit, located some 360km north of the Romeral Project, represents a prime example of the copper-iron paragenetic association characterising the Coastal Cordillera. The reserves associated with Candelaria are reported to comprise in the order of 500Mt at 0.95% Cu, 0.22g/t Au and 3.1g/t Ag. A further example is the Andacollo porphyry deposit, owned by AUR Resources Limited, which is located only 50km south of the Romeral Project in a similar setting. The reserves associated with Andacollo copper deposit are reported to comprise 423Mt at 0.38% Cu and 0.13g/t Au. The Andacollo gold deposit, located a further 12km to the south-southwest again, is owned by Dayton Mining Company The deposit comprises low grade sub-horizontal stratabound (or manto) mineralisation, over-printed by high grade vein systems. The mine has reportedly been on 'care and maintenance' since 2000 when the remaining resource associated with Andacollo gold deposit are reported comprise some 48Mt at 0.68g/t Au.

## 7.3.2 Project Geology

The Romeral Project geology is dominated by the east-dipping Romeral Fault, which trends 010° through the entire length of the property, separating dominantly Cretaceous rocks to the east from Jurassic rocks to the west. The structure is easily visible on satellite imagery as two distinct valleys, which drain north and south respectively.

The trace of the Romeral Fault is marked by an intrusive complex comprising diorites, andesites and porphyries of Jurassic age (Figure 7.3.2\_1). These are marginally older than the considerably larger massif of Cretaceous granite and diorite that extends east of the structure. Further west the geology is dominated by diorites of the Jurassic San Juan pluton, along with the Cretaceous intrusives of the Cerro de Cobre Pluton.

A series of secondary splay structures trending southwest from the Romeral Fault appear to be associated with the majority of known mineralisation within the project area.

## 7.3.3 Deposit Types

The primary exploration model associated with the Romeral Project relates to iron oxidecopper-gold (IOCG) deposits associated with A-type or I-type intrusive complexes, frequently described as being of porphyry affiliation. The Santa Dominga, El Tofo, La Higuera, Caballo Blanco and El Romeral deposits lie immediately along strike to the north and south of the project area, providing excellent type examples.

The secondary exploration model associated with the Romeral Project involves copper-gold mineralisation associated with mesothermal quartz-carbonate stockwork, sheeted vein and breccia systems. One such prospect is associated with a southwest trending splay structure off the Romeral Fault in the central portion of the project area.



### 7.3.4 Mineralisation

Three distinct styles of mineralisation have been identified within the Romeral Project to date. These styles variously involve magnetite-copper-gold, quartz-carbonate-copper-gold and apatite (phosphate) assemblages that are either directly or indirectly associated with a series of southwest trending splay structures off the Romeral Fault.

### Magnetite-Copper-Gold Mineralisation

Massive to semi-massive magnetite mineralisation with associated secondary copper minerals is exposed at the Goat Yard Prospect in the central portion of the project area. Two parallel mineralised zones, each 2m to 5m wide and separated by 20m, are evident over an exposed strike length of 100m to 150m. The strike extensions are concealed by talus at either end. These zones trend north-northeast and dip at approximately 50° to the east. Mineralisation comprises banded, massive to semi-massive magnetite and silica, with associated secondary copper minerals.

Limited composite rock chip sampling understood to have been completed by MAS also indicates the presence of weak gold mineralisation, with reported results including 45% Fe, 0.33% Cu and 0.1g/t Au. However, as the sample collection, preparation and analytical methodology cannot be substantiated, these results cannot be relied upon and must be treated with caution.

Although reasonably well laminated with silica internally, peripheral brecciation and veining are evident. A set of stacked east-west trending and south dipping quartz and quartz-carbonate veins, averaging approximately 2cm width, also traverse the stratigraphy between the two principal mineralised horizons.

#### Quartz-Carbonate-Copper-Gold Mineralisation

The Gold Breccia Prospect is located approximately 500m southeast of the Goat Yard Prospect and is associated with a parallel second order splay structure off the Romeral Fault. Mineralisation has been exploited via shallow piquinero workings over an extensive area along the axis of a broad ridge on which it is developed.

Copper-gold mineralisation is associated with a series of stacked (or sheeted) quartz carbonate veins (and related breccias) which individually strike ~120° and dip at 35° to 50° to the south. Individual vein sets persist over distances of 20m to 40m (and up to 80m) across lithological strike while the zone of sheeted (or ladder) veining is developed over a north-northeast trend of at least 300m.

A previous breccia sample is reported to average 0.62% copper and 0.2g/t Au, however this result is not necessarily considered to be representative of the mineralised zone. As the sample collection, preparation and analytical methodology cannot be substantiated, these results cannot be relied upon and must be treated with caution.

#### Apatite (Phosphate) Mineralisation

A primary phosphate (apatite) deposit is located within the tenements, 2km north-northeast of the Goat Yard Prospect. The phosphate deposit lies close to the mapped position of the Romeral Fault, but is again interpreted to be associated with a south-southwest trending secondary splay structure.

The deposit continues to be extensively worked by piquineros, with activity primarily centred on two sub-vertical vein breccia zones, respectively developed parallel to and normal to strike.

No information is available on the grade or production history, and only a limited inspection (in near dark conditions) could be completed during the site visit.

## 7.4 History

#### 7.4.1 Ownership History

No information on the ownership history of the Romeral Project has been sourced or provided.

### 7.4.2 Exploration History

No information on the exploration history of the Romeral Project has been sourced or provided however there is evidence of artisanal mining activity on phosphate and gold prospects within the project.

# 7.4.3 Resource History

No Mineral Resources have been quantified for the Romeral Project.

## 7.4.4 Production History

Mineral production appears to be confined to limited artisanal activity associated with gold and phosphate prospects within the project area.

# 7.5 Exploration

SHM has not completed any exploration beyond very limited grab and rock chip sampling on the Romeral Project.

# 7.6 Exploration Potential

The Santa Dominga, El Tofo, La Higuera, Caballo Blanco and El Romeral deposits lie immediately along strike to the north and south of the Romeral project area, providing excellent type examples of the iron oxide-copper-gold (IOCG) association that represents the primary exploration objective.

The El Tofo mine, located to the north of the Romeral Project, was the largest iron ore mine in the world between 1914 and 1954. The El Romeral mine, located immediately south of the Romeral Project and owned by Minera del Pacifico, is presently Chile's largest iron ore producer.

No information is available on historic exploration within the Romeral Project and no work of any significance has yet been completed by SHM. While this provides little data on which to base an assessment of the property, there is no doubt that the project lies in a highly prospective setting for IOCG style mineralisation.

Geophysics represents the primary exploration tool for the discovery of IOCG deposits as shown by the effectiveness of magnetic and induced polarisation (IP) surveys in the relatively recent La Higuera and El Caballo Blanco discoveries to the north. Systematic exploration for this style of mineralisation is readily justified.

The presence of copper-gold mineralisation associated with sheeted quartz-carbonate veining provides an additional exploration model within the Romeral Project. The Gold Breccia Prospect represents an attractive initial drilling target in its own right. There is potential to generate significant tonnages of open pit mineralisation in a setting conducive to low stripping ratios. While significant work is required to establish the existence and continuity of economic grades, further initial exploration is readily justified.

# 7.7 Exploration Strategy

SHM has provided Coffey Mining with an exploration strategy for the Romeral Project to cover an initial two year period following listing.

Initial exploration work by MAS is planned to comprise an MMI surface sampling program, involving the collection of some three hundred samples.

Depending on the MMI results, an IP survey is considered likely followed by an RC drilling program that is envisaged to comprise approximately 15 holes to depths of approximately 150m (2,250m).

Coffey Mining considers that the proposed exploration strategy is generally consistent with the potential of the Romeral Project.

# 7.8 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Romeral Project covering the initial two year period to December 2011 as summarised in Table 7.8\_1 below.

Table 7.8_1				
Romeral Project				
Proposed Exploration Expenditure December 2009 to December 2011				
Item / Activity Phase 1 Phase 2 Total A\$ A\$				
Mapping & Imagery	-	-	-	
Airborne Geophysics	-	-	-	
Ground Geophysics	20,000	-	20,000	
Surface Sampling	12,000	-	12,000	
Trenching	-	-	-	
Scout Drilling and Assaying	-	-	-	
Drilling and Assaying	-	75,000	75,000	
Salaries and Wages	15,000	15,000	30,000	
In Country Administration	10,500	10,500	21,000	
Total	57,500	100,500	158,000	

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 8 METEORITICA PROJECT

## 8.1 Location, Access, Climate, Physiography and Infrastructure

#### 8.1.1 **Project Location and Access**

The Meteoritica Project is centred at 7572500mN and 470000mE to the east of the Sierra de Moreno in the northern portion (Region II) of Chile, 220km north-northeast of the port city of Antofagasta and 66km northwest of the regional mining centre of Calama (Figure 1\_1).

The Meteoritica Project is accessed from the regional mining service centre of Calama by travelling 14km north to Chuquicamata on the sealed B149 road, thence 58km west towards the township of Maria Elena on the sealed Highway 21, before turning off to the north and negotiating a series of unformed gravel roads, tracks and creek beds for a further 43km to the project area.

### 8.1.2 Climate and Physiography

The Meteoritica Project is located in the middle of the Atacama Desert (the driest place on earth), experiencing an extremely arid continental climatic regime, characterised by hot dry summers and cool dry winters. The annual average precipitation is essentially nil, with limited rainfall only occurring every 20 to 30 years. Average maximum temperatures range from 12°C in winter to 34°C in summer. The temperature variation is characterised by extreme diurnal ranges.

The Meteoritica Project is situated in the Atacama Desert at an altitude of 1,500m. The project comprises a series of low rounded hills along the eastern margin that grade westward into a vast outwash plain. The hills are dissected by a multitude of dry creeks, gullies and canyons that assist in providing vehicle access.

No vegetation exists, whatsoever. The land is totally uninhabited and serves no agricultural purpose.

### 8.1.3 Local Resources and Infrastructure

The Meteoritica Project is poorly located with respect to infrastructure, being a considerable distance from sealed roads and a known water supply however a main north-south power transmission line transects the expansive Rio Loa valley 20km to the west of the project area.

The nearest habitation is the small Amerindian settlement of Quillagua, located on the Rio Loa and Pan American Highway (No. 5), 42km in a direct line to the north-northwest of the project area, while the township of Maria Elena lies 58km directly to the southwest. Accessing either settlement by road from the project area requires a considerably longer distance to be travelled.

The regional mining service centre of Calama lies 115km by road to the southeast and the Provincial port city of Antofagasta lies 260km by road to the southwest. All commercial goods, services and laboratories are readily available in Calama.

# 8.2 Tenure

The Meteoritica Project comprises 8 Exploitation Applications covering an aggregate area of 2,000ha as shown in Table 8.2\_1 below. The tenements are held 100% by Minera América del Sur SCM.

Table 8.2_1   Meteoritica Project   Tenement Schedule			
Tenements Area (ha)			
Joya 1	300		
Joya 2	300		
Iron 1	200		
Iron 2	200		
Iron 3	200		
Iron 4	200		
Iron 5	300		
Iron 6	300		

Tenement boundaries are defined in UTM coordinates (Datum Sudamericano La Canoa, 1956) and all have not been surveyed in the field.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of tenements comprising the Meteoritica Project, and has relied on information provided by Southern Hemisphere Mining Limited. In preparing this report, Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

### 8.2.1 Agreements and Encumbrances

The tenements are held 100% by Minera América del Sur SCM. It is understood that Southern Hemisphere Mining Limited has a priority agreement to acquire a 100% interest in the project should it choose to do so.

Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Meteoritica Project and we have relied entirely on information provided by SHM.

# 8.3 Geological Setting

#### 8.3.1 Regional Setting

The Meteoritica Project lies along the western margin of the Upper Tertiary Domeyko Precordillera, which extends north-south for several hundred kilometres through northern Chile.

The Meteoritica Project lies on a north-south Palaeocene to Eocene mineralised trend that hosts several major porphyry copper deposits including Spence and Cerro Colorado (BHP Billiton), Mocha (Codelco), Sierra Gorda (Quadra Mining), and El Tesoro and Esperanza (Anaconda).

# 8.3.2 Project Geology

The geology of the Meteoritica Project is poorly exposed, however the local basement appears to comprise a north trending succession of steeply west dipping limestones, conglomerates (fanglomerates), sandstones, mudstones and evaporites of the Lower Miocene to Upper Pliocene El Loa Formation. Float samples of marble and quartzite indicate that these sediments may be locally contact metamorphosed however there is no evidence of any intrusive rocks.

This piedmont succession is derived from Mesozoic sediments and Lower Tertiary volcanics successions comprising the axis of the Sierra de Moreno to the east, and appears to have been deposited along the eastern margin of a broad fault-bounded graben formed as a result of Tertiary rifting.

Within the project area, the EI Loa Formation sediments are unconformably overlain (and largely obscured) by more recent, shallow west-dipping outwash sediments (conglomerates and sandstones) and loess. The outwash deposits are partially indurated by secondary carbonate and anhydrite.

### 8.3.3 Deposit Types

The primary exploration target is iron ore, developed as deflationary deposits of resistant magnetite-haematite boulders and cobbles that have accumulated at or near the surface.

The secondary target is the primary source of iron ore, believed to be derived from contact metamorphosed ferruginous sandstones (quartzites), mudstones and limestones (marble) within the El Loa Formation. The weight of evidence, including localised metamorphism, suggests a secondary, hydrothermal replacement origin for these iron formations, rather than a primary (sedimentary) source.

The tertiary target is for porphyry copper systems, based on the likelihood that the iron deposits are indeed of replacement origin, associated with the upper levels of a mineralised porphyry body that has preferentially intruded along faults bounding the eastern margin of the Rio Loa graben.

# 8.3.4 Mineralisation

Iron ore mineralisation is most obviously manifest as surface accumulations of ironstone cobbles and boulders that are scattered over a 2km strike length and extend for up to 1.5km across the outwash plain to the west of the exposed El Loa Formation. The distribution of boulders is somewhat erratic, but generally increases towards the presumed source of the ironstone in the east, with localised concentrations comprising up to 20% of the ground surface as shown in Figure 8.3.4\_1 below.



The ironstone boulders are clearly of colluvial origin, most likely derived from the El Loa Formation, and have accumulated at surface due to their dense and resistant nature via deflationary (water and wind) processes. As such, when examined in profile, it is clear that the vertical distribution of boulders diminishes rapidly with depth.

The ironstone boulders are dominated by primary magnetite, which is partially (or in some cases almost totally) replaced by martite (haematite), as shown in Figure 8.3.4\_2 below. Mineralogical assessment indicates a typical composition of 80% magnetite, 20% haematite and trace jarosite, as shown in Figure 8.3.4\_3 below.





Limited assaying indicates that the boulders typically contain 60% to 65% Fe, averaging approximately 62% Fe, while phosphorous levels are marginally high at 0.16% to 0.26% P. The iron and phosphorous values may be locally elevated due to proximity to the surface, or alternatively support a possible replacement origin. All other elements appear to be well within desirable thresholds for iron ore. Whilst the limited grab sampling completed was not located and is unsystematic, the results are considered to be broadly indicative of deflationary ironstone accumulations throughout the property.

Although the local basement is poorly exposed, the source of the boulders appears to be a succession of thin limestone, mudstone and sandstone units within the El Loa Formation. Float in the vicinity of the presumed source includes marble and ferruginous quartzite, again supporting a secondary (replacement) origin. Similarly, the ironstone boulders tend to be massive, uncontaminated and totally lacking a sedimentary fabric, again suggesting the source may be skarn development within the limestones and marbles.

No geophysical surveys have been undertaken (or available) to confirm the source and extent of primary magnetite development. Should the magnetite prove to be of replacement origin, it would likely be derived from hydrothermal fluids associated with proximal magmatic activity that may also be responsible for the localised contact metamorphism. It is possible that the magnetite development could represent the upper levels of a porphyry system associated with rift faulting, however no assaying has been undertaken to confirm a chalcophile association.

# 8.4 History

There are no historic records available in respect to the ownership, exploration and exploitation of the Meteoritica Project.

### 8.5 Exploration

Exploration activities by SHM personnel are confined to limited reconnaissance and grab sampling. The location of these grab samples was unrecorded and the work was completed in an unsystematic manner.

# 8.6 Exploration Potential

The apparently extensive iron ore concentrations at surface within the Meteoritica Project are extremely deceptive. These are the product of deflationary processes over a long period of time and concentrations diminish extremely rapidly within tens of centimetres of the surface. As such, these deposits are suggested to be of extremely limited tonnage and do not justify further assessment.

The primary source of iron ore is considered more likely to represent skarn-style mineralisation relating to selective hydrothermal replacement of carbonate horizons within the El Loa Formation. The geological setting, localised contact metamorphism, high iron content (or purity) of the magnetite, the coarse grainsize and the massive appearance of the material all support this conclusion. Notwithstanding this, the concentration and distribution of iron ore proximal to the presumed source does not immediately suggest the presence of a significant primary deposit. However, there is sufficient uncertainly to justify a magnetic survey to confirm this observation.

If the magnetite proves to be of magmatic hydrothermal origin, and the geophysical results are encouraging, then limited stratigraphic diamond drilling is justified to identify the nature of the source intrusion and its mineralising potential.

Given that surrounding tenements are held by Vale and Codelco, it is suggested that the project has more strategic, rather than immediate commercial value and only a limited work program can be justified.

## 8.7 Exploration Strategy

SHM has provided Coffey Mining with its exploration strategy for the Meteoritica Project to cover an initial two year period following listing.

The initial exploration work will involve detailed geological mapping of the project area. This will be followed by an MMI surface sampling program. Results from this work will be used to establish targets for an initial drilling program. This would consist of approximately six drillholes.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Meteoritica Project.

# 8.8 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Meteoritica Project covering the initial two year period to December 2011 as summarised in Table 8.8\_1 below.

Table 8.8_1 Meteoritica Project					
					Proposed Exploration Expenditure December 2009 to December 2011
Item / Activity Phase 1 Phase 2 Total A\$ A\$ A\$					
Mapping & Imagery	20,000	-	20000		
Airborne Geophysics	-	-	-		
Ground Geophysics	-	-	-		
Surface Sampling	-	-	-		
Trenching	-	15,000	15,000		
Scout Drilling and Assaying	-	-	-		
Drilling and Assaying	-	-	-		
Salaries and Wages	-	-	-		
In Country Administration	3,000	3,000	6,000		
Total	23,000	18,000	41,000		

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 9 CUNLAGUA PROJECT

# 9.1 Location, Access, Climate, Physiography and Infrastructure

# 9.1.1 Project Location and Access

The Cunlagua Project is centred at 6494400mS and 326950mE near the city of Salamanca in the Choapa Province of Region IV of Chile (Figure 1\_1).

The Cunlagua Project is located approximately 320km or four hours drive north of Santiago, the capital of Chile. Access is gained via the sealed Pan American Highway northward to the regional coastal centre of Los Vilas, thence some 80km inland via sealed roads through the township of Illapel to the regional administrative centre of Salamanca.

The property is accessed from Salamanca via the sealed D837 road east-northeast up the Rio Chalinga valley through the village of Cunlagua, thence northeast on the unformed and poorly maintained gravel D831 road for a further 7km, through the village of Las Jarillas, to the end of the road at the settlement of La Planta. The centre of the project is gained via a 1.3km walking track extending further up Jarillas Creek.

# 9.1.2 Climate and Physiography

The Cunlagua Project experiences a Mediterranean climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 220mm, while average maximum temperatures range from -6°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the influence of altitude and distance from the sea, with the project lying at elevations from 1,400m to 1,800m and being some 90km from the coast.

The Cunlagua Project is situated along the western edge of the Cordillera Principal of the Andes. The property lies near the headwaters of a tributary of the Rio Chalinga, located along the lower eastern (and relatively subdued) flanks of a north trending ridgeline with some 400m of relief.

The vegetation comprises low shrubs and cacti, interspersed with annual grasses and perennial herbs. Stands of larger trees are present along the valley floor. The land use is confined to livestock grazing, principally goats.

# 9.1.3 Local Resources and Infrastructure

128

The Cunlagua Project is located close to the villages of Las Jarillas and Cunlagua, and only 19km from regional administrative centre of Salamanca, with a population of some 12,500. Grid power is available to the village of Las Jarillas, and water is available in the Rio Chalinga. Commercial goods and services are readily available in Salamanca.

The regional mining service centre of Calama lies 115km by road to the southeast and the Provincial port city of Antofagasta lies 260km by road to the southwest. All commercial goods, services and laboratories are readily available in Calama.

# 9.2 Tenure

The Cunlagua Project comprises six granted Exploration Concessions and five Exploitation Applications covering an aggregate area of 2,800ha as shown in Table 9.2\_1 below. The tenements are held 100% by Minera Panamerica SCM.

Table 9.2_1 Cunlagua Project Tenement Schedule			
Tenements	Area (ha)		
Cunlagua 1 – 1/30	300		
Cunlagua 2 – 1/30	300		
Cunlagua 3 – 1/20	200		
Cunlagua 4 – 1/30	300		
Cunlagua 6	300		
Cunlagua 7	300		
Cunlagua 8	300		
Cunlagua 9	300		
Cunlagua 10	100		
Cunlagua 11	100		

The Exploitation Permits are defined by corner pillars established on the ground by licensed surveyors, while the Exploration Permit boundaries are defined by universal grid co-ordinates and tenement dimensions.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Cunlagua Project tenements, and has relied on information provided by MPA. In preparing this report Coffey Mining has assumed that the tenements are lawfully accessible for evaluation.

# 9.2.1 Agreements and Encumbrances

The Cunlagua Project is held 100% by Minera Panamericana SCM. Southern Hemisphere Mining Limited has a priority agreement to acquire a 100% interest in the project if it so chooses.

It is understood that no private royalties or agreements are applicable to the Cunlagua Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of additional Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Cunlagua Project and we have relied entirely on information provided by SHM.

# 9.3 Geological Setting

# 9.3.1 Regional Setting

The Cunlagua Project lies within the north trending Neogene metallogenic belt which runs along the Andean Cordillera Principal, straddling the border between Chile and Argentina. Magmatism and associated hydrothermal alteration and mineralisation progressed northward and eastward along this trend from Oligocene to Pliocene times. The Cunlagua area lies toward the northern extremity of a belt dominated by copper-molybdenum porphyry systems, to the north of which porphyry and epithermal deposits are dominated by precious metals.

Structurally the Cunlagua Project lies immediately west of a 70km northeast trending lineament that links the Los Pelambres porphyry copper-molybdenum deposit (and adjacent El Pachon in Argentina), located 12km northeast of Cunlagua, with the El Bronce epigenetic gold deposit lying further to the south.

## 9.3.2 Project Geology

The basement geology of the Cunlagua Project is dominated by a succession of late Cretaceous andesites, and shallow marine carbonaceous pelites and limestones of the Vinita (or Salamanca) Formation as shown in Figure 9.3\_1 below. This gently undulating succession is folded into a series of broad anticlines and synclines.

The Vinita Formation is intruded by a series of granodiorites, tonalites, granites, aplites and syenites of the so-called Cunlagua Stock, which is believed to be of Eocene age.

The Vinita Formation and associated intrusives have been mildly deformed and metamorphosed to greenschist facies assemblages during the late Eocene, and the entire stratigraphic succession was influenced by thrusting in the Pliocene.

A series of major, parallel north-trending faults traverse the central portion of the project, and these appear to provide a locus for late stage intrusion and uranium mineralisation.

## 9.3.3 Deposit Types

Primary uranium mineralisation is associated with faulted and brecciated, late stage, multiphase intrusive rocks (predominantly aplite). These represent the marginal zone or upper levels of a progressively cooling and crystallising felsic batholith.

### 9.3.4 Mineralisation

The Descubridora Prospect represents the principal zone of mineralisation within the Cunlagua Project. Mineralisation is associated with a north-trending (010°) sub-vertical to steeply east dipping breccia zone hosted by granodiorite, which extends south into a large mass of aplite. Numerous tourmaline veins, pegmatites and aplite dykes invade the granodiorite in the vicinity of the mineralised zone.



The mineralised zone is defined by a several adits, drifts, open cuts and a shaft developed over a 70m strike length. The mineralised zone can be traced further north for an aggregate distance of at least 300m into Jarillas Creek. The host structure can be interpreted from satellite images over a strike length of approximately 1km. The zone ranges from 2m to 7m in width, averaging approximately 5m wide over most of its developed length. A larger adit located at the base of the slope suggests mining along the structure persisted to a depth of approximately 100m below surface.

Although only one mineralised zone is exposed, abundant limonite float up-slope from the Descubridora Prospect strongly suggests the presence of narrower parallel structures lying beneath superficial scree cover.

Mineralisation occurs within a strong and persistent zone of brecciated granodiorite and calcite veining, annealed by calcite (possibly mangano-calcite) and limonite. Ore minerals include tetrahedrite, chalcopyrite and niccolite.

No uranium minerals have been positively identified, and sampling (both historic and recent) indicates that higher uranium grades are only sporadically developed within the zone. Maximum historic radiometric readings from underground workings were reported to be 0.09mr/hr, against background levels of 0.018mr/hr. The highest assay recorded from historic underground sampling was  $0.03\% U_3O_8$ . The highest historic radiometric reading at surface was 5mr/hr, derived from soil associated with a dump lying down-slope from the workings. An assay of the same material recoded a value of  $4.8\% U_3O_8$ . In addition to uranium, sample assays include variably significant silver, copper and mercury values.

Although only poorly exposed, chalcocite and chrysocolla appear to be extensively disseminated through the granodiorite for some distance from the mineralised structure, especially in an up-slope (easterly) direction.

Two further mineralised areas, being the Jarillas and Viejo prospects, are respectively recorded within and immediately north of the Cunlagua Project tenements to the north of the Descubridora Prospect. These comprise narrow zones of veining, fracturing and brecciation within granodiorite, located near the andesite contact. Minor pyrite, chalcocite and malachite are associated with a calcite, quartz and limonite gangue assemblage; however no significant uranium mineralisation has been identified.

### 9.4 History

#### 9.4.1 Ownership History

No records of the ownership history of the Cunlagua Project have been identified or provided.

### 9.4.2 Exploration History

The presence of a series of adits, drifts, open cuts and a shaft at the Descubridora Prospect within the Cunlagua Project attest to limited historic mining. This activity evidently dates to earlier last century, as the existing excavations are faithfully described in a 1958 report by the US Atomic Energy Commission (USAEC). These workings may only reflect silver and copper mining activity; however the presence of uranium was certainly documented prior to 1958.

The USAEC Division of Raw Materials, in cooperation with the Instituto de Investigaciones Geologicas de Chile, completed a reconnaissance survey of the Salamanca area to investigate its uranium potential in June-July 1958. The USAEC report identifies that several uranium occurrences were recorded around Salamanca, particularly including those in the Las Jarillas area.

The USAEC completed mapping, a structural study and visits to known uranium prospects, along with limited radiometric surveying, sampling and assaying. They concluded that the Descubridora Prospect was the most significant identified within the Salamanca district, but that the tonnage potential was modest, and the grades were generally low and erratic.

There is no evidence of any modern exploration, including drilling, within the Cunlagua Project.

#### 9.4.3 Resource History

No Mineral Resources have been quantified for the Cunlagua Project.

### 9.4.4 Production History

No production records are available for the limited historic mining activity evident within the Cunlagua Project.

#### 9.5 Exploration

Only four rock-chip samples have been collected by SHM within the Cunlagua Project, and no details are provided as to their precise location or manner of collection.

## 9.6 Exploration Potential

Brazilian company, Vale, has identified a reasonably significant copper deposit at Papamono, located approximately 6km east-southeast of the Cunlagua Project and 8km northeast of Salamanca.

Of greater significance is the Los Pelambres porphyry copper-molybdenum deposit (and the immediately adjacent El Pachon porphyry deposit in Argentina), situated 12km east-northeast of the Cunlagua Project.

While no drilling has ever been undertaken within the Cunlagua Project, and comparatively little is known of the Descubridora Prospect, exploration completed to date suggests that the tonnage potential is likely to be restricted, and the grades generally low and erratically distributed. By international standards, the uranium potential is therefore considered to be limited. However, in a Chilean context where future power supplies are uncertain, it may well prove to be of strategic significance. On this basis, it is considered that the Descubridora Prospect justifies initial further investigation for uranium.

Mineralised breccia float of similar appearance to that exposed at the Descubridora Prospect was identified up-slope, suggesting the presence of parallel mineralised structures lying beneath the superficial scree cover. This aspect also deserves to be investigated, providing the opportunity to increase the tonnage and open pit potential of the prospect.

Broad areas of strongly disseminated chalcocite and chrysocolla, again lying in poorly exposed areas of granodiorite up-slope from the Descubridora zone, suggest the possible presence of porphyry style copper mineralisation, similar to that identified by Vale to the south. This aspect of the Cunlagua Project also readily justifies further investigation.

## 9.7 Exploration Strategy

SHM has provided Coffey Mining with a comprehensive exploration strategy for the Cunlagua Project to cover an initial two year period following listing. The exploration program will be completed in two phases. Initially Phase 1 will involve data review, mapping, rock chip sampling (approximately 150 samples) and MMI soil sampling (approximately 200 samples) across the area.

Depending on the results of the initial work, trenching, pitting and a reconnaissance percussion drilling program totalling 1000m will undertaken to assess any priority areas identified by Phase 1 programs. Samples will be sent for petrological analysis and assay for elements considered relevant to the geological and mineralogical setting identified and would include Cu, Mo, Au, Ag and U.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Cunlagua Project.

# 9.8 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Cunlagua Project covering the initial two year period to December 2011 as summarised in Table 9.8\_1 below.

Table 9.8_1 Cunlagua Project Proposed Exploration Expenditure December 2009 to December 2011									
					Item / Activity Phase 1 Phase 2 Total A\$ A\$				
					Mapping & Imagery	10,000	-	10,000	
Airborne Geophysics	-	-	-						
Ground Geophysics	-	-	-						
Surface Sampling and Analysis	10,000	-	10,000						
Trenching and Assaying	8,000	-	8,000						
Scout Drilling and Assaying	-	-	-						
Drilling and Assaying	20,000	80,000	100,000						
Salaries and Wages	15,000	15,000	30,000						
In Country Administration	12,500	12,500	25,000						
Total	75,500	107,500	183,000						

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 10 CHITIGUA PROJECT

## 10.1 Location, Access, Climate, Physiography and Infrastructure

#### 10.1.1 Project Location and Access

The Chitigua Project is centred at 7610500mN and 519500mE in the northern portion (Region II) of Chile, 270km northeast of the port city of Antofagasta and 90km north of the regional mining centre of Calama (Figure 1\_1).

The Chitigua Project is accessed from the regional mining service centre of Calama by travelling northeast and north for a distance of 67km on sealed Highway 21 to the road junction at Conchi, thence a further 37km north on the formed gravel B141 towards Collahuasi, thence 9km northwest on an unformed gravel road to the centre of the project area. Individual prospects can be accessed to the north and west via a series of gravel mining access roads and tracks which traverse the property.

### 10.1.2 Climate and Physiography

The Chitigua Project experiences an arid alpine continental climatic regime, characterised by hot dry summers and cold dry winters. The annual average precipitation is 75mm, while average maximum temperatures range from -2°C in winter to 32°C in summer. The temperature variation is characterised by extreme diurnal ranges.

The Chitigua Project is situated on the Andean altiplano along the eastern margin of the Atacama Desert at an altitude of 3,900m. The central axis of the project comprises a moderate to steep range of hills that rises some 150m above broad outwash plains that extend to the east and west. The range is dissected by a series of dry creeks and canyons that provide vehicle access.

The vegetation is confined to sparse low shrubs that are largely confined to the outwash plain along the eastern margin of the project area. The land is essentially uninhabited and serves no commercial rural purpose.

### 10.1.3 Local Resources and Infrastructure

The Chitigua Project is reasonably well located with respect to infrastructure, being only 46km by road from the sealed Highway 21, and 113km from the regional mining service centre of Calama. Grid power is understood to be available at the El Abra mine, some 50km to the south. Groundwater is understood to be available within the Loa valley, which lies some 15km east of the project tenements, however the quantity of available water is unknown. All commercial goods, services and laboratories are readily available in Calama.

# 10.2 Tenure

The Chitigua Project comprises 20 Exploitation Applications covering an area of 4,500ha as shown in Table 10.2 1 below. The tenements are held 100% by Minera Panamericana SCM.

Table 10.2_1 Chitigua Project Tenement Schedule			
Tenements	Area (ha)		
Chitigua 4 – 1 AL 75	300		
Chitigua 4 – 76 AL 150	300		
Chitigua 7 – 1 AL 50	200		
Chitigua 8 – 1 AL 120	300		
Chitigua 13 – 1 AL 36	200		
Chitigua 14 – 1 AL 36	300		
Chitigua 16 – 1 AL 6	200		
Chitigua 18 – 1 AL 200	300		
Chitigua 19 – 1 AL 40	100		
Chitigua 25 – 1 AL 45	100		
Chitigua 25 – 46 AL 90	100		
Chitigua 26 – 1 AL 60	100		
Chitigua 27 – 1 AL 60	300		
Chitigua 30 – 1 AL 45	300		
Chitigua 30 – 46 AL 90	200		
Chitigua 31 – 1 AL 60	200		
Chitigua 32 – 1 AL 60	300		
Chitigua 34 – 1 AL 30	300		
Chitigua 35 – 1 AL 10	300		
Chitigua II 1	100		

The Exploitation Permits are defined by corner pillars established on the ground by licensed surveyors, while the Exploration Permit boundaries are defined by universal grid co-ordinates and tenement dimensions.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Chitigua Project tenements, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

## 10.2.1 Agreements and Encumbrances

The Chitigua Project is held 100% by Minera Panamericana SCM. It is understood that SHM has the rights to acquire a 100% interest in the assets of MPA should it choose to do so.

More or less the entire project area lies within the Alto Loa Amerindian Reservation. It is understood that any mining activities within the reserve require agreement with the indigenous community council. It is understood that no private royalties or agreements are applicable to the Chitigua Project tenements.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Chitigua Project and we have relied entirely on information provided by SHM.

# 10.3 Geological Setting

#### 10.3.1 Regional Setting

The West Fault is a major north-trending crustal suture that can be semi-continuously traced through northern Chile for a distance of several hundred kilometres. The West Fault provides the locus for mineralised intrusions that comprise the Upper Eocene to Oligocene northern porphyry copper-molybdenum belt. This belt is one of the most heavily mineralised provinces in the world, incorporating some 29 major porphyry occurrences, including several of the world's largest deposits,. From south to north, these include Escondida, Gaby, Chuquicamata, El Abra, Collahuasi and Quebrada Blanca, which lie along or immediately adjacent to the West Fault over a strike length of some 300km.

### 10.3.2 Project Geology

The Chitigua Project straddles (or more specifically lies immediately east of) the West Fault over a strike length of 18km, located between the Quebrada Blanca and El Abra deposits, situated 70km to the north and 30km to the south respectively.

The basement geology of the Chitigua Project comprises a series of late Palaeozoic and Mesozoic granodiorites, ignimbrites and diorites that are variously overlain by associated rhyolitic to andesitic volcanics, conglomerates and sandstones as shown in Figure 10.3.2\_1 below.

This succession has been reactivated along the West Fault (and adjacent structures and splays) during the Tertiary, generating the intrusion of elongate porphyry stocks, dykes and breccias, along with associated andesitic volcanics. The principal porphyry exposures are developed immediately west of the northern and central-southern portions of the project area.

#### 10.3.3 Deposit Types

The principal economic target within the Chitigua Project is porphyry copper-molybdenum mineralisation, similar to numerous significant examples developed along the West Fault to the north and south.

The style and setting of mineralisation within the vicinity of Chitigua is most consistent with that evident at the Chuquicamata deposit, where mineralisation is hosted by a highly altered, elongate (partially attenuated) porphyry body that has directly intruded along the axis of the West Fault itself.



138

#### 10.3.4 Mineralisation

Numerous copper workings are evident throughout the Chitigua Project area, however the majority of these lie outside MPA's granted tenure. The mineralisation can be broadly subdivided into two categories; that hosted by porphyry that lie directly along the trace of the West Fault, and sheeted vein or manto style mineralisation hosted within intrusives and volcanics peripheral to the West Fault. The porphyry hosted mineralisation is by far the most significant from an economic perspective, however all occurrences again lie immediately west of the MPA tenements.

#### Codelco Drilling

The Codelco drilling is centred on a broad area of highly altered porphyry located immediately west of the northern project boundary. Texturally, the porphyry can only be recognised where better preserved in areas of potassic alteration, characterised by the presence of secondary biotite development, limontitic boxworks and often extensively brecciated. These potassic zones form sinuous, elongate bodies that are consistent with the orientation of the West Fault. The potassic alteration zones are enveloped by broader zones of argillic alteration, characterised by sericite development. Minor copper staining is evident, however the majority of mineralisation appears to have been leached from surface exposures.

The area of Codelco drilling predominantly lies outside the area of granted tenure.

#### Northern Piquinero Working

Minor piquinero workings (name unknown) are again located adjacent to the northern portion of the project area, immediately west of the structural axis of the West Fault. Mineralisation comprises stockwork veining developed within potassic altered (pink) feldspar porphyry that is characterised by incipient brecciation and cataclastic textures. Copper mineralisation, evident as veins and local disseminations, is dominated by chalcocite and chrysocolla, variously accompanied by specularite, calcite, limonite and goethite. The veins have multiple orientations, but are dominated by those trending southwest or south-southwest, consistent with the West Fault.

The morphology and dimensions of the mineralised zone is difficult to determine. Assuming its orientation is consistent with the West Fault, then mineralisation extends over a minimum width of approximately 8m. However, it's strike length cannot be determined due to superficial cover and the depth extent is not known.

The Northern Piquinero Working lies outside the area of granted tenure.

#### Jovanka Mine

The Jovanka Mine, which lies within a small excised tenement which lies immediately west of the central-northern portion of the project, provides the best exposed example of porphyry style mineralisation within the vicinity of the Chiyigua Project. Secondary copper mineralisation is being mined by a syndicate from a series of reasonably large open pit excavations into the top, flanks and base of a hill some 50m high, centrally located within tenement.

Although variably leached, the entire hill appears mineralised to some extent, representing a surface area some 150m wide and at least 300m long, elongate along the axis of the West Fault. Although the vertical extent of mineralisation is unknown, the distinctive porphyry style of mineralisation suggests it is likely to persist at depth well into the primary zone.

The deposit is hosted entirely by strongly altered, fractured and brecciated porphyry that has directly intruded the West Fault. Blocks of fractured pink (potassic altered) porphyry, with extensive fracture controlled and disseminated mineralisation, are surrounded by zones of soft argillic-altered material which has been extensively leached.

The copper assemblage is highly variable, but dominated by native copper, chalcopyrite, chalcocite, covellite, chrysocolla, atacamite and azurite, commonly accompanied by manganocalcite and pyrolusite. The mineralisation bares remarkable similarities to upper portions of the Chuquicamata deposit.

The Jovanka Mine lies outside the area of granted tenure.

#### Zorro Prospect

The Zorro Prospect lies immediately southeast of the Jovanka Mine within andesitic to dacitic volcanics and agglomerates lying immediately east of the West Fault, immediately west of the MPA project tenements. Piquineros have excavated a broad opening into the side of a steep hill flanking the main creek bed. In general terms the volcanic succession dips shallowly west, however tight folding is locally evident. Mineralisation appears to comprise both sub-horizontal zones of disseminated manto-style material up to 5m wide associated with the more porous and permeable agglomerates, along with more localised (0.5m wide) steeply east-dipping faults that appear to represent higher grade feeder zones. In the absence of drilling and systematic sampling, the extent and grade of both manto and feeder style mineralisation is unknown. The feeder structures are commonly characterised by cataclastic textures, with quartz-sericite fracture fillings, and sericite alteration locally becoming more pervasive. Southwest trending fracturing and jointing that is ubiquitous throughout the Chitigua Project is again well developed at the Zorro Prospect.

The Zorro Prospect lies outside the area of granted tenure.

#### Iglesia Prospect

The Iglesia Prospect, so named as it straddles the ruins of a 400 year old chapel, is located on the trace of the West Fault within the central-southern portion of the Chitigua area, to the immediate west of the southern project tenements.

Mineralisation is hosted by a narrow, elongate porphyry body of identical composition to that exposed along the West Fault within the northern portion of the project. At the northern end of the prospect the porphyry is only some 80m wide, progressively broadening towards the south. Minor piquinero workings are developed over at least a 600m strike length along the porphyry, and these appear to continue beyond this to the south. Mineralisation comprises solitary and stockwork quartz-chalcopyrite veining within crackled to brecciated porphyry that is variably altered. Unlike exposures in the northern part of the project, however, the alteration appears to be confined to vein selvedges, becoming more pervasive within stockwork zones.

The Iglesia Prospect lies outside the area of granted tenure.

# 10.4 History

## 10.4.1 Ownership History

Little information on the ownership history of the Chitigua Project has been sourced or provided.

Codelco held tenements covering the Chitigua area prior to 2004, transferring the adjacent ground to Enami in order to establish an environmental reserve, where only piquineros could operate. The environmental reserve never eventuated and Enami is understood to have sold the project to private Chilean company Minera Fuego.

#### 10.4.2 Exploration History

Extensive exploration was undertaken during the 1960s and 1970s along the West Fault to the north of Calama by Anaconda and subsequently Codelco. This work identified major porphyry copper occurrences such as Collahuasi, Quebrada Blanca, El Abra, Toki, Genoveva and MM to the north and south of Chitigua.

Codelco and Enami have completed limited exploration with the Chitigua Project, however the details of the work is held by Enami and cannot be accessed due to the current tenement dispute with Minera Panamericana SCM.

Codelco are known to have completed three deep vertical stratigraphic diamond holes immediately west of the northern project tenements in the search for porphyry copper mineralisation, however this data is also held by Enami.

## 10.4.3 Resource History

No Mineral Resources have been quantified for the Chitigua Project.

#### **10.4.4 Production History**

No formal records exist of copper production from within the project area, however limited copper oxide mineralisation is being mined by a syndicate within a small excised tenement to the west of the central part of the tenement block.

# 10.5 Exploration

SHM has not completed any exploration and, as such, there are no results to be reported or interpreted.

### **10.6** Exploration Potential

Some 29 major porphyry occurrences, including several of the world's largest deposits lie along the West Fault to the north and south of the Chitigua Project, over a strike length of some 300km. The Chitigua Project lies directly between the Quebrada Blanca and El Abra deposits, which are situated 70km to the north and 30km to the south respectively. While these deposits are not located immediately adjacent to the Chitigua Project, they clearly serve to support the mineral potential of the area.

While the Chitigua area generally is considered to be highly prospective for porphyry copper mineralisation. This potential primarily lies immediately west of the project tenements, primarily centred on the excised Jovanka Mine and its immediate extensions to the north and south. The mine is centred on a substantial hill which appears to be more or less altered and mineralised in its entirety. The lateral extent of mineralisation is essentially obscured by superficial sediments that surround the hill, while there is no evidence of any drilling to define its vertical dimensions beyond the base of the hill.

The style and setting of mineralisation within the Chitigua area in general, and at the Jovanka Prospect in particular, is remarkably similar to the major Chuquicamata porphyry deposit located along the West Fault some 80km to the south. Both are directly consistent with the trace of the West Fault, and are associated with elongate or attenuated porphyry intrusions of similar composition.

The same altered and variably mineralised porphyry appears to extend intermittently north to a point adjacent to the northern project boundary and beyond, where Codelco exploration was evidently focussed, and to a lesser extent to the south of the Jovanka Mine. Similarly, the porphyry is also exposed to the immediate west of the south-central portion of the project area at the Iglesia Prospect. Regrettably all these areas of porphyry development along the trace of the West Fault lie outside MPA's granted tenure.

Peripheral to the West Fault, however, including the majority of the SHM tenements, copper mineralisation is primarily confined to localised sheeted and stockwork veining, and manto style occurrences. These have limited tonnage potential and do not represent attractive exploration targets.

Although distant from services such as power and water, the Chitigua Project is reasonably located with respect to infrastructure, and is readily accessible from the major mining service centre of Calama.

While the Chitigua area is considered to be highly prospective, the more obvious potential is primarily dependent on acquiring tenure over the trace of the West Fault itself and the Jovanka deposit in particular.

142

# **10.7** Exploration Strategy

SHM has provided Coffey Mining with a comprehensive exploration strategy for the Chitigua Project to cover an initial two year period following listing.

An MMI surface sampling program will be undertaken over the leases. This is anticipated to involve the collection and assay of approximately 500 samples. The results of this sampling program will be used to identify and prioritise drilling targets.

One drilling target already identified is the Western Fault where it is covered by the small tenement block to the west of the main Chitigua tenement holding. Drilling here will be contingent upon coming to an arrangement with the surrounding lease holders.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Chitigua Project.

# **10.8 Exploration Budget**

SHM has also provided Coffey Mining with an exploration budget for the Chitigua Project covering the initial two year period to December 2011 as summarised in Table 10.8\_1 below.

Table 10.8_1 Chitigua Project					
Proposed Exploration Expenditure December 2009 to December 2011					
Item / Activity Phase 1 Phase 2 Total A\$ A\$ A\$					
Mapping & Imagery	-	-	-		
Airborne Geophysics	-	-	-		
Ground Geophysics	-	-	-		
Surface Sampling	20,000	-	20,000		
Trenching	-	-	-		
Scout Drilling and Assaying	-	-	-		
Drilling and Assaying	20,000	80,000	100,000		
Salaries and Wages	15,000	15,000	30,000		
In Country Administration	12,000	12,000	24,000		
Total 67,000 107,000 174,000					

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.
# 11 TRES CRUCES PROJECT

### 11.1 Location, Access, Climate, Physiography and Infrastructure

#### 11.1.1 Project Location and Access

The Tres Cruces Project is centred at 6755500mS and 312500mE in the central northern portion (Region IV) of Chile, 73km north of the provincial capital of La Serena. (Figure 1\_1).

The Tres Cruces Project is accessed from La Serena by travelling north for 80km on the Pan American Highway to Punta Colorada, thence 11km east on the D111 formed gravel road along Colorada Creek to the project area. Individual prospects can be accessed to the north via a series of gravel mining access roads and tracks which traverse the property.

### 11.1.2 Climate and Physiography

The Tres Cruces Project experiences a Mediterranean to semi-arid continental climatic regime characterised by hot dry summers and cool damp winters. The annual average rainfall is 75mm while average maximum temperatures range from -2°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the project's close proximity the sea.

The Tres Cruces Project is situated within the Coastal Cordillera of north-central Chile at elevations ranging from 150m to 300m above sea level.

The vegetation comprises low shrubs and cacti, interspersed with perennial herbs. The land use is confined to limited livestock grazing, principally goats. Irrigated table grapes are grown along the Colorada Creek valley.

### 11.1.3 Local Resources and Infrastructure

The Tres Cruces Project is reasonably well located with respect to infrastructure. It is only 11km from the Pan Americana Highway and 90km from the regional capital of La Serena and the neighbouring major port city of Coquimbo. The project is well serviced by sealed and formed gravel roads and grid power is available at Punta Colorada. A rail line also passes through the southern portion of the project area. Groundwater is understood to be available within the Colorada valley which traverses the property however the quantity of available water is unknown. All commercial goods, services and laboratories are readily available in La Serena.

# 11.2 Tenure

The Tres Cruces Project comprises one granted Exploitation Concession, two Exploitation Applications and 18 granted Exploration Concessions covering an aggregate area of 5,725ha as shown in Table 11.2\_1 below. The tenements are held 100% by Minera America del Sur SCM.

Table 11.2_1 Tres Cruces Project Tenement Schedule		
Tenements	Area (ha)	
Sergio - 1 AL 5	25	
Aguila 11 1 AL 10	300	
Aguila 16 – 1 AL 200	300	
Tres Cruces 1	300	
Tres Cruces 2	300	
Tres Cruces 3	300	
Tres Cruces 4	300	
Tres Cruces 5	300	
Tres Cruces 6	300	
Tres Cruces 7	300	
Tres Cruces 8	300	
Tres Cruces 9	300	
Tres Cruces 10	300	
Tres Cruces 11	200	
Tres Cruces 12	300	
Tres Cruces 13	200	
Tres Cruces 14	300	
Tres Cruces 15	300	
Tres Cruces 16	300	
Tres Cruces 17	200	
Tres Cruces 18	300	

The Tres Cruces Project tenement boundaries are defined by grid co-ordinates and tenement dimensions.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Tres Cruces Project tenements, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation.

### 11.3 Agreements and Encumbrances

The Tres Cruces Project is held 100% by Minera Americana del Sur SCM. It is understood that SHM has a priority agreement to acquire a 100% interest in the project if it so chooses.

It is understood that no private royalties or agreements are applicable to the Tres Cruces Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of Prospecting Permits and Mining Permits within the existing project area.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Tres Cruces Project and we have relied entirely on information provided by SHM.

### 11.4 Geological Setting

### 11.4.1 Regional Setting

The Tres Cruces Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The Coastal Cordillera was largely ignored by modern exploration in favour of the Cordillera Principal, where major porphyry copper deposits have been discovered since the mid twentieth century. The Coastal Cordillera has long been associated with large iron deposits, copper lode systems and the older porphyry deposits. During the last decade an improved understanding of the iron oxide-copper-gold (IOCG) association and its affiliation with porphyry systems has resulted in renewed exploration attention. Unlike many of their younger counterparts within the Cordillera Principal, porphyry systems of the Coastal Cordillera frequently contain appreciable quantities of gold.

The Candelaria IOCG deposit, located some 300km north of the Tres Cruces Project, represents a prime example of the copper-iron paragenetic association characterising the Coastal Cordillera. The reserves associated with Candelaria are reported to comprise in the order of 500Mt at 0.95% Cu, 0.22g/t Au and 3.1g/t Ag. A further example is the Andacollo porphyry deposit, owned by AUR Resources Limited, which is located 120km south of the Tres Cruces Project. The reserves associated with Andacollo copper deposit are reported to comprise 423Mt at 0.38% Cu and 0.13g/t Au. The Andacollo gold deposit, located a further 12km to the south-southwest again, is owned by Dayton Mining Company The deposit comprises low grade sub-horizontal stratabound (or manto) mineralisation, over-printed by high grade vein systems. The mine has reportedly been on 'care and maintenance' since 2000 when the remaining resource associated with Andacollo gold deposit, reported to comprise some 48Mt at 0.68g/t Au, was depleted.

#### 11.4.2 Project Geology

The Tres Cruces Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The project geology is dominated by a stacked series of andesites, andesitic agglomerates and intercalated clastic sediments. This local structure comprises a monocline with a subhorizontally disposed succession in the western and central portions of the project, progressively dipping more steeply towards the east as the eastern boundary is approached.



The andesitic succession within and surrounding the project area is intruded by Cretaceous granodiorite stocks and batholiths. Remnant Tertiary conglomerates are exposed to the immediate north and south of the property.

The andesites are traversed and in some cases offset by a complex serious of northwest to northeast trending and sub-vertical faults. Many of these faults are directly associated with mineralisation.

### 11.4.3 Deposit Types

The primary exploration model associated with the Tres Cruces Project is 'manto' style mineralisation comprising sub-horizontal, stratabound deposits (or mantos) and their sub-vertical feeder zones. While the primary target is copper, various combinations of copper, silver, barite and manganese are represented within artisanal workings scattered throughout the project area.

The manto model involves the introduction of mineralised hydrothermal solutions via steeply dipping feeder zones usually expressed as faults or breccia zones. These solutions then selectively invade and mineralise relatively porous and permeable horizons within the adjacent stratigraphic profile. Where a feeder zone successively intersects a series of permeable horizons within the stratigraphy, stacked mineralised mantos may be developed. These stacked mantos are often characterised by a vertical metal zonation.

Within the Tres Cruces Project, permeable horizons variously comprise agglomerates, lapilli tuffs and coarser clastic sediments within the andesitic pile. Metal zonation is shown with copper being dominant towards the base, progressively transitioning to barite and manganese higher in the stratigraphy.

The feeder structures are characteristically higher grade than the mantos, especially immediately below the manto horizon however the manto deposits themselves are frequently of significantly greater dimensions. The deposit size is usually a function of the size, number and frequency of feeder structures, the volume of mineralising hydrothermal fluids, and the width and permeability of the manto horizon.

Examples of more significant manto style deposits include Mantos de la Lunas, Mantos Blancos and the nearby Coca Cola mine at Talcuna.

#### 11.4.4 Mineralisation

A multitude of mineralised feeder and manto structures are exposed in artisanal workings throughout the Tres Cruces Project. These are variously mineralised with copper, copper-silver-barite, barite-manganese and manganese. The feeder structures trend between 020° and 340°, are generally steeply east dipping and can be traced for tens to hundreds of metres.

Manto style copper mineralisation is best expressed within a small excised tenement near the southern extremity of the project where mineralisation is exposed in the steep northern slopes of Colorada Creek. Mineralisation is being exploited via a small underground mining operation. Although extremely inconsistent and difficult to trace, manto copper mineralisation is reportedly up to 30m thick and dips shallowly towards the east. Copper grades are verbally reported by the mine operator to average approximately 2% however some hand-cobbing of ore is being undertaken. The copper mineralogy is dominated by chrysocolla and malachite with subordinate chalcocite.

Feeder style copper-silver-barite mineralisation is best exposed at the Sertio 1-5 Prospect (included in the project tenements), located at higher elevation within the central southern portion of the project. A series of steeply east dipping feeder zones trending 320° are developed across a broad hilltop over a 200m to 400m strike length. The prospect is centred on two main veins which are 5m and 3m wide and separated by some 10m to 15m. Numerous subordinate veins are developed between and marginal to the principal structures with the overall zone being some 20m to 30m wide. Artisanal mining is centred on two shallow pits developed along the larger of the two main veins. The principal copper minerals comprise chalcocite, chrysocolla, malachite and azurite.

The excised Rosa Elvira Prospect is also located higher in the stratigraphy within the centralsouthern portion of the project and provides a further example of manto and feeder style copper mineralisation. The prospect comprises a partially exposed and exhumed manto with associated feeder structures that cap a broad hill. A series of relatively narrow sub-vertical mineralised feeder faults, trending between 280° and 320°, appear to marginally offset remnant blocks of manto style mineralisation, creating a complex deposit. Grades are verbally reported by the mine operator to average between 1% and 2% copper, however the ore is again hand-picked before transport to the toll treatment facility. The copper mineral species are dominated by atacamite and chrysocolla.

Neither the Colorada Creek or Rosa Elvira properties referred to above represent assets of MPA and nor should they necessarily be construed as being indicative of mineralisation on the property that is the subject of this technical report.

A further unnamed copper prospect is located within the northern tenements on the eastern slope of the Colorada Creek valley. The prospect is exposed at surface as an impressive solitary high grade vein that is 1m to 2m wide and trends 340°. The surface trace along the upper slope of the valley extends over a strike length of at least 30m before being obscured by talus. It is marked by open (or collapsed) stopes, while an adit provides access to the structure from near the valley floor, some 50m below. While the deposit is described as being of manto style, there is no evidence of this at surface. Copper mineralisation is dominated by chalcocite.

### 11.5 History

No information on the ownership, exploration, resource and production history of the Tres Cruces Project has been sourced or provided.

#### 11.6 Exploration

SHM has not completed any exploration on the Tres Cruces Project and, as such, there are no results to be reported or interpreted.

### 11.7 Exploration Potential

No information is available on historic exploration within the Tres Cruces Project and no work has yet been completed by SHM. While this provides little data on which to base an assessment of the property, the project lies in a reasonably prospective setting for manto style copper mineralisation.

Numerous type examples of manto style mineralisation are developed within and adjacent to the Tres Cruces property. The area demonstrates the appropriate degree of structural preparation and the andesitic volcanic succession includes numerous horizons susceptible to manto style mineralisation.

While the potential exists to identify manto style copper mineralisation within the Tres Cruces Project, the size of any deposits is likely to be modest and the grade marginal. Although the subdued terrain on the plateau is conducive to ease of assessment, exploration for sub-horizontally disposed deposits within an area of relatively flat lying volcanics with limited topographic relief can be challenging. In view of this, only limited exploration for this style of mineralisation can be justified.

#### 11.8 Exploration Strategy

SHM has provided Coffey Mining with an exploration strategy for the Tres Cruces Project to cover an initial two year period following listing.

Initial exploration includes the drilling of 10 holes, each to a depth of 150m. Follow-up programs will be undertaken, depending on the success of initial drilling.

Coffey Mining considers that the proposed exploration strategy is generally consistent with the potential of the Tres Cruces Project.

### 11.9 Exploration Budget

150

SHM has also provided Coffey Mining with an exploration budget for the Tres Cruces Project covering the initial two year period to December 2011 as summarised in Table 11.9\_1 below.

Table 11.9_1			
Tres Cruces Project Proposed Exploration Expenditure December 2009 to December 2011			
			Item / Activity Phase 1 Phase 2 Total A\$ A\$
Mapping & Imagery	20,000	-	20,000
Airborne Geophysics	-	-	-
Ground Geophysics	-	-	-
Surface Sampling	-	-	-
Trenching	-	-	-
Scout Drilling and Assaying	-	-	-
Drilling and Assaying	20,000	80,000	100,000
Salaries and Wages	15,000	15,000	30,000
In Country Administration	12,000	12,000	24,000
Total	67,000	107,000	174,000

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

# 12 SANTA GRACIA PROJECT

### 12.1 Location, Access, Climate, Physiography and Infrastructure

#### 12.1.1 Project Location and Access

The Santa Gracia Project is centred at 29°45'S and 71°06'W in the central northern portion (Region IV) of Chile, 22km northeast of the provincial capital of La Serena. (Figure 1\_1).

The Santa Gracia Project is accessed from La Serena via 8km of sealed road along the northern margin of the Elqui River valley to the town of Islon, thence northeast via a formed gravel road for a further 16km following Santa Gracia Creek, a tributary of the Elqui. The project area is accessed by travelling a further 6km to the northwest along an unformed subsidiary gravel road to the headwaters of Santa Gracia Creek.

#### 12.1.2 Climate and Physiography

The Santa Gracia Project experiences a Mediterranean to semi-arid continental climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 75mm, while average maximum temperatures range from -2°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the project's relative proximity the sea.

The Santa Gracia Project is situated within the Coastal Cordillera of north-central Chile at elevations ranging from 450m to 600m above sea level.

The vegetation comprises low shrubs and cacti, interspersed with perennial herbs. The land use is confined to limited livestock grazing, principally goats.

#### 12.1.3 Local Resources and Infrastructure

The Santa Gracia Project is reasonably well located with respect to infrastructure, being only 22km from the regional capital of La Serena and the neighbouring major port city of Coquimbo. The project is well serviced by sealed and formed gravel roads, and grid power is available within 13km of the property. Groundwater is understood to be locally available and surface supplies can be accessed from the Elqui River, approximately 30km to the south. All commercial goods, services and laboratories are readily available in nearby La Serena.

#### 12.2 Tenure

The Santa Gracia Project (including the Chacay tenements) comprises four Exploitation Applications, two Exploitation Permits, seven Exploration Applications and 41 granted Exploration Concessions covering an aggregate area of 12,150ha as shown in Table 12.2\_1 below. The tenements are held 100% by Minera Panamericana SCM.

The Santa Gracia Project tenement boundaries are defined by grid references and block dimensions.

Table 12.2_1		
Santa Gra	cia Project	
Tenement Schedule		
Tenements	Area (ha)	
Santa Gracia 12 - 1/300	300	
Coipa 3 – 1/30	300	
Coipa 4 – 1/20	200	
Coipa 6 – 1/30	300	
Tania 1	300	
Tania 2	300	
Tania 3	200	
Tania 4	100	
Cuyana 1 AL 5	25	
San Sebastian 1 AL 5	25	
Las Perdices1	300	
Las Perdices 2	300	
Las Perdices 3	300	
Las Perdices 4	300	
Las Perdices 5	200	
Las Perdices 6	300	
Las Perdices 7	300	
Chacay 1	300	
Chacay 2	300	
Chacay 3	300	
Chacay 4	100	
Chacay 5	200	
Chacay 6	200	
Chacay 7	100	
Chacay 8	300	
Chacay 9	100	
Chacay 10	100	
Chacay 11	200	
Chacay 12	100	
Chacay 13	200	
Chacay 14	300	
Chacay 15	300	
Chacay 17	100	
Chacay 17	100	
Chacay 10	200	
Chacay 20	300	
Chacay 20	300	
Chacay 22	200	
Chacay 23	200	
Chacay 24	200	
Chacay 25	200	
Chacay 26	200	
Chacay 27	200	
Chacay 28	200	
Chacay 29	300	
Chacay 30	300	
Chacay 31	300	
Chacay 32	200	
Chacay 33	200	
Chacay34	300	
Chacay 35	300	
Chacay 36	300	
Chacay 37	100	

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Santa Gracia Project tenements, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are, or will prove to be, lawfully accessible for evaluation. The Exploitation Permits are defined by corner pillars established on the ground by licensed surveyors, while the Exploration Permit boundaries are defined by universal grid co-ordinates and tenement dimensions.

#### 12.3 Agreements and Encumbrances

The Santa Gracia Project is held 100% by Minera Panamericana SCM. It is understood that Southern Hemisphere Mining Limited has a priority agreement to acquire a 100% interest in the project if it so chooses.

It is understood that no private royalties or agreements are applicable to the Santa Gracia Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of additional Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide comment on legal matters pertaining to the Santa Gracia Project and we have relied entirely on information provided by SHM.

#### 12.4 Geological Setting

#### 12.4.1 Regional Setting

The Santa Gracia Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The Santa Gracia Project is located within a well-developed north-northwest trending structural corridor that extends for some 150km from south of Andacollo to Los Choros Creek in the north. The mineralised corridor includes the Andacollo copper and gold deposits, and the El Arrayan, Gavilanes, Chinchillon and La Higuera prospects.

The Coastal Cordillera was largely ignored by modern exploration, in favour of the Cordillera Principal, where major porphyry copper deposits have been discovered since the mid twentieth century. The Coastal Cordillera has long been associated with large iron deposits, copper lode systems and the older porphyry deposits. During the last decade an improved understanding of the iron oxide-copper-gold (IOCG) association and its affiliation with porphyry systems has resulted in renewed exploration attention. Unlike many of their younger counterparts within the Cordillera Principal, porphyry systems of the Coastal Cordillera frequently contain appreciable quantities of gold.

The Candelaria IOCG deposit, located some 380km north of the Santa Gracia Project, represents a prime example of the copper-iron paragenetic association characterising the Coastal Cordillera. The reserves associated with Candelaria are reported to comprise in the order of 500Mt at 0.95% Cu, 0.22g/t Au and 3.1g/t Ag. A further example is the Andacollo porphyry deposit, owned by AUR Resources Limited, which is located only 30km south of the Santa Gracia Project in a similar setting. The reserves associated with Andacollo copper deposit are reported to comprise 423Mt at 0.38% Cu and 0.13g/t Au. The Andacollo gold deposit, located a further 12km to the south-southwest again, is owned by Dayton Mining Company The deposit comprises low grade sub-horizontal stratabound (or manto) mineralisation, over-printed by high grade vein systems. The mine has reportedly been on 'care and maintenance' since 2000 when the remaining resource associated with Andacollo gold deposit are reported comprise some 48Mt at 0.68g/t Au.

### 12.4.2 Project Geology

The Santa Gracia Project is centred on the Cretaceous Santa Gracia Granite batholith, which lies along the eastern margin of a considerably larger granite massive of similar age that extends westward to the Pacific coast.

The Santa Gracia granite is intruded by the Los Loros Porphyry, which is exposed as two discontinuous elongate lobes that extend south and southeast through the axis of the project (Figure 12.4.2\_1). The northern lobe of the Los Loros Porphyry lies within the project area; however, with the exception of two small isolated tenements, the project area largely surrounds the larger southern lobe.



The Los Loros Porphyry is flanked by a halo of diorite, granodiorite and minor gabbro. These appear to pre-date the porphyry but comprise an integral part of the intrusive complex.

The entire complex intrudes and contact metamorphoses andesites, agglomerates and clastic sediments of the Marquesa Creek and Arqueros formations through the central and northern portions of the project area.

#### 12.4.3 Deposit Types

The primary exploration model associated with the Santa Gracia Project is a porphyry copper deposit. Given the immediate proximity of the Los Loros porphyry molybdenum deposit, it is likely that mineralisation may be accompanied by molybdenum. The presence of porphyry style alteration and high level intrusives of appropriate composition support the potential for a discovery of this style.

The secondary exploration model associated with the Santa Gracia and neighbouring Chacay properties involves parallel, high grade mesothermal gold lodes developed towards the northern end of the property. These could be developed parallel to and overlying the shallowly north plunging extent of the Los Loros porphyry.

### 12.4.4 Mineralisation

#### Los Loros Copper-Molybdenum Prospect

The Los Loros intrusive hosts a known porphyry Mo-Cu deposit of the same name, which is largely (but marginally) excised from the southern project tenements.

The deposit is centred on a zone of disseminated sulphides some 4km long and 1.2km wide. Hydrothermal alteration over much of this zone is weak but becomes more intense along the central ridge that forms the axis of the intrusive over an area some 1,100m by 300m. Potassic alteration dominates, however two areas of sericitic alteration are superimposed towards the southern end of the zone. Outwards, the potassic alteration grades into a propylitic assemblage or unaltered rock.

Mineralisation is dominated by a K-feldspar-molybdenite-magnetite assemblage, associated with a 1,100m long by 300m wide zone of more intense alteration. Molybdenite accompanies quartz and quartz feldspar veinlets or occurs alone in veinlets and as weakly disseminated flakes. Chalcopyrite accompanies pyrite but is subordinate to it and magnetite occurs as veinlets and irregular patches.

A relative absence of sericitic alteration and brecciation suggest that the Los Loros deposit represents the root zone of a porphyry system. This is supported by the relatively high molybdenum to copper ratio, which is commonly evident in the lowermost portions of economic porphyry copper deposits.

### La Cuyana Copper Prospect

The La Cuyana copper prospect is located on the lower south-western flank of the ridge comprising the Los Loros Porphyry. The prospect has been mined by piquineros in open pit and underground operations over a 150m strike length.

Mineralisation is centred on a broad, undulose, low angle fault zone located at or proximal to the contact between the Santa Gracia Granite and the porphyry. The fault zone is characterised by broad zones of slickensided gouge containing abundant secondary copper minerals dominated by chalcocite and chrysocolla. Mineralisation is also present in the footwall and to a lesser extent in the hangingwall of the fault zone where it principally occurs along fractures within the brecciated host.

### San Sebastian Copper Prospect

The San Sebastian copper prospect is located within a small isolated tenement some 30ha in area, centrally located within the project. The prospect is hosted within a monzodiorite stock (possibly equivalent to the Los Loros Porphyry) within the Santa Gracia Granite, and lies some 2km north-northwest of the Los Loros molybdenum-copper deposit, along the axis of the same ridgeline.

Copper mineralisation is associated with a series of sub-parallel structures trending 310° within a 70m wide corridor. Moderate pervasive argillic and peripheral propylitic alteration is evident, increasing in intensity towards mineralised structures. The principal workings are evident over a 50m strike length and a width of 12m. Secondary copper minerals dominated by malachite and chrysocolla are evident along structures, with weakly disseminated mineralisation persisting into the wallrocks.

### Chacay Gold Prospect

156

Gold mineralisation is developed within an extensive series of sub-parallel lode structures within the northern extremity of the Santa Gracia Project, extending into the adjoining Chacay Project, also held by Minera Panamericana SCM.

The principal zones of mineralisation comprise a series of sub-vertical breccia zones ranging from 0.5m to 2m wide. Individually, these extend for up to several hundred metres on a 340° trend and are separated by distances of 50m to 200m. These principal structures have been consistently worked by piquineros via shallow open stopes and shafts. Adjacent intermittent minor workings attest to the presence of numerous narrow parallel subsidiary lodes and veins between the principal structures.

The breccia zones comprise dark, partially milled granitoid fragments set in an annealed, paler porphyritic matrix of Santa Gracia Granite. These zones have subsequently been re brecciated and gold mineralisation is associated with a quartz-carbonate-pyrite vein assemblage.

### 12.5 History

#### 12.5.1 Ownership History

No information on the ownership history has been identified by or made available to Coffey Mining.

However, it is understood that several companies and agencies have held portions of the project area. These entities include the United Nations, Minera San Geronimo and Anglo American.

#### 12.5.2 Exploration History

In 1970 and 1971, the United Nations is understood to have completed soil sampling and limited drilling over the Los Loros porphyry molybdenum deposit, which is included in a small tenement excised from the central southern portion of the Santa Gracia Project.

The United Nations program also assessed the nearby San Sebastian Prospect, now comprising part of the Santa Gracia Project. Sampling indicated grades of 0.4% to 0.5% Cu associated with a regional fault within the Santa Gracia granite however the prospect was considered too small to be of interest.

In 2004, Minera San Geronimo completed 16 trenches and seven rotary air blast (RAB) drillholes at the San Sebastian Prospect, reportedly defining a secondary copper resource in two separate lenses.

Anglo American is also understood to have completed a further four diamond drillholes into the Los Loros porphyry in late 2007 and early 2008.

#### 12.5.3 Resource History

An unclassified secondary copper resource was reportedly defined by Minera San Geronimo at the San Sebastian Prospect in 2004. This estimate cannot be verified in accordance with international resource classification guidelines.

No other Mineral Resources are known to have been quantified within the Santa Gracia Project.

### 12.5.4 **Production History**

Limited piquinero production of secondary copper mineralisation is evident from the San Sebastian, Los Loros and La Cuyana prospects, while gold production is evident from a serious of narrow vein and breccia zones towards the northern end of the Santa Gracia property.

Based on excavations, it is possible that limited trial production of secondary copper mineralisation was undertaken at the San Sebastian Prospect by Minera San Geronimo.

### 12.6 Exploration

SHM has completed an initial mobile metal ion (MMI) soil sampling program, primarily to identify potential extensions and repetitions of the Los Loros porphyry Mo-Cu deposit and the Chacay gold prospects.

MMI sampling was completed on a nominal 400m by 400m offset grid pattern, with sample locations recorded using a GPS. Sampling was conducted over a staggered area some 6km by 2km and undertaken by SHM personnel (in particular Dr Russel Birrell, who is the original developer of the MMI sampling and analytical technique. Unscreened samples of 120g weight were collected at 7cm to 20cm depth. One in 25 samples was duplicated in the field and a standard sample was inserted into each batch of 50.

A total of 83 samples were submitted to ALS laboratories in Brisbane for leaching via the MMI-M partial extraction technique. Samples were leached for 24 hours and the proprietary leachant assayed for Cu, Mo, Nd, Rb, Ag, Pb, As, Co, Au, Ag, Ce, Mg, Fe, La, Y, Se, Zn and Cd.

The MMI results for each element, expressed as parts per billion (ppb) were evaluated to determine the local background response (average of lowest quartile). The response ratio (assay value divided by the background value) was then determined and plotted for each element, and element groupings indicative of porphyry mineralisation (Porphyry Model Factors – PMF) were also multiplied and plotted as PMF scores.

A review of check and duplicate sample data confirmed that the MMI results reported by ALS were within expected ranges.

The elemental (Cu and Mo) and PMF-score MMI data clearly indicate the excised Los Loros porphyry deposit and identify a second anomaly of similar size and amplitude located immediately northwest of the San Sebastian Prospect (Figure 12.6\_1). This anomaly partly lies within the Minera Panamericana SCM tenements. The signature is characterised by strong coincident copper and molybdenum values, with the gold results being considerably more subdued. The anomaly intensities are considered to be equivalent or greater than those associated with similar porphyry mineralisation elsewhere in Chile.

The MMI gold values also clearly identify the Chacay Prospect in the northern portion of the tenement block.

SHM has not completed any other significant exploration and, as such, there are no other results to be reported or interpreted.



### 12.7 Exploration Potential

MMI soil geochemistry completed at the Santa Gracia Project identified strong coincident copper and molybdenum anomalies (and PMF-score anomalies). These clearly identify the excised Los Loros porphyry deposit along with a second anomaly of similar size and amplitude located immediately northwest of the San Sebastian Prospect. This second anomaly is partially situated with the Minera Panamericana SCM tenements. The intensity of the second anomaly is considered equivalent to (or greater than) that of porphyry occurrences elsewhere in Chile, readily justifying further exploration. The data density of MMI sampling is considered adequate and the results are considered reliable.

Further exploration is also justified on the breccia lodes comprising the Chacay gold prospect in the northern portion of the tenement block. Whilst the principal mineralised lodes appear to be narrow and steeply dipping, there is some potential to identify broader zones amenable to open pit extraction comprising sheeted veining peripheral to or between the principal lodes.

# 12.8 Exploration Strategy

SHM has provided Coffey Mining with an exploration strategy for the Santa Gracia Project to cover an initial two year period following listing.

The MMI survey of the Santa Gracia Project will be extended to cover the entire tenement holding. This will require the collection of approximately 500 samples. Results of this sampling program, together with those already obtained, will be used to generate and prioritise drilling targets.

An initial drilling program of 10 holes to a depth of 200m each is envisaged. Targets would include the known mineralisation on the San Sebastian and Cuyana tenements, plus new targets identified from soil geochemistry.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Santa Gracia Project.

### 12.9 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Santa Gracia Project covering the initial two year period to December 2011 as summarised in Table 12.9\_1 below.

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

Table 12.9_1			
Santa Gracia Project			
Proposed Exploration Expenditure December 2009 to December 2011			
Item / Activity	Phase 1 A\$	Phase 2 A\$	Total A\$
Mapping & Imagery	20,000	-	20,000
Airborne Geophysics	-	-	-
Ground Geophysics	-	-	-
Surface Sampling	-	-	-
Trenching	-	-	-
Scout Drilling and Assaying	-	-	-
Drilling and Assaying	50,000	200,000	250,000
Salaries and Wages	20,000	20,000	40,000
In Country Administration	29,000	29,000	58,000
Total	119,000	249,000	368,000

# 13 CARBON PROJECT

### 13.1 Location, Access, Climate, Physiography and Infrastructure

#### 13.1.1 Project Location and Access

The Carbon Project is centred at 7618000mS and 482000mE in the northern portion (Region II) of Chile, 270km northeast of the port city of Antofagasta. (Figure 1\_1).

The Carbon Project is accessed from Antofagasta by travelling north on the Pan American Highway to the settlement of Quillagua, thence 20km east-northeast on a formed gravel road to the main north-south powerline, thence a further 20km northeast along poorly defined tracks and creek beds.

#### 13.1.2 Climate and Physiography

The Carbon Project is located in the middle of the Atacama Desert (the driest place on earth), experiencing an extremely arid continental climatic regime, characterised by hot dry summers and cool dry winters. The annual average precipitation is essentially nil, with limited rainfall only occurring every 20 to 30 years. Average maximum temperatures range from 12°C in winter to 34°C in summer. The temperature variation is characterised by extreme diurnal ranges.

The Carbon Project is situated in the Atacama Desert at an altitude of between 1,600m and 1,800m. The project area comprises a vast outwash plain or pediment, located on the western margin of the Sierra Moreno, dissected by dry creeks that assist in providing vehicle access.

No vegetation exists, whatsoever. The land is totally uninhabited and serves no agricultural purpose.

#### 13.1.3 Local Resources and Infrastructure

The Carbon Project is reasonably well located with respect to infrastructure, being only 40km from the small Amerindian settlement of Quillagua, which is located on the Rio Loa, the Pan American Highway and the adjacent railway. The railway runs to the port city of Iquique, 170km to the northwest of the project area, and south to Antofagasta. The main north-south power transmission line transects the expansive Rio Loa valley 20km to the west of the project area.

The closest port to the project is at Tocopilla, 120km to the southwest. Tocopilla is connected by rail to the main line between Iquique and Antofagasta. The nearest airport is Diego Aracena International, 35km south of Iquique.

The nearest source of surface water is the Rio Loa at Quillagua, located 40km to the southwest of the project area.

### 13.2 Tenure

The Carbon Project comprises nine Exploration Permit Applications covering an aggregate area of 2,700ha as shown in Table 13.2\_1 below. The tenements are held 100% by Minera América del Sur SCM.

Table 13.2_1 Carbon Project Tenement Schedule	
Tenements	Area (ha)
Carboneras 10	300
Carboneras 11	300
Carboneras 12	300
Carboneras 13	300
Carboneras 14	300
Carboneras 15	300
Carboneras 16	300
Carboneras 17	300
Carboneras 18	300

As all tenements are applications only, no expiry dates have yet been established.

The Carbon Project tenement boundaries are defined by grid co-ordinates and tenement dimensions.

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Carbon Project tenements, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are lawfully accessible for evaluation.

### 13.3 Agreements and Encumbrances

The Carbon Project is held 100% by Minera América Del Sur SCM. It is understood that SHM has a priority agreement to acquire a 100% interest in the project if it so chooses.

It is understood that no private royalties or agreements are applicable to the Carbon Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide significant comment on legal matters pertaining to the Carbon Project and we have relied entirely on information provided by SHM.

### 13.4 Geological Setting

### 13.4.1 Regional Setting

The Carbon Project lies along the western margin of the Upper Tertiary Domeyko Precordillera, which extends north-south for several hundred kilometres through northern Chile.

The Carbon Project lies on a north-south Palaeocene to Eocene mineralised trend that hosts several major porphyry copper deposits including Spence and Cerro Colorado (BHP Billiton), Mocha (Codelco), Sierra Gorda (Quadra Mining), and El Tesoro and Esperanza (Anaconda).

### 13.4.2 Project Geology

The geology of the Carbon Project is completely obscured by cover sequences, however drilling suggests that the local basement comprises a north trending succession of flat to gently west dipping conglomerates (fanglomerates), mudstones and shales, presumably of the Lower Miocene to Upper Pliocene El Loa Formation.

The majority of drillholes encountered a monotonous sequence of polymictic conglomerates, in the case of Hole RL-01, capped by younger rhyolitic ignimbrite. In the case of hole RLS-01, carbonaceous shale was encountered below the conglomerates, directly overlying a porphyritic andesite basement. Drilling indicates that the depth to basement, possibly representing magmatic successions of the Sierra de Moreno shallows rapidly towards the east, while to the west drilling encountered only conglomerate from top to bottom.

This piedmont succession is derived from exposed Mesozoic sediments and lower Tertiary volcanics comprising the axis of the Sierra de Moreno to the east, and appears to have been deposited along the eastern margin of a broad fault-bounded graben formed as a result of Tertiary rifting.

The El Loa Formation sediments are unconformably overlain (and largely obscured) by more recent, shallow west-dipping outwash sediments (conglomerates and sandstones) and loess. The outwash deposits are partially indurated by secondary carbonate and anhydrite.

### 13.4.3 Deposit Types

The primary exploration target is for coal, presumably lignite, associated with carbonaceous shales developed towards the base of the El Loa Formation.

The secondary target is porphyry copper systems lying below the El Loa Formation, associated with the intersection of two major regional lineaments, one of which is consistent with the eastern margin of the Rio Loa graben.

Tertiary targets include the potential for secondary uranium (and possibly gold) deposits precipitated along a redox front associated with carbonaceous shales at the base of the El Loa Formation.

#### 13.4.4 Mineralisation

One drillhole (RLS-01), completed to assess the Quillagua TEM geophysical anomaly, encountered 42m of carbonaceous shale from a down-hole depth of 142m at the base of the postulated EI Loa Formation, directly overlying porphyritic andesite basement. The carbonaceous interval included occasional zones of pyrite development (up to 5% by volume), occurring as euhedral disseminations and conformable veinlets. While the carbonaceous shale is presumed to explain the strong TEM conductor, there is no reference to the presence of coal of any description.

The drill logs refer to weak sporadic propylitic and argillic alteration, with rare associated quartz veining, within the andesites. There is no reference to copper mineralisation or significant indication of porphyry style mineralisation.

#### 13.5 History

#### 13.5.1 Ownership History

The project area was held by AUR Resources Chile Limitada in 1999 and was then referred to as the Quillagua Project.

No records were identified to suggest the area was held by other companies.

#### 13.5.2 Exploration History

The Carbon project area was selected by AUR following a detailed structural analysis of the northern porphyry belt of Chile in the search for significant new copper occurrences.

Due to the extensive cover sequences, AUR commissioned a transient electro-magnetic (TEM) survey of the project area on a staggered 2km offset grid pattern in order to determine the depth to basement and identify any basement conductors. The TEM survey delineated a prominent 3km wide (east-west) by 2km long (north-south) conductor at a depth of approximately 180m as shown in Figure 13.5.2\_1 below. This target was thought to represent the upper supergene zone of a significant porphyry copper system.

AUR completed a number of holes on the project, however the data is extremely confusing and incomplete.

#### 13.6 Exploration

SHM has not completed any exploration and, as such, there are no results to be reported or interpreted.



### 13.7 Exploration Potential

166

The carbonaceous shale horizon encountered in drillhole RL-01 would appear to satisfactorily explain the significant TEM geophysical conductor. While SHM consider that the project has potential for coal, there is no reference to any form of coal in drill logs.

Notwithstanding this, the geophysical anomaly was originally modelled at a depth of approximately 180m below surface, which was broadly confirmed in drilling at 142m downhole depth. This depth would exclude open pit mining of coal and only a well-developed seam of metallurgical coal (anthracite) would justify underground development. This is considered highly improbable and the project is considered to have extremely limited potential for coal deposits of any form.

The conceptual porphyry copper potential of the Carbon Project on the basis of the AUR structural study is considered to be reasonable, however there is no reference to any copper mineralisation and the alteration recorded in drilling appears to be weak and sporadic. Any conceptual porphyry copper potential is therefore considered to be intangible and likely to lie at considerable depth.

While the carbonaceous shale horizon represents a potential reducing environment, conducive to the development of secondary uranium (and/or gold) accumulations, there is no evidence that uranium or gold is present within the project area. The potential is therefore considered to be equally intangible and extremely limited.

### 13.8 Exploration Strategy

SHM has provided Coffey Mining with an exploration strategy for the Carbon Project to cover an initial one year period following listing.

Initial exploration will involve a MMI surface sampling program in conjunction with a more detailed search for the results of previous exploration activities. This will be followed up with an initial drilling program of approximately five holes, each of 200m depth.

Given the limited likely economic potential of the Carbon Project Coffey Mining considers that there is adequate justification for completing the proposed initial Phase 1 MMI geochemical program, however the results of the Phase 1 program need to be carefully evaluated before any decision is made to proceed with the proposed Phase 2 drilling strategy.

#### 13.9 Exploration Budget

SHM has also provided Coffey Mining with an exploration budget for the Carbon Project covering the initial two year period to December 2011 as summarised in Table 13.9\_1 below.

	Table 13.9_1	l	
Proposed Exploration Expenditure December 2009 to December 2011			
Item / Activity	Phase 1 A\$	Phase 2 A\$	Total A\$
Mapping & imagery	20,000	-	20,000
Airborne Geophysics	-	-	-
Ground Geophysics	-	-	-
Surface Sampling	-	-	-
Trenching	-	-	-
Scout Drilling and Assaying	-	-	-
Drilling and Assaying	-	-	-
Salaries and Wages	-	-	-
In Country Administration	3,000	-	3,000
Total	23,000	0	23,000

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives, subject to comments stated above, and meet statutory expenditure requirements.

# 14 ANGEL PROJECT

### 14.1 Location, Access, Climate, Physiography and Infrastructure

#### 14.1.1 Project Location and Access

The Angel Project is centred at 6,674,075mS and 279,100mE in the central northern portion of Chile (Region IV), some 20km south of the regional capital of La Serena and proximal to the port of Coquimbo. (Figure 1\_1).

The Angel Project lies immediately west of the sealed main Coquimbo-Ovalle road, some 20km south of La Serena, and is accessed via some 4km of formed gravel road which traverses the property.

#### 14.1.2 Climate and Physiography

The Angel Project experiences a Mediterranean to semi-arid continental climatic regime, characterised by hot dry summers and cool damp winters. The annual average rainfall is 75mm, while average maximum temperatures range from -2°C in winter to 32°C in summer. Temperatures and precipitation are modified to some extent by the project's proximity the sea, with the project situated only 7km from the coast.

The Angel Project is situated within the Coastal Cordillera of north-central Chile at an average elevation of 120m above sea level.

The vegetation comprises low shrubs and cacti, interspersed with perennial herbs. The land use is confined to livestock grazing, principally goats.

#### 14.1.3 Local Resources and Infrastructure

The Angel Project is well located with respect to infrastructure, being only 20km south of the regional capital of La Serena and immediately south of the neighbouring major port city of Coquimbo.

The project is well serviced by sealed and formed gravel roads, and grid power is available within 2km of the property. The main north-south rail line also traverses the north-eastern corner of the property. Considerable quantities of groundwater are understood to be locally available. All commercial goods, services and laboratories are readily available in nearby La Serena.

### 14.2 Tenure

The Angel Project comprises a three granted Exploration Permits covering an aggregate area of 800ha as shown in Table 14.2\_1 below. The tenement is held 100% by Minera Panamericana SCM.

The Angel Project tenement boundaries are defined by universal grid references and tenement dimensions.

Table 14.2_1			
Angel Project			
Tenement Schedule			
Tenements	Area (ha)		
Angel 1	300		
Angel 2	300		
Angel 3	200		

Coffey Mining has not independently verified, nor is it qualified to independently verify, the legal status of the Angel Project tenement, and has relied on information provided by SHM. In preparing this report Coffey Mining has assumed that the tenements are lawfully accessible for evaluation.

#### 14.3 Agreements and Encumbrances

The Angel Project is held 100% by Minera Panamericana SCM.

It is understood that no private royalties or agreements are applicable to the Angel Project tenements. Similarly, Coffey Mining is not aware, nor have we been made aware, of any encumbrances relating to the future granting of Exploitation Permits within the existing project area.

Coffey Mining is not qualified to provide significant comment on legal matters pertaining to the Angel Project and we have relied entirely on information provided by SHM.

#### 14.4 Geological Setting

#### 14.4.1 Regional Setting

The Angel Project lies within the Coastal Cordillera of north-central Chile, comprising early Cretaceous shallow marine sediments overlain by extensive Cretaceous andesitic volcanics and their derivatives. This succession has been intruded by coeval diorite to granodiorite batholiths, along with more prospective late Cretaceous stocks and dykes of dacite to tonalite composition.

The Angel Project is located within a well-developed north-northwest trending structural corridor that extends for some 150km from south of Andacollo to Los Choros Creek in the north, incorporating the Andacollo copper and gold deposits, and the El Arrayan, Gavilanes, Chinchillon and La Higuera prospects.

The Coastal Cordillera was largely ignored by modern exploration, in favour of the Cordillera Principal, where major porphyry copper deposits have been discovered since the mid twentieth century. The Coastal Cordillera has long been associated with large iron deposits, copper lode systems and the older porphyry deposits, however during the last decade an improved understanding of the iron oxide-copper-gold (IOCG) association and its affiliation with porphyry systems has resulted in renewed exploration attention. Unlike many of their younger counterparts within the Cordillera Principal, porphyry systems of the Coastal Cordillera frequently contain appreciable quantities of gold.

The Candelaria porphyry deposit, located some 400km north of the Angel Project, represents a prime example of the copper-iron paragenetic association characterising the Coastal Cordillera. The reserves associated with Candelaria are reported to comprise in the order of 500Mt at 0.95% Cu, 0.22g/t Au and 3.1g/t Ag. A further example is the Andacollo porphyry deposit, owned by AUR Resources Limited, which is located only 30km southwest of the Angel Project in a similar setting. The reserves associated with Andacollo copper deposit are reported to comprise 423Mt at 0.38% Cu and 0.13g/t Au. The Andacollo gold deposit, located a further 12km to the south-southwest again, is owned by Dayton Mining Company The deposit comprises low grade sub-horizontal stratabound (or manto) mineralisation, over-printed by high grade vein systems. The mine has reportedly been on 'care and maintenance' since 2000 when the remaining resource associated with Andacollo gold deposit are reported comprise some 48Mt at 0.68g/t Au.

### 14.4.2 Project Geology

The relatively small project area is largely flat lying and veneered by recent alluvial deposits. Areas of basement are exposed along the north-western and southern margins of the project, rising to form steep hills and ranges surrounding the tenement block.

The exposed geology is dominated by Quaternary marine sediments (principally conglomerates), through which windows of intercalated Cretaceous basalt flows and metamorphic rocks are evident to the northwest and south respectively.

The Cretaceous stratigraphy is locally intruded by small stocks of granodiorite, monzonite, diorite and tonalite composition, as shown in Figure 14.4.2\_1 below.

#### 14.4.3 Deposit Types

The primary exploration model associated with the Angel Project is a porphyry copper-gold deposit of high iron affinity, essentially identical to that at the nearby Andacollo copper deposit. While only limited mineralisation of this style has been identified to date, the extent and intensity of alteration and the presence of high level intrusives of appropriate composition support the potential for a discovery of this style.

### 14.4.4 Mineralisation

Two styles of mineralisation are evident within the Angel Project.

An isolated piquinero shaft is developed on a narrow fault within Cretaceous basalts, some 200m inside the north-western property boundary. A 10cm wide zone of secondary copper mineralisation, comprising chalcocite and chrysocolla is developed along the fault trace, which strikes 150° and dips 80° to the west. Limited ore production was processed via an adjacent vat leach operation. The second and potentially more significant style of mineralisation comprises a copper-gold association hosted within a highly altered intrusive, exposed over an area some 50m in diameter, adjacent to a broad alluvial plain in the central part of the property. This is referred to as the Angel Prospect. The full extent of the mineralised intrusive is not clear, as its margins are veneered by alluvium and granite scree.



The composition of the mineralised intrusive is unclear due to extensive argillic alteration. The rock is extensively silicified, pyritised and sericitised, with pervasive to banded zones of secondary silica, limonite and gypsum characterising the more intensively leached central portion of the exposure. Peripheral areas of the exposure are less intensely leached, with preserved disseminated pyrite comprising between 5% and 10% of the rock.

Two small pits are developed on gossanous zones near the centre, from which rock chip samples up to 3g/t Au are reported. Sampling in the general vicinity is reported to have averaged 0.7g/t Au and 0.3% Cu, however these results remain unconfirmed.

### 14.5 History

No information on the ownership, exploration resource and production history has been identified by or made available to Coffey Mining.

### 14.6 Exploration

SHM has completed an initial mobile metal ion (MMI) soil sampling program, based on the possibility that mineralisation associated with the Angel Prospect represents the margin of a leached porphyry copper-gold system that may extend beneath the adjacent alluvial cover.

MMI sampling was completed on a nominal 400m by 400m offset grid pattern, with sample locations recorded using a GPS. Sampling was conducted over an area some 3km by 1.5km and undertaken by MPA personnel (in particular, Dr Russel Birrell, who is the original developer of the MMI sampling and analytical technique). Unscreened samples of 120g weight were collected at 7cm to 20cm depth. One in 25 samples was duplicated in the field and a standard sample was inserted into each batch of 50.

A total of 51 samples were submitted to ALS laboratories in Brisbane for leaching via the MMI-M partial extraction technique. Samples were leached for 24 hours and the leachant assayed for Cu, Mo, Nd, Rb, Ag, Pb, As, Co, Au, Ag, Ce, Mg, Fe, La, Y, Se, Zn and Cd.

The MMI results for each element, expressed as parts per billion (ppb), were evaluated to determine the local background response (average of lowest quartile). The response ratio (assay value divided by the background value) was then determined and plotted for each element, and element groupings indicative of porphyry mineralisation (Porphyry Model Factors – PMF) were also multiplied and plotted as PMF scores.

A review of check and duplicate sample data confirmed that the MMI results reported by ALS were within expected ranges.

The broad sampling pattern failed to specifically identify the known mineralisation, and the principal porphyry elements of interest generally returned a subdued response. The plotted results did not identify the likely presence of Cu-Au mineralisation extending from the Angel Prospect beneath the alluvial plain. No additional immediate work was recommended.

Although broad scale MMI soil geochemistry completed at the Angel Project failed to identify any cohesive response indicative of porphyry style mineralisation, it is considered that the inconsistency and relative immaturity of the transported soil cover (alluvium) may still be masking a bedrock response.

MPA has not completed any other significant exploration and, as such, there are no other results to be reported or interpreted.

### 14.7 Exploration Potential

The Andacollo porphyry copper deposit, owned by AUR Resources Inc, is located only 12km south of the Angel Project in a similar setting.

The broad sampling pattern failed to specifically identify the known mineralisation, and the principal porphyry elements of interest generally returned a subdued response. The plotted results did not identify the likely presence of Cu-Au mineralisation extending from the Angel Prospect beneath the alluvial plain. No additional immediate work was recommended.

Although broad scale MMI soil geochemistry completed at the Angel Project failed to identify any cohesive response indicative of porphyry style mineralisation, it is considered that the inconsistency and relative immaturity of the transported soil cover (alluvium) may still be masking a bedrock response.

Despite the apparent negative results returned from initial MMI soil sampling, the style, nature and setting of mineralisation exposed at the Angel Prospect itself is considered to readily justify a limited initial diamond drilling program. Such a program could be completed rapidly and at relatively limited cost. This approach is particularly justifiable given the projects proximity to power, water, road access, rail, port facilities and other services available in nearby La Serena and Coquimbo.

#### 14.8 Exploration Strategy

The SHM exploration strategy is to examine the results of the MMI survey carried out to date. Provided that these results are determined to appropriately reflect the primary geochemical response, the area covered by the existing MMI survey will be extended and drill targets identified. Drilling of these targets would then be undertaken.

Coffey Mining considers that the proposed exploration strategy is consistent with the potential of the Angel Project.

#### 14.9 Exploration Budget

SHM has provided Coffey Mining with an exploration budget for the Angel Project covering the initial two year period to December 2011 as summarised in Table 14.9\_1 below.

Coffey Mining considers that the proposed exploration budget is adequate to achieve the stated objectives and meet statutory expenditure requirements.

	Table 14.9_1		
Angel Project			
Proposed Exploration Expenditure December 2009 to December 2011			
Item / Activity	Phase 1 A\$	Phase 2 A\$	Total A\$
Mapping & Imagery	20,000	-	20,000
Airborne Geophysics	-	-	-
Ground Geophysics	-	-	-
Surface Sampling	-	-	-
Trenching	-	15,000	15,000
Scout Drilling and Assaying	-	-	-
Drilling and Assaying	-	-	-
Salaries and Wages	-	-	-
In Country Administration	2,500	2,500	5,000
Total	22,500	17,500	40,000

### 15 PRINCIPAL SOURCES OF INFORMATION

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# 16 GLOSSARY OF TECHNICAL TERMS

%	Percent
Al <sub>2</sub> O <sub>3</sub>	Chemical formula for aluminium oxide.
anomaly	An area where results are higher (or sometimes lower) than expected.
anticline	A convex fold-like structure.
axial plane	The geometric plane that intersects the crest or trough of a fold, about which the limbs are more or less symmetrically arranged.
basement	Crust of the earth underlying younger sedimentary deposits.
BIF	Banded iron-formation - an iron-rich (+/- 30% Fe) and siliceous (+/- 50% SiO2) sedimentary rock. Host rock for the iron ores
breccia	Rock comprising angular fragments enclosed in a matrix, usually the result of persistent fracturing by tectonic or hydraulic means.
Bt	Billion metric tonnes (1,000,000,000).
chert	Fine grained sedimentary rock composed of cryptocrystalline silica.
competent	Refers to a rock, which tends to deform in a brittle, rather than ductile manner when stress is applied.
composite	A statistical technique wherein all sampled intervals are given the same length or alternatively, combining more than one sample interval or result to provide an average.
concentrate	In processing, the product which contains a higher concentration.
Cutoff grade	The grade used in grade tonnage reporting wherein only blocks which return a value above the particular cutoff grade are reported.
deleterious impurities	Elements in concentrates for which a charge is made because the cost of separation during smelting exceeds their sale value.
diamond drilling	Mineral exploration hole completed using a diamond set or diamond impregnated drill bit for retrieving a cylindrical core of rock.
dilution	The proportion of material which is planned or inadvertently included during mining operations, and which is generally of a significantly lower grade than the ore zone of interest.
disseminated	Distributed finely and evenly throughout.
downhole survey	The electronic or physical measurement of the three dimensional position and orientation of a drillhole, measured by means of lowering instruments down the hole.
dyke	A tabular body of intrusive igneous rock, crosscutting the host strata at an angle.
Fe	Chemical symbol for iron.
geophysical survey	The exploration of an area in which geophysical properties and relationships unique to the area are mapped by one or more geophysical methods.
geotechnical	Rock quality and structural investigations of rock masses.
ha	A hectare is a measure of area.
hematite	An iron oxide mineral $Fe_2O_3$ .
Indicated Resource	Insitu mineral resource calculated with a moderate confidence level, and to which economic parameters have not been applied.

Inferred Resource	Insitu mineral resource calculated with a low confidence level, and to which economic parameters cannot be applied.
isoclinal	Folds with relatively long, parallel limbs.
JORC Code	Guidelines published by the Joint Ore Reserves Committee (JORC), which relate to the requirements and standards applicable to reporting of mineral resources and ore reserves to the Australian Stock Exchange.
km	Kilometre, a standard metric unit measure of distance.
km²	Square kilometre, a standard metric unit measure of area
т	Metre, a standard metric unit measure of distance.
mafic	Descriptive of rocks composed dominantly of magnesium, iron and calcium-rich minerals.
mass recovery	weight percent of mineral recovery.
massive sulphide	Rock containing abundant sulphides that can form close to 100% of the mass.
mean grade estimate	Average estimated grade of an element or mineral within a deformed block of rock.
Measured Resource	That portion of Mineral Resource of which tonnage or volumes is estimated from dimensions revealed in outcrops, pits, trenches, drillholes or mine workings, supported where appropriate by other exploration techniques The sites used for inspection, sampling and measurement are so spaced that the geological character, continuity, grades and nature of the material are so well defined that the physical character, size, shape, quality and mineral content are established with a high degree of certainty.
metallurgical recovery	Proportion of a metal or mineral of economic interested recovered during processing.
metallurgical test work	The testing of ore samples in order to define the metallurgical characteristics of the ore.
metamorphosed	Alteration of rock and changes in mineral composition due to the effects of pressure, temperature and fluids.
Mineral Resource	A concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
Mn	Chemical symbol for manganese
Mt	Million metric tonnes (1,000,000).
Ore Reserve	That part of the resource that meets minimum physical and chemical criteria related to specified mining and production practices, including those of grade, quality, thickness and depth, and can be reasonably assumed to be economically and legally extractable or producible at the time of determination. The feasibility of the specified mining and production practices must have been demonstrated or can be reasonably assumed on the basis of tests and measurements.
Ρ	Chemical symbol for phosphorous
process plant	Referring to the plant and equipment associated with the crushing and extraction of metals or minerals from ore, and disposal of waste.
quartzite	A sandstone composed predominantly of grains of quartz.
resources	Insitu mineral occurrence from which valuable or useful minerals may be recovered.

# Coffey Mining Pty Ltd

Reverse Circulation (RC)	A drilling method in which the fragmented sample is brought to the surface inside the drill rods, thereby reducing contamination. Commonly used with a percussion hammer bit.
shale	A fine grained, laminated sedimentary rock formed from clay, mud and silt.
SiO2	Chemical formula for silica.
stratigraphic horizon	Horizon defined by a single sedimentary layer.
sulphide	A general term to cover minerals containing sulphur and commonly associated with mineralisation.
thrusts	A reverse fault or shear that has a low angle inclination to the horizontal.
ultramafic	Igneous rocks consisting essentially of ferromagnesium minerals with trace quartz and feldspar.
wireframe	A computer technique to form a surface, or enclose a volume, with an imaginary, continuous array of two dimensional shapes.
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### 7. INVESTIGATING ACCOUNTANT'S REPORT



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30 November 2009

The Directors Southern Hemisphere Mining Limited Suite 7, 1200 Hay Street WEST PERTH WA 6005

Dear Sirs

#### INVESTIGATING ACCOUNTANT'S REPORT

#### 1. Introduction

This Investigating Accountant's Report (the "Report") has been prepared at the request of the Directors of Southern Hemisphere Mining Limited ("Southern Hemisphere" or the "Company") for inclusion in a Prospectus to be dated on or around 2 December 2009 (the "Prospectus") relating to the proposed issue by Southern Hemisphere of 32,000,000 Shares to be issued at a price of 25 cents per Share to raise \$8,000,000.

#### 2. Basis of Preparation

This Report has been prepared to provide investors with information on historical results, the condensed consolidated statement of financial position (balance sheet) of Southern Hemisphere and the pro-forma condensed consolidated statement of financial position of Southern Hemisphere as noted in Appendix 2 to this Report. The historical and pro-forma financial information is presented in an abbreviated form, insofar as it does not include all of the disclosures required by Australian Accounting Standards applicable to annual financial reports in accordance with the Corporation Act 2001. This Report does not address the rights attaching to the securities to be issued in accordance with the Prospectus, nor the risks associated with the investment. Stantons International Securities has not been requested to consider the prospects for Southern Hemisphere, the securities on offer and related pricing issues, nor the merits and risks associated with becoming a Shareholder and accordingly, has not done so, nor purports to do so. Stantons International Securities accordingly takes no responsibility for those matters or for any matter or omission in the Prospectus, other than responsibility for this Report. Risk factors are set out in section 5 of the Prospectus.

#### 3. Background

Southern Hemisphere Mining Pty Ltd ("SHMPL") was formed in December 13, 2005 in Western Australia.

Youandi Capital Corp. ("YCC") was incorporated as Old Bond Capital Corp ("Old Bond") on December 23, 2005 under the British Columbia Corporations Act and listed on the TSX Venture Exchange ("TSX-V"). On May 2, 2006, Old Bond changed its name to YCC. YCC was classified as a Capital Pool Company as defined in the TSX-V Policy 2.4 and, accordingly, had no assets other than cash and no commercial operations. On December 17, 2007 a reverse takeover ("RTO") was undertaken and completed by SHMPL of YCC. Pursuant to the terms of the Share Exchange Agreement, dated July 2, 2007, YCC issued 19,434,636 special warrants ("Special Warrants") in exchange for all the outstanding shares of SHMPL (the "Transaction"). The Special Warrants were convertible to one Share on the conversion date without any further action on the part of the warrant holder.

Included in the local division

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The Special Warrants were converted into Shares on April 18, 2008. In addition, warrants and options to purchase YCC common shares outstanding immediately prior to the RTO were replaced with warrants and options to purchase an equivalent number of Shares of the Company, on economically equivalent terms and conditions. The incremental fair value of the options and warrants has been included in expenses for the year ended June 30, 2008.

The Transaction has been accounted for as an RTO transaction in accordance with guidance provided in Emerging Issues Committee ("EIC") Abstract No. 10. As YCC did not qualify as a business for accounting purposes, the transaction has been accounted for as a capital transaction of SHMPL. Pursuant to the RTO transaction, the consolidated financial statements for the period ended December 31, 2008 reflected the assets, liabilities and results of operations of SHMPL prior to the RTO and the consolidated assets, liabilities and results of operations of YCC and SHMPL subsequent to the RTO. The consolidated financial statements are issued under the name of the legal parent (the Company), but are deemed to be a continuation of the legal subsidiary (SHMPL).

Concurrent to the Transaction, the Company raised gross proceeds of C\$3,681,275 in a brokered private placement and C\$685,000 in a short form offering of 9,203,187 and 1,712,500 subscription receipts priced at C\$0.40 ("Subscription Receipts"). Each subscription receipt was exchanged for one unit, each unit consisting of one Share and one half Warrant exercisable for 24 months at C\$0.60 per Share. YCC changed its name to Southern Hemisphere Mining Limited on December 17, 2007. YCC's fiscal year had previously ended on July 31. Following the RTO, Southern Hemisphere changed its fiscal year-end to June 30 to coincide with SHMPL's fiscal year-end.

The movements in the issued capital from 1 July 2006 to 30 November 2009 are as follows:

- a) During the three months ended September 30, 2007, Southern Hemisphere issued 325,499 Shares, at a price of C\$0.883 (A\$1.00) per Share, for total proceeds of C\$287,416 (A\$325,499).
- b) During the year ended June 30, 2008, Southern Hemisphere issued 1,389,431 Shares, at a price of C\$0.883 (AUD1.00) per Share, for total proceeds of C\$1,226,868 (A\$1,389,431).
- c) During the year ended July 31, 2006, YCC issued 1,000,000 common shares, at a price of C\$0.10 per common share, for total proceeds of C\$100,000. As the Company was classified as a Capital Pool Corporation, these shares were held in escrow and could not be transferred, assigned or otherwise dealt with without the consent of the regulatory authorities. Under the terms of the escrow agreement, the shares would be released prorata to the shareholders as to 10% of the escrow shares upon notice of final acceptance of a qualifying transaction by the TSX-V and the remainder in six equal tranches of 15% on every six month anniversary thereafter, for a period of 36 months. On December 17, 2007, the qualifying transaction was completed and on April 22, 2008, the 22,000,000 convertible share securities were converted into Shares of the Company. On this date, the restrictions imposed by the TSX-V, other than those related to the escrow agreement, were lifted.
- d) On November 1, 2006, YCC completed an initial public offering of 1,000,000 common shares at C\$0.20 per common share for gross proceeds of C\$200,000. Pursuant to an agency agreement Raymond James Ltd was granted 100,000 agent's options exercisable at \$0.20 per common share for a period of 24 months from November 3, 2006, when YCC's common shares were listed for trading on the TSX-V ("Agent's Options").
- e) On December 17, 2007, pursuant to an agreement with Raymond James Ltd, it received 50,000 non-transferable agent's options exercisable to purchase one Share in Southern Hemisphere at C\$0.40 per Share on or before December 17, 2009.

182

- f) On December 17, 2007, Southern Hemisphere completed a brokered private placement of 9,203,187 units at C\$0.40 per unit for gross proceeds of C\$3,681,275. Each unit was comprised of one Share and one half Warrant. Each whole Warrant entitles the holder to purchase an additional Share at an exercise price of C\$0.60 per Share. The proceeds have been allocated to Shares (C\$3,052,731) and Warrants (C\$628,544) based on their relative fair values.
- g) On December 17, 2007, Southern Hemisphere completed a short form offering of 1,712,500 units at C\$0.40 per unit for gross proceeds of C\$685,000. Each unit was comprised of one Share and one half Warrant. Each whole Warrant entitles the holder to purchase an additional Share at an exercise price of C\$0.60 per Share. The proceeds have been allocated to Shares (C\$568,043) and Warrants (C\$116,957) based on their relative fair values.
- h) Pursuant to an agency agreement with Haywood Securities Ltd the Company inter-alia granted 171,250 non-transferable agent's warrants ("Agent Warrants") exercisable to purchase one Share at C\$0.40 per Share to December 17, 2009 as well as 50,000 non-transferable agent's corporate finance options ("Agent Corporate Finance Options") exercisable to purchase one Share at C\$0.40 per share on or before December 17, 2009.
- i) On August 19, 2008, Raymond James Ltd exercised 100,000 Agent's Options to purchase 100,000 common shares at C\$0.20 per Share, for gross proceeds of C\$20,000.
- j) On December 4, 2008, Southern Hemisphere completed a private placement of 7,670,000 units at a price of C\$0.20 per unit for gross proceeds of C\$1,534,000. Each unit was comprised of one Share and one half Warrant. Each whole Warrant entitles the holder to purchase an additional Share at an exercise price of C\$0.20 per Share, exercisable on or before 8 December 2010. The proceeds have been allocated to Shares (C\$1,021,260) and Warrants (C\$512,740) based on their relative fair values.
- k) In August 2009, Southern Hemisphere made a private placement of 15,000,000 units at an issue price of C\$0.20 per unit to raise a gross C\$3,000,000. Each unit consists of one Share and one half Warrant. Each whole Warrant will entitle the holder to purchase one Share at a price of C\$0.40 per Share, exercisable on or before 29 August 2011.
- I) The Company's Shareholders in July 2009 approved the acquisition of all of the issued capital of two Australian exploration companies, Pan American Mining Pty Ltd ("PAM") and South American Mining Pty Ltd ("SAM") for a total consideration of C\$2,000,000 by issuing 10,000,000 Shares at a deemed issue price of C\$0.20 per Share for a total consideration of C\$2,000,000. PAM and SAM through two Chilean subsidiary companies (Minera Panamericana SCM and Minera America del sur SCM respectively) hold mineral exploration rights in Chile. The Shares were deemed to be issued in November 2009 although the share certificates will be physically issued no later than 2 December 2009.

As at 30 November 2009, there are deemed to be 67,685,687 Shares on issue.

Minera Hemisferio Sur SCM ("MHS") a 99.99% subsidiary of Southern Hemisphere has an option to acquire mining tenements Emanuel del 1 al 20 and Awahou 1-20 which covers 4 sq km near Putre in Northern Chile (partly known as the Los Pumas Manganese Project) (the "Kaiora Option Agreement").

The Kaiora Option Agreement is in two parts- Option A and Option B. To exercise Option A, MHS must pay to Sociedad Minera Kaiora International Limitada ("Kaiora"), the owner of the tenements, the sum of US\$1,050,000 (of which US\$250,000 has been paid to Kaiora before 30 June 2009). The remaining US\$800,000 (approximately A\$875,000) was paid in late November 2009. Upon exercise of the Option A, the tenements will be transferred to a yet to be formed Chilean company that would be held 50% by Southern Hemisphere and 50% by Kaiora. Option B gives Southern Hemisphere an option to purchase the 50% of the shares held by Kaiora in the

new Chilean company by the payment of a further US\$1,000,000 by December 2010. By variation deed undertaken in November 2009, the Option B payment if exercised by 31 January 2010 will be reduced from US\$1,000,000 to US\$700,000. In the event that it is not exercised by 31 January 2010 the Option B payment will revert to US\$1,000,000. The Company expects Option B will be exercised prior to 31 January 2010, however no decision will be finalised until after the Offer is complete. The Company may elect to make the Option B payment of the lower amount of US\$700,000 (approximately A\$778,000) by exercising its rights under the variation deed. The pro-forma consolidated Statement of Financial Position reflects the assumption that US\$700,000 will be paid prior to 31 January 2010.

In November 2009, the Company agreed to grant a total of 5,200,000 share options to the directors and management (or nominees) of the Company ("DM Options"). Each DM Option is exercisable at A\$0.30 per Share and is exercisable no later than 31 December 2012. The DM Options have not yet been issued but they will be issued prior to the Company being listed on the ASX. All of the DM Options do not vest until 12 months from grant date. 500,000 of the DM Options also do not vest unless the Los Pumas Project is commissioned. The fair value of the DM Options after applying a 25% discount for the non listed status of the share options has been estimated for IRFS purposes at approximately 8.22 cents per share for a total value for 5,200,000 DM Options of A\$427,440.

Details on the Company, its subsidiaries and mineral projects are outlined in detail in Section 3 of the Prospectus. The Company's subsidiaries are incorporated in either Australia or Chile. Southern Hemisphere's main focus is in Chile with an emphasis on the Los Pumas Manganese Project and its other porphyry copper exploration projects.

The Company has entered into executive employment contacts with Trevor Tennant and James Pearson that are effective from the Company achieving an ASX listing. The basic terms are summarised in section 9.2 of the Prospectus.

Potential investors should read the Prospectus in full that includes an Independent Geologist's Report and a Solicitor's Report on Licences. Stantons International Securities make no comments as to ownership or values of the current and proposed mineral tenement interests of the Southern Hemisphere Group. Further details on material contracts entered into by the Company are referred to in the Material Contracts Section being section 9 of the Prospectus.

#### 4. Scope of Examination

You have requested Stantons International Securities to prepare an Investigating Accountant's Report on:

- a) the consolidated results (condensed consolidated statements of comprehensive income) of Southern Hemisphere for the three months ended 30 September 2009;
- b) the condensed consolidated statement of financial position (balance sheet) of Southern Hemisphere as at 30 September 2009; and
- c) the condensed consolidated pro-forma statement of financial position (balance sheet) of Southern Hemisphere at 30 September 2009 adjusted to include the Offer proceeds to be raised by the Prospectus and the completion of transactions referred to in note 2 of Appendix 3 to this Report.

All of the financial information referred to above has not been audited. The condensed consolidated statement of comprehensive income for the three months ended 30 September 2009 and condensed consolidated statement of financial position of Southern Hemisphere as at 30 September 2009 have been subject to audit review by Stantons International Securities. In addition, the audit reviewed 30 September 2009 condensed consolidated statement of financial position reflects the acquisition of PAM and SAM notwithstanding that the 10,000,000 Shares payable to acquire PAM and SAM were not deemed to be issued by the Company until November 2009 (and share certificates to be issued no later than 2 December 2009).

The Directors of Southern Hemisphere are responsible for the preparation and presentation of the historical and pro-forma financial information, including the determination of the pro-forma transactions. We have however examined the financial statements and other relevant

information and made such enquiries, as we considered necessary for the purposes of this Report.

The scope of our examination was substantially less than an audit examination conducted in accordance with Australian Auditing Standards and accordingly, we do not express such an opinion. We have conducted our review in accordance with Australian Standard on Review Engagements ASRE "Review of a Financial Report performed by an assurance practitioner who is not the auditor of an entity". Our examination included inter-alia:

- a) discussions with Directors and other key management of Southern Hemisphere;
- b) review of Southern Hemisphere's contractual arrangements;
- c) a review of publicly available information on Southern Hemisphere;
- d) a review of work papers, accounting records and other documents; and
- e) discussions with the auditors of several of the Chilean subsidiaries.

#### 5. Opinion

In our opinion, the pro-forma consolidated statement of financial position as set out in Appendix 2 presents fairly the pro-forma condensed consolidated statement of financial position of Southern Hemisphere as at 30 September 2009 in accordance with the accounting methodologies required by Australian Accounting Standards on the basis of assumptions and transactions set out in Appendix 3 to this Report. No opinion is expressed on the historical results and statements of financial position, as shown in Appendix 1 to this Report, except to state that nothing has come to our attention which would require any further modification to the financial information in order for it to present fairly, the condensed consolidated statements of financial position as at 30 September 2009 and the results of the period identified.

To the best of our knowledge and belief, there have been no other material items, transactions or events subsequent to 30 September 2009 that have come to our attention during the course of our review which would cause the information included in this Report to be misleading.

#### 6. Other Matters

At the date of this Report, Stantons International Securities or Stantons International do not have any material interest in Southern Hemisphere either directly or indirectly, or in the outcome of the offer. Stantons International Securities and Stantons International were not involved in the preparation of any other part of the Prospectus, and accordingly, make no representations or warranties as to the completeness and accuracy of any information contained in any other part of the Prospectus. Stantons International Securities consents to the inclusion of this Report (including Appendices 1 to 3) in the Prospectus in the form and content in which it is included. At the date of this Report, this consent has not been withdrawn.

Yours faithfully STANTONS INTERNATIONAL SECURITIES

J P Van Dieren - FCA Director

#### INVESTIGATING ACCOUNTANT'S REPORT

#### **APPENDIX 1**

### UNAUDITED CONDENSED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (INCOME STATEMENT)

	Three Months Ended September 30, 2009 A\$
Expenses	
Amortisation	2,197
Investor relations	24,330
Legal fees	26,812
Office and administration	10,880
Professional fees	55,326
Rent & utilities	12,679
Salaries & wages	134,687
Receivables written off	159,873
Travel and accommodation	25,124
Loss before undernoted	451,908
Interest income	(12,824)
Foreign exchange (gain)/loss	
Loss before taxes	439,084
Income tax paid	
Net loss for the three months	439,084
Deficit, beginning of period	3,176,337
Deficit, end of period	3,615,421

186

#### INVESTIGATING ACCOUNTANT'S REPORT

#### APPENDIX 2

### UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF FINANCIAL POSITION (BALANCE SHEETS)

	September 30 2009 A\$	Pro-Forma September 30 2009 A\$
Assets		
Current Assets		
Cash and equivalents	3,293,673	8,543,673
Receivables	71,522	71,522
_	3,365,195	8,615,195
Non Current Assets		
Fixed Assets Loans from related/associated	26,422	23,422
parties	-	-
Mineral Properties (Note 5)	9,366,952	11,019,952
-	9,393,374	11,043,374
Total Assets	12,758,569	19,658,569
Liabilities		
Current Liabilities		
Accounts payable	30,865	30,865
Accrued Liabilities	57,967	57,967
Loans due to related parties	-	-
	88,832	88,832
Deferred Income Tax Liability	545,922	545,922
Total Liabilities	634,754	634,754
Net Assets	12,123,815	19,023,815
Shareholders' Equity Common Shares (Issued Capital)	12 200 688	20 210 100
(Note 0) Warrants Reserve (Note 7)	1 183 658	1 183 658
Agent's Options reserve (Note 7)	41.338	132,838
Contributed Surplus (Share and Option Based Compensation	,	,
Reserve) (Note 8)	1,006,300	1,433,740
Foreign Exchange Reserve	298,252	298,252
(Note 9)	(3.615.421)	(4.342.861)
Net Equity	12,123,815	19,023,815

The unaudited 30 September 2009 condensed consolidated statement of financial position reflects the acquisition of PAM and SAM notwithstanding that the 10,000,000 Shares payable to acquire PAM and SAM were not deemed to be issued until November 2009 (and the share certificates will be physically issued no later than 2 December 2009).

#### INVESTIGATING ACCOUNTANT'S REPORT

#### **APPENDIX 3**

#### CONDENSED NOTES TO THE UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME AND CONDENSED CONSOLIDATED STATEMENTS OF FINANCIAL POITION

#### 1. Statement of Significant Accounting Policies

(a) Basis of Accounting

The unaudited condensed consolidated statements of comprehensive income and unaudited condensed consolidated statements of financial position have been prepared in accordance with applicable accounting standards, the Corporations Act 2001 and mandatory professional reporting requirements in Australia (including the Australian equivalents of International Financial Reporting Standards) and we have made such disclosures as considered necessary. They have also been prepared on the basis of historical cost and do not take into account changing money values. The accounting policies have been consistently applied, unless otherwise stated. The financial statements have been prepared on a going concern basis that is dependent on the Offer being successful and/or the Company raising additional seed capital to continue in business.

(b) Income Tax

The charge for current income tax expense is based on the profit for the year adjusted for any non assessable or disallowed items. It is calculated using tax rates that have been enacted or are substantially enacted as at balance date. Deferred tax is accounted for using the balance sheet liability method in respect of temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. No deferred income tax will be recognised from the initial recognition of an asset or liability, excluding a business combination, where there is no effect on accounting or taxation profit or loss. Deferred income tax assets are recognised to the extent that it is probable that the future tax profits will be available against which deductible temporary differences will be utilised. The amount of the benefits brought to account or which may be realised in the future is based on the assumption that no adverse change will occur in the income taxation legislation and the anticipation that the economic unit will derive sufficient future assessable income to enable the benefits to be realised and comply with the conditions of deductibility imposed by law.

(c) Exploration, Evaluation and Development Expenditure

Direct property acquisition costs, field exploration and field supervisory costs relating to specific properties are deferred until the properties to which they relate are brought into production, at which time they will be amortized on a unit of production basis, or until the properties are abandoned, sold or allowed to lapse, at which time they will be written off.

Costs include the cash consideration paid and the fair value of the shares issued, if any, on the acquisition of exploration properties. Properties acquired under option agreements whereby payments are made at the sole discretion of the Company are recorded in the accounts at such time as the payments are made. The proceeds from options granted are applied to the cost of the related property and any excess is included in income for the year. Costs incurred for administration and general exploration that are not project specific, are charged to operations. The recorded amounts for acquisition costs of properties and their related capitalized exploration and development expenses represent actual expenditures incurred and are not intended to reflect present or future values. The Company, however, reviews the capitalized costs on its properties on a periodic, or at least annual basis and will recognize an impairment in value based upon the stage of exploration and/or development, work programs proposed, current exploration results and upon management's assessment of the future profitability of profitable revenues from each property, or from the sale of the relevant property.

The recovery of costs of mining claims and deferred exploration is dependent upon the existence of economically recoverable reserves, the ability of the Company to obtain the necessary financing to complete exploration and development and future profitable production or proceeds of disposition of such properties.

(d) Plant and Equipment

Each class of property, plant and equipment is carried at cost or fair value, less where applicable, any accumulated depreciation and impairment losses. The carrying amount of the plant and equipment is reviewed annually by the Directors to ensure it is not in excess of the recoverable amount of these assets. The recoverable amount is assessed on the basis of the expected net cash flows that will be received from the assets employed and their subsequent disposal. The expected net cash flows have been discounted to their present value in determining recoverable amounts.

#### Depreciation

The depreciable amount of all fixed assets including buildings and capitalised leased assets, but excluding freehold land, is depreciated on a straight line basis over their useful lives to the Company commencing from the time the asset is held ready for use. The asset's residual value and useful lives are reviewed and adjusted if appropriate, at each condensed consolidated statement of financial position date.

An asset's carrying value is written down immediately to its recoverable amount if the asset's carrying value is greater than the estimated recoverable amount. Gains and losses on disposal are determined by comparing proceeds with the carrying amount. These gains and losses are included in the condensed consolidated statement of comprehensive income.

- (e) Trade and other accounts payable Trade and other accounts payable represent the principal amounts outstanding at balance date, plus, where applicable, any accrued interest.
- (f) Recoverable Amount of Non Current Assets

The carrying amounts of non-current assets are reviewed annually by Directors to ensure they are not in excess of the recoverable amounts from those assets. The recoverable amount is assessed on the basis of the expected net cash flows, which will be received from the assets employed and subsequent disposal. The expected net cash flows have been or will be discounted to present values in determining recoverable amounts.

- (g) Operating Revenue Revenue represents interest received and reimbursements of exploration expenditures.
- (h) Issued Capital (Common Stock) Ordinary Shares are classified as equity. Incremental costs directly attributable to the issue of new shares or options (including warrants) are shown in equity as a deduction, net of tax, from the proceeds. Incremental costs directly attributable to the issue of new shares or options, or for the acquisition of a business, are included in the cost of the acquisition as part of the purchase consideration.
- (i) Principles of Consolidation

The consolidated financial statements comprise the financial statements of Southern Hemisphere Mining Limited and its subsidiaries ("the Group"). The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. Adjustments are made to bring into line any dissimilar accounting policies that may exist. All intercompany balances and transactions, including unrealised profits arising from intra-group transactions, have been eliminated in full. Unrealised losses are eliminated unless

costs cannot be recovered. Subsidiaries are consolidated from the date on which control is transferred to the Group and cease to be consolidated from the date on which control is transferred out of the Group. Where there is loss of control of a subsidiary, the consolidated financial statements include the results for the part of the reporting period during which Southern Hemisphere Mining Limited has control.

(j) Employee benefits

Provision is made for employee benefits accumulated as a result of employees rendering services up to the reporting date. These benefits include wages and salaries, annual leave, and long service leave. Liabilities arising in respect of wages and salaries, annual leave and any other employee benefits expected to be settled within twelve months of the reporting date are measured at their nominal amounts based on remuneration rates which are expected to be paid when the liability is settled. All other employee benefit liabilities are measured at the present value of the estimated future cash outflow to be made in respect of services provided by employees up to the reporting date. In determining the present value of future cash outflows, the market yield as at the reporting date on national government bonds, which have terms to maturity approximating the terms of the related liability, are used.

(k) Critical accounting estimates and judgements

The preparation of financial statements in conformity with GAAP/IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenue and expenditures during the reporting period. The Company regularly reviews these estimates and assumptions that affect the financial statements as actual results could differ from those estimates. Significant areas where management judgement is applied include asset valuations, stock-based compensation, and recovery of future income tax assets.

(I) Share Based Payments

The Company accounts for stock based compensation using the fair value based method. The fair value of stock based compensation is determined by using the Black-Scholes option pricing model. The fair value of stock options is recognized as stock based compensation expense over the option vesting period with an offsetting credit charged to contributed surplus (share and option compensation reserve). The applicable contributed surplus is transferred to share capital if and when the stock options are exercised. Any consideration paid on the exercise of stock options is credited to capital stock. The Company accounts for other stock-based payments based on the fair value of the equity instruments issued in exchange for the receipt of goods and services from non-employees by using the stock price and other measurement assumptions as at the measurement date or the fair value of the services provided, whichever is considered more reliable.

(m) Asset retirement obligations

The Company's mineral exploration and development activities are subject to various Chilean laws and regulations regarding the protection of the environment. As a result of these, the Company is expected to incur expenses from time to time to discharge its obligations under these laws and regulations.

Reclamation and closure costs are estimated based on the Company's interpretation of current regulatory and operating licence requirements and measured at fair value. Fair value is determined based on the net present value of future cash expenditures expected upon reclamation and closure and subsequent annual recognition of an accretion amount on the discounted liability. Reclamation and closure costs are capitalized as mine development costs and amortized over the life of the mine on a unit-of-production basis. The Company does not currently have any legal obligations relating to the reclamation of its mineral properties.

(n) Foreign Currency

Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using the functional currency. Both the functional and presentation currency of Southern Hemisphere is normally Canadian dollars ("C\$") and its Australian subsidiaries are in Australian dollars ("A\$"). The functional currency of the Chilean subsidiaries is Chilean Pesos ("CP"). For the purposes of this Report, the consolidated accounts to 30 September 2009 are disclosed in Australian dollars as the Prospectus is to be lodged in Australia. Where applicable certain information in this Report is disclosed in Canadian dollars, however the majority of the information is in Australian dollars.

Transactions in foreign currencies are initially recorded in the functional currency at the exchange rates ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the rate of exchange ruling at the condensed consolidated statements of financial position date.

All differences in the consolidated financial report are taken to the condensed consolidated statement of comprehensive income with the exception of differences on foreign currency borrowings that provide a hedge against a net investment in a foreign entity. These are taken directly to equity until the disposal of the net investment, at which time they are recognised in the condensed consolidated statement of comprehensive income.

Tax charges and credits attributable to exchange differences on those borrowings are also recognised in equity. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate as at the date of the initial transaction.

Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

The exchange differences arising on the retranslation are taken directly to a separate component of equity. On disposal of a foreign entity, the deferred cumulative amount recognised in equity relating to that particular foreign operation is recognised in the condensed consolidated statement of comprehensive income.

#### 2. Actual and Proposed Transactions to Arrive at Pro-forma Unaudited Condensed Consolidated Statement of Financial Position

Actual and proposed transactions adjusting the 30 September 2009 unaudited Condensed Consolidated Statement of Financial Position of Southern Hemisphere in the pro-forma consolidated Statement of Financial Position of Southern Hemisphere are as follows:

- a) The issue of 32,000,000 Shares at A\$0.25 each to raise a gross \$8,000,000 pursuant to the Prospectus;
- b) The payment of expenses of the Prospectus issue totalling an estimated A\$800,000 and the expensing against share equity;
- c) The incurring of additional group administration and other costs of approximately A\$297,000 and depreciation on fixed assets of approximately A\$3,000;
- d) The issue of 1,000,000 Share Options to the Underwriter to the Offer at a deemed cost (capital raising cost) of \$91,500 and the issue of 5,200,000 DM Options at a deemed fair value cost of A\$427,440 (and expensing \$427,440 notwithstanding that the primary vesting period is 12 months from the Listing Date);
- e) The payment of a further US\$800,000 (A\$875,000) to complete the exercise of Option A to acquire a 50% interest in a Chilean company that would own 100% of certain tenements within the Los Pumas Manganese Project area (as per the Kaiora Option Agreement); and
- f) The payment of US\$700,000 (approximately A\$778,000) relating to Option B pertaining to the Kaiora Option Agreement.

### Stantons International Securities

AFS Licence No. 319600

		Note 2	Unaudited Consolidated Southern Hemisphere 30 September 2009	Unaudited Consolidated Southern Hemisphere Pro-forma 30 September 2009
			A\$	A\$
3.	Cash Assets			
	The movements in cash assets are as follow	'S:		
	Unaudited 30 September 2009 Issue of Shares pursuant to the		3,293,673	3,293,673
	Prospectus	a)	-	8,000,000
	Prospectus issue costs	(b)	-	(800,000)
	Administration costs	(c)	-	(297,000)
	Agreement Exercise of Option B of the Kajora Option	(e)	-	(875,000)
	Agreement	(f)	-	(778,000)
	5	()	3.293.673	8.543.673

#### 4. Investments and Loans to Subsidiaries

The Company is to finance the operations of all of its subsidiaries and thus the subsidiaries will have unsecured borrowings from Southern Hemisphere that are interest free and at call. The ability for the subsidiaries to repay debts due to Southern Hemisphere (and other parties) will be dependent on the commercialisation of the mining assets owned by the subsidiaries. Losses may be incurred by the subsidiaries and provisions raised against the loans due by the subsidiaries will have loans between each other and the ability of individual subsidiaries to repay inter company loans and advances and other liabilities is dependent on commercialisation of the mining assets owned by the subsidiaries to repay inter company loans and advances and other liabilities is dependent on commercialisation of the mining assets owned by the subsidiaries.

5. Mineral Properties Capitalised mineral acquisition, exploration and evaluation costs relating to Chilean mineral projects Exercise of Option A of the Kaiora Option Agreement Exercise of Option B of the Kaiora Option Agreement	(e) (f)	9,366,952 - 	9,366,952 875,000 778,000 11,019,952
6. Issued Capital (Common Stock) Ordinary Shares			
67,685,687 Shares currently deemed to be on issue 32,000,000 Shares pursuant to the Prospectus	(a)	13,209,688	13,209,688 8,000,000
Less: estimated Share issue costs pursuant to the Prospectus Pro-forma (99,685,687 Shares)	(b)(d)	13,209,688 - 13,209,688	21,209,688 (891,500) 20,318,188

Warrants: expiry date	Expiry Date	Number #	Exercise Price \$
Warrants Agent Warrants and	December 17, 2009	5,457,844	C\$0.60
Options	December 17, 2009	271,250	C\$0.40
Warrants	December 8, 2010	3,835,000	C\$0.20
Warrants	August 29, 2011	7,500,000	C\$0.40
Options	31 December 2012	1,000,000	A\$0.25

#### 7. Agent's Options and Warrants issued as listing costs and capital raisings

It is expected that the December 17, 2009 Warrants and Share Options will have expired by the time the Company achieves an ASX Listing. The value of the 1,000,000 Options to be issued to the Broker (expiring 31 December 2012) have been valued at approximately \$91,500 and treated as a capital raising cost in the pro-forma Statement of Financial Position.

#### 8. Share based compensation

Under the terms of a Share Option plan initially approved by Shareholders on November 1, 2006, and re-approved on January 25, 2008, the Company may grant incentive Share Options numbering up to 10% of the number of issued and outstanding Shares of the Company to its officers, directors, employees and consultants, for the purchase of Shares of the Company. Share Options are non-transferable. The Board of Directors of the Company determines the exercise price, but it may be no less than the current market price at the time of the grant. Options have a maximum term of five years and expire 90 days after the termination of employment or other contracting arrangement of the Option holder. Vesting of Options may be at the time of granting of the Option, or over a period as set out in each Option agreement. Once approved and vested, Options are exercisable at any time until expiry. The Company records the Share based compensation expense over the vesting term of the options granted.

Expiry Date	Number	Exercise Price
November 1, 2011	133,334	C\$ 0.20
January 13, 2013	3,356,579	C\$0.40
December 31, 2012 (yet		
to be issued)	5,200,000	A\$0.30

In November 2009, the Company agreed to grant a total of 5,200,000 share options to the directors and management (or nominees) of the Company ("DM Options"). Each DM Option is exercisable at A\$0.30 per Share and is exercisable no later than 31 December 2012. The DM Options have not yet been issued but they will be issued prior to the Company being listed on the ASX. All of the DM Options do not vest until 12 months from grant date. 500,000 of the DM Options also do not vest unless the Los Pumas Project is commissioned. The fair value of the DM Options has been estimated for IRFS purposes at approximately 8.225 cents per share for a total value for 5,200,000 DM Options of A\$427,440. The reserve in the pro-forma Statement of Financial Position has been increased by A\$427,440 as a result of the issue of the DM Options. Technically, the cost of \$427,440 should be taken up over the vesting period of 12 months and in the case of the 500,000 options over the estimated period to commissioning of the Los Pumas Project (not yet determined).

#### 9. Accumulated Losses

Balance 30 September 2009		3,615,421	3,615,421
Administration and depreciation costs	(C)	-	300,000
Issue of share options	(d)	-	427,440
		3,615,421	4,342,861

#### **10. Contingent Liabilities and Commitments**

As noted in the Background Section to this report and as outlined in the Material Contracts section of the Prospectus, MHS a wholly owned subsidiary of Southern Hemisphere has the option (Option B) under the Kaiora Option Agreement to acquire a further 50% interest in a Chilean company that will own certain mineral tenements for a payment to Kaiora of up to US\$1,000,000. It is expected thay the Option B will be exercised after the Company achieves an ASX listing and the estimated payment in Australian dollar terms (A\$778,000) has been reflected in the pro-forma condensed consolidated Statements of Financial Position as at 30 September 2009. In the event that the US\$700,000 is not paid by 31 January 2010, the Company if it exercises Option B will need to pay US\$1,000,000. Based on discussions with the Directors of Southern Hemisphere and its legal advisors, to our knowledge, the Company has no other material commitment or contingent liabilities not otherwise disclosed in this Report (refer Background section 3) and in the Prospectus. Investors should read the Solicitor's Report on Licences in section 8 of the Prospectus and the Independent Geologist's Report in section 6 of the Prospectus for further possible contingencies and commitments. A number of tenements may be subject to royalty payments on production of minerals.

For details on proposed exploration commitments on mineral tenements, refer to the Independent Geologist's Report in section 6 of the Prospectus.

#### **11. Management Agreements**

A summary of the financial details on the employment agreements with Messrs Tennant and Pearson are outlined in the Background Section of this Report and/or in the Material Contracts Section at section 9 of the Prospectus. Six months notice without cause is required by either party to terminate the employment.

### 8. SOLICITOR'S REPORT ON LICENCES

25 November 2009



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Cristián Quinzio S. Mario Vergara V.

Marcelo Olivares C.

Jorge M. Quinzio F. Consejero Daniella Castilla V. Heleny Caratazos Y. Cristián Correa B. Rafael Trivelli D. Pablo Mancilla D.

#### SOLICITORS REPORT ON MINING PROPERTY

Our law firm has been requested to prepare a legal report concerning the mining property belonging to the Southern Hemisphere Mining Limited (SHM) affiliates companies holding mining rights in the Republic of Chile (the "Companies"), for inclusion in a Prospectus to be issued in Australia for the listing of SHM on the Australian Securities Exchange. Such Companies are the following:

- contractual mining company denominated "Minera Hemisferio Sur SCM", hereinafter "MHS";
- contractual mining company denominated "Minera América del Sur SCM", hereinafter "SAM";
- contractual mining company denominated "Minera Panamericana SCM", hereinafter "PAM"; and
- limited liability company denominated Servicios e Inversiones Futuro Limitada, hereinafter "Futuro".

The mining properties (the "Mining Properties") of these Companies are located in different geographic areas in Chile, and grouped in 14 Projects, which are:

- MHS's Projects: El Arrayán Project, San José Project, Los Pumas Project and Las Santas Project;
- SAM's Projects: Carboneras Project, Meteorito Project, Tuina Project, Juan Soldado Project, Tres Cruces Project and Cunlagua Project;
- PAM's Projects: Angel Project, Chitigua Project and Santa Gracia Project; and
- Futuro's Projects: Mantos Grandes Project.

Details of the Mining Properties are set out in the attached Schedule ("Mining Property Schedule") which forms part of this Report.

This Report was prepared based upon the information supplied to us by the Companies and the review of the different documents that are necessary to comply with the procedures of constitution or obtention of mining concessions are contemplated by the Chilean Mining Law.

In the first place, and before referring to MHS, SAM, PAM and Futuro Mining Properties in particular, we will provide a summary of the Chilean mining property system.

#### MINING PROPERTY SYSTEM

Within a standard Mining Law classification, the Chilean mining property system might be classified as a "sequenced" concession system. Their mining acts are distinguished in exploration and exploitation concessions, permitting the exploration concession leading to an exploitation concession.

The mining property system in Chile is regulated principally by the following laws and regulations:

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- (i) Political Constitution of the Republic, article 19 No. 24, paragraphs 6 to 10 (the "PCR")
- (ii) Constitutional Organic Law No. 18,097 on Mining Concessions (of January 21, 1982) (the "COL")
- (iii) Mining Code (Law No. 18,248 of October 14, 1983) (The "MC")
- (iv) Regulations of the Mining Code (of February 27, 1987) (the "MCR".)

The basic elements of the mining property system in Chile, considering its nature, constitution and exercise, are the following:

- A. The Mining Concession, considering its concept, juridical nature, procedure of constitution and terms.
- B. Obligations of the Concessionaire.
- C. Access to the necessary lands for the performance of mining work.
- D. Water rights.
- E. Specific Tax to the Mining Activities.
  - A. <u>The Mining Concession, concept, juridical nature, procedure of constitution and terms.</u>

The PCR provides that the State of Chile has the absolute, exclusive, unalienable and imprescriptible dominion over all the mines, and the mineral substances determined by COL as susceptible of such work may be explored and exploited through mining concessions.

The mining concession is an in rem right ("derecho real") on real property different and independent from ownership of surface lands, even if they have the same owner, that is, the separation of the dominion over the mining concession (that gives the right to explore and/or exploit mineral substances) and the ownership of the surface land where it is intended to perform mining exploration and exploitation work is confirmed.

The mining concession is transferable and transmissible, susceptible to mortgage and other real rights, and in general, of any act or contract; and is ruled by the same civil laws as the rest of the real estate properties, unless they are contrary to the COL or MC

The mining concessions are constituted in a non contentious judicial procedure which is briefly explained in the following section of this Report. Such as stated, it can be of two kinds: **exploration concessions and exploitation concessions or mining claims.** 

The exploration concession has an initial duration of 2 years that can be extended up to 4, for which extension it is a requirement to waive one half of the concession surface area. The exploration concessions grants rights to prospect and explore the concession area and also it entitles its concessionaire to the right to convert it into an exploitation concession during its effective period.

On the other hand, the exploitation concession or mining claim (also referred to as "Pertenencia") has an indefinite effective period and grants exclusive rights to prospect and mine the concession area. Having an exploration concession is not a prerequisite to apply for an exploitation mining concession.

With respect to the surface comprehended by a mining concession, these must configure a parallelogram of straight angles (square or rectangle) whose capacity, according to the type of concession, may be (a) Mining exploration concession: A minimum of 100 hectares and a maximum of 5000 hectares, per concession, and only a single concession can be requested; (b) mining exploitation concession: The minimum per concession is 1 hectare and the maximum of 10

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hectares, a group of several mining claims that comprise up to 1000 hectares may be requested jointly.

For a concession to enjoy preemptive rights over a given area or portion of the national territory, the awardee must be recognized as a "discoverer". Such quality is granted under the Chilean mining law to the petitioner who first starts the procedure to incorporate a mining concession in a specific vacated area and who is granted the claimed mining concession rights. Hence, starting the procedure in an area which is free of mining concessions is critical to be awarded such preemptive rights so as to exercise the powers granted under the concession type.

The Chilean regulations allow the initiation of such concession claim procedures even if there are preemptive rights in the requested area. More importantly, an exploration mining concession maybe obtained where there exists another exploration and/or exploitation concession belonging to a third party, in which case the new and overlapped concession do not have preemptive rights in the area and moreover the annulment of the overlapping concessions may be requested by the preemptive right concessionary.

As indicated, these mining concessions can be constituted only with respect to the mineral substances that the COL may determine susceptible of exploration and exploitation, called concedable substances, which are defined as all those mineral, metallic and non metallic substances and, in general, any fossilized substances regardless of the natural form in which they may be found with the exception of those which COL declares as not concedable, which are: (i) liquid or gaseous hydrocarbons, (therefore it does not include mineral coal, which is concedable); (ii) lithium, (iii) deposits of any nature existing in the maritime waters subject to national jurisdiction and (iv) the deposits of any kind situated, fully or partially, in zones that, according to the law, are determined as of importance for national safety with mining effects. These substances can only be exploited directly by the State or its enterprises, or through administrative concessions or special operating contracts.

#### B. <u>Obligations of the Concessionaire (Holder of the mining concession)</u>.

The only obligations contemplated in Chilean legislation which must be satisfied by a mining concessionaire is the payment of a claim fee, in fulfillment of the obligation of protection that the PCR imposed on the titleholders of mining concessions ("Amparo").

With regard to the obligation of "Amparo", once the mining concession is constituted, its owner is obliged to comply with such obligation, requirement that is imposed by the State to maintain the mining concession effective and in its patrimony. The regime of Amparo in Chile consists in the payment of an annual advanced claim fee ("Patente de Amparo" or "Patente Minera") within the month of March of each year, whose amount varies if it is an exploration or exploitation concession. For each hectare or fraction that comprises an exploration concession, the sum equivalent to 1/5 of a Monthly Tax Unit ("UTM") must be paid (approx. US\$ 1.3 at the present exchange) and for the same area that the exploitation concession comprises, the sum equivalent to 1/10 of a UTM (approx. US\$ 6.7 at the present exchange) must be paid<sup>1</sup>. There is no other obligation in Chile to keep the mining concession in force, such as the minimum investment or performance of a mining activity.

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<sup>&</sup>lt;sup>1</sup> It must be mentioned that the mining claims whose principal economic interest is in non metallic substances or metalliferous placers, as well as those constituted on concedable wealth existing in salt desserts, may obtain a reduction and pay only 1/30 UTM/ha (approx. US\$2.4 at the present exchange). Likewise, the mining claim rented or that are worked by small miners and artisan miners, pay an annual claim fee of 10.10 UTM (less than US\$1 cent).

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#### C. Access to the necessary lands for the execution of mining work.

In view of the separation of the property rights of the mining concession and surface land, the MC establishes special laws and regulations on this matter. Access to the surface lands is provided during the proceedings carried out for the mining concession, and once this is constituted.

During the proceedings for the constitution of the mining concession the titleholder of a Pedimento (request for exploration mining concession) or Manifestacion (request for exploitation mining concession) may carry out all the work that is necessary to constitute the mining concession (the necessary physical recognition for these purposes, which includes the execution of the survey in the case of the Manifestacion). Additionally, the titleholder of a Manifestation is authorized to carry out all the necessary work to recognize the mine, becoming owner of the mineral substances that it obtains as a result of these works, but in no case the titleholder of the Manifestación can carry out commercial exploitation of the surface land or any other person presents opposition for the petitioner or Manifesting Party to carry out the work referred to, the competent judge must authorize the help of public force if there is a favorable report of SERNAGEOMIN (Servicio Nacional de Geología y Minería) on the need of such work.

Once the mining concession is constituted to carry out exploration and/or exploitation work as the case may be, its titleholder must obtain written permission from the titleholders of surface lands and additionally, if this is the case, from some administrative authorities if the performance of the work affects or can affect populated places, of public interest or of national security, as detailed in articles 14, 15 and 17 of the MC.

Also, once the mining concession is constituted, it grants the titleholder the right to impose special mining easements on surface lands after a determination of the indemnifications to be paid to the owner of the land, agreed with it or fixed judicially. The mining easements can be of traffic or access, of electric services and of occupation in the terms and scopes of article 120 of the MC, easements that cannot be imposed in land where permanent constructions exists or which are covered by plantations of forests, vineyards and fruits.

#### D. Water Rights.

The Mining Concessions grant the concessionary (holder of the mining concession) the right to use the water resources found while developing exploration and/or exploitation works, only for the purposes of the exploration and/or exploitation works. In case that no water resources are found in the course of the mining works, such resource shall be secured by incorporating and/or purchasing water rights from the State of Chile, through the Dirección General de Aguas<sup>2</sup> by proving both the existence of the water resources requested and the existence of a project justifying the use thereof.

#### E. Specific Tax to the Mining Activities.

There is a tax applied to persons who carry out mining exploitation on a certain volume of sales of mineral substances. This tax is progressive and is charged over the "operational income" (net taxable income deducted operational expenditures) of a mining producer at rates ranging from 0% (annual sales less than 12,000 tons of pure copper or its equivalent) to 5% (annual sales more than 50,000 of pure copper or its equivalent). This is a tax applied only to a mining producer and not to mining prospectors.

<sup>2</sup> Water General Bureau

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#### LEGAL OPINION REGARDING THE PROPERTIES

#### A. Mining Properties of MHS.

#### Mining Properties of El Arrayán Project:

Based on the Project and its analysis, we may conclude that:

- (a) The "Manifestaciones" part of the El Arrayán Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (b) All those Mining Properties are duly registered in the name of MHS and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the El Arrayán Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of San José Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of MHS are duly incorporated and are existing and valid.
- (b) The "Pedimentos" and "Manifestaciones part of the San José Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of MHS and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the San José Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Los Pumas Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of MHS are duly incorporated and are existing and valid.
- (b) The "Pedimentos" and "Manifestaciones part of the Los Pumas Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of MHS and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Los Pumas Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

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Mining Properties of Las Santas Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of MHS are duly incorporated and are existing and valid.
- (b) The "Pedimentos" and "Manifestaciones" part of the Las Santas Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of MHS and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Las Santas Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### B. Mining Properties of Futuro.

Mining Properties of Mantos Grandes Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration and Exploitation concessions already granted and registered under the domain of Futuro are duly incorporated and are existing and valid.
- (b) The "Pedimentos" and "Manifestaciones" part of the Mantos Grandes Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of Futuro and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Mantos Grandes Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### C. Mining Properties of SAM.

#### Mining Properties of Carboneras Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The "Pedimentos" part of the Carboneras Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (b) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the Carboneras Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.

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(d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Meteorito Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The "Manifestaciones" part of the Meteorito Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (b) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the Meteorito Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Tuina Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The "Manifestaciones" part of the Tuina Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (b) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the Tuina Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Juan Soldado Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of SAM are duly incorporated and are existing and valid.
- (b) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the Juan Soldado Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Tres Cruces Project:

Based on the Project's and its analysis, we may conclude that:

(a) The Mining Exploration concessions already granted and registered under the domain of SAM are duly incorporated and are existing and valid.

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- (b) The "Manifestaciones" part of the Tres Cruces Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Tres Cruces Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Cunlagua Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of SAM are duly incorporated and are existing and valid.
- (b) The "Manifestaciones" part of the Cunlagua Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of SAM and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Cunlagua Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### D. Mining Properties of PAM.

#### Mining Properties of Angel Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration concessions already granted and registered under the domain of PAM are duly incorporated and are existing and valid.
- (b) All those Mining Properties are duly registered in the name of PAM and therefore are of its sole and exclusive domain.
- (c) The annual claim fees for each mining concession that is part of the Angel Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### Mining Properties of Chitigua Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The "Manifestaciones" part of the Chitigua Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (b) All those Mining Properties are duly registered in the name of PAM and therefore are of its sole and exclusive domain.
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- (c) The annual claim fees for each mining concession that is part of the Chitigua Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (d) Neither of such mining properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

Mining Properties of Santa Gracia Project:

Based on the Project's and its analysis, we may conclude that:

- (a) The Mining Exploration and Exploitation concessions already granted and registered under the domain of PAM are duly incorporated and are existing and valid.
- (b) The "Pedimentos" and "Manifestaciones" part of the Santa Gracia Project, have until this date observed all the requirements contemplated in the Mining Code as procedural and formal requirements.
- (c) All those Mining Properties are duly registered in the name of PAM and therefore are of its sole and exclusive domain.
- (d) The annual claim fees for each mining concession that is part of the Santa Gracia Project has been paid on time. On the other hand the Specific Tax to the Mining Activities is not applicable to the mining concessions because its titleholder does not carry out mining exploitation over them.
- (e) Neither of such Mining Properties are subject to liens, prohibitions, embargoes or lawsuit of any kind.

#### **QUALIFICATIONS**

Our Report is based on, and subject to, the assumptions and qualifications set out below and as otherwise specified elsewhere in this Report:

- We have relied upon information provided by third parties, including government departments (SERNAGEMIN) and have relied upon that information being accurate, complete and up to date as at the date of its receipt.
- References to areas in the Mining Property Schedule are taken from the searches made by the Companies Landsman Mr. Marcelo Nuñez, and we have not verified the accuracy of such areas.
- We express no opinion whether the mining property rights which are the purpose of each application in progress ("Pedimentos" and "Manifestaciones") will ultimately be granted in whole or in part notwithstanding that should the steps required by the MC be accomplished within the timeframe provided for each of such steps, the final exploration or exploitation concession are to be granted.
- The property right of the concessionary (holder of the mining concession) is protected by the constitutional law property right and as a consequence of such protection its right over the concession title and to initiate and continue the development of exploration and/ or exploitation activities upon the concedable minerals which are the object of the concession is guaranteed. This protection gives full access to the economic benefits that may be obtained form the exploitation of the minerals.
- Once the mining concession is constituted for conducting exploration and/or exploitation activities, its titleholder must obtain written permission from the titleholders of surface lands

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and additionally, if applicable, from some administrative authorities if the performance of the work affects or can affect populated places, of public interest or of national security, as detailed in articles 14, 15 and 17 of the MC. If the permission of the titleholders of surface lands is not obtained from them, then titleholder of the mining concession has the right to impose special mining easements upon the surface lands after a determination of the compensation to be paid to the owner of the land. Such mining easements can be of traffic or access, of electric services and of occupation in the terms and scopes of article 120 of the MC. It shall be bear in mind that such mining easements cannot be imposed in land where permanent constructions exists or which are covered by plantations of forests, vineyards and fruits, where only the permit from the owner gives the require access.

- We have reviewed and are certain of the compliance by the Companies with all applicable provisions of the PCR, COL, MC, MCR and all other legislation or regulations relating to the process of constitution of the Mining Properties and we note that the interest or rights of the Companies in relation to the Mining Properties is subject to the Companies continuing to comply with the payment of the annual "Anparo" liability (payment of an annual charge to the State).
- We have assumed that all instructions or information which we have received from the Companies or any of its officers, agents, or representatives is accurate and complete in all respects.

#### CONSENT

Quinzio & Vergara consent to being named in the Prospectus as being responsible for the preparation of this Report. Except for this Report, Quinzio & Vergara:

- has not authorised or caused the issue of the Prospectus;
- (b) is not responsible for any matter included in or omitted from this Prospectus;
- (c) makes no representation or warranty, either express or implied, with respect to the accuracy or completeness of the information contained in the Prospectus; and
- (d) disclaims liability to any persons in respect of any statement included in or omitted from the Prospectus.

Yours faithfully,

Cristián Quinzi Senior Partne

**QUINZIO & VERGARA** 

#### MINING PROPERTY SCHEDULE (Schedule to Solicitors Report)

Concession	Ped./Man./ Exp./Expt.	Area (ha)	Location	Expiration date	Notes
EL ARRAYÁN PROJECT					
SAN JAMES 1, 1 AL 100	Man.	53	VICUÑA		2
SAN JAMES 1, 101 AL 200	Man.	79	VICUÑA		2
SAN JAMES 2, 1 AL 60	Man.	26	VICUÑA		2
SAN JAMES 2, 61 AL 200	Man.	127	VICUÑA		2
SAN JAMES 3, 1 AL 200	Man.	147	VICUÑA		2
SAN JAMES 4, 1 AL 300	Man.	300	VICUÑA		2
SAN JAMES 5, 1 AL 300	Man.	300	VICUÑA		2
SAN JAMES 6, 1 AL 30	Man.	270	LA SERENA		2
SAN JAMES 7, 1 AL 100	Man.	45	LA SERENA		2
SAN JAMES 8, 1 AL 20	Man.	12	VICUÑA		2
SAN JAMES 9, 1 AL 15	Man.	12	VICUÑA		2
SAN JAMES 10, 1 AL 24	Man.	11	VICUÑA		2
SAN JAMES 11, 1 AL 6	Man.	6	VICUÑA		2
SAN TREVOR 1, 1 AL 300	Man.	256	VICUÑA		2
SAN TREVOR 2,1 AL 300	Man.	267	VICUÑA		2
SAN TREVOR 3, 1 AL 150	Man.	98	VICUÑA		2
SAN TREVOR 3, 151 AL 300	Man.	150	VICUÑA		2
SAN TREVOR 4, 1 AL 150	Man.	90	VICUÑA		2
SAN TREVOR 4, 151 AL 300	Man.	150	VICUÑA		2
SAN TREVOR 5, 1 AL 300	Man.	300	VICUÑA		2
SAN TREVOR 6, 1 AL 250	Man.	250	VICUÑA		2
SAN TREVOR 7, 1 AL 60	Man.	300	VICUÑA		2
SAN TREVOR 8, 1 AL 60	Man.	300	VICUÑA		2
SAN TREVOR 9 1 AL 60	Man.	300	VICUÑA		2
SAN TREVOR 10, 1 AL 75	Man.	32	VICUÑA		2
SAN TREVOR 10, 76 AL 150	Man.	70	VICUNA		2
SAN TREVOR 10, 151 AL 225	Man.	39	VICUNA		2
SAN JOSE UNO 1 AL 23	Man.	76	VICUNA		2
SAN JOSE DOS 1 AL 34	Man.	170	VICUNA		2
SAN JOSE TRES 1 AL 54	Man.	241	VICUNA		2
SAN ALFONSO UNO 1 AL 38	Man.	174	VICUNA		2
SAN ALFONSO DOS 1 AL 25	Man.	125	VICUNA		2
SAN ALFONSO TRES 1 AL 36	Man.	163	VICUNA		2
SAN ALFONSO CUATRO 1 AL 50	Man.	242	VICUNA		2
SAN JORGE UNO 1 AL 12	Man.	44	VICUNA		2
SAN JORGE DOS 1 AL 49	Man.	191	VICUNA		2
SAN JORGE TRES 1 AL 36	Man.	144	VICUNA		2
SAN JORGE CUAIRO 1 AL 60	Man.	300	VICUNA		2
SAN JORGE CINCO 1 AL 11	Man.	33	VICUNA		2
SAN JOSÉ PROJECT					
YANET 1	Ped.	300	CHILLAN		2
YANET 2	Exp.	300	CHILLAN	09-06-2011	
YANET 3	Exp.	100	CHILLAN	05-06-2011	

#### MINERA HEMISFERIO SUR SCM

YANET 4	Exp.	300	CHILLAN	02-09-2011	
YANET 5	Exp.	300	CHILLAN	23-07-2011	
YANET 6	Exp.	300	CHILLAN	23-07-2011	
YANET 7	Exp.	300	CHILLAN	02-09-2011	
YANET 8	Exp.	200	CHILLAN	23-07-2011	
YANET 9	Exp.	100	CHILLAN	23-07-2011	
YANET 10	Exp.	300	CHILLAN	23-07-2011	
YANET 11	Exp.	300	CHILLAN	23-07-2011	
YANET 12	Exp.	300	CHILLAN	09-06-2011	
YANET 13	Ped.	100	CHILLAN		2
YANET 14	Exp.	300	CHILLAN	07-05-2011	
YANET 15	Exp.	300	CHILLAN	05-05-2011	
IGNACIA 1	Exp.	300	CHILLAN	05-06-2011	
IGNACIA 2	Exp.	300	CHILLAN	23-07-2011	
IGNACIA 3	Exp.	300	CHILLAN	09-06-2011	
IGNACIA 4	Exp.	300	CHILLAN	09-06-2011	
LEYLA 1 AL 60	Man.	300	CHILLAN		2
PATRICIA 1 AL 60	Man.	200	CHILLAN		2
ANDREA 1 AL 60	Man.	300	CHILLAN		2
EDUARDO 1 AL 60	Man.	300	CHILLAN		2
TERESA 1 AL 60	Man.	300	CHILLAN		2
PACITA 1 AL 60	Man.	300	CHILLAN		2
DAVID 1 AL 60	Man.	300	CHILLAN		2
BASILIO 1 AL 60	Man.	300	CHILLAN		2
RODOLFO 1 AL 60	Man.	300	CHILLAN		2
SAN GONZALO 1 AL 30	Man.	300	CHILLAN		2
SAN ALBERTO 1 AL 30	Man.	300	CHILLAN		2
SAN CRISTIÁN 1 AL 20	Man.	200	CHILLAN		2
LOS PUMAS PROJECT					

PUTRE 1	Exp.	300	ARICA	15-05-2011	
PUTRE 2	Exp.	300	ARICA	15-05-2011	
PUTRE 3	Exp.	300	ARICA	15-07-2011	
PUTRE 4	Exp.	300	ARICA	15-07-2011	
PUTRE 5	Exp.	300	ARICA	15-05-2011	
PUTRE 6	Exp.	300	ARICA	15-05-2011	
PUTRE 7	Exp.	100	ARICA	15-07-2011	
PUTRE 8	Exp.	100	ARICA	15-07-2011	
PUMA 1	Exp.	300	ARICA	18-05-2011	
PUMA 2	Exp.	300	ARICA	18-05-2011	
PUMA 3	Exp.	200	ARICA	18-05-2011	
PUMA 4	Exp.	200	ARICA	18-05-2011	
PUMA NORTE 4	Exp.	200	ARICA	06-07-2011	
LLUTA 1	Exp.	300	ARICA	02-07-2011	
LLUTA 2	Ped.	300	ARICA		2
YUCRA 1	Ped.	100	ARICA		2
PUMA NORTE 1	Ped.	200	ARICA		2
PUMA NORTE 2	Ped.	300	ARICA		2
PUMA NORTE 3	Ped.	300	ARICA		2
PUMA NORTE 5	Ped.	200	ARICA		2

PUMA NORTE 6	Ped.	200	ARICA		2
PUMA NORTE 7	Ped.	200	ARICA		2
PUMA NORTE 8	Ped.	200	ARICA		2
PUMA NORTE 9	Ped.	200	ARICA		2
PUMA NORTE 10	Ped.	200	ARICA		2
TREN 1	Ped.	300	ARICA		2
BELEN 1	Ped.	300	ARICA		2
BELEN 2	Ped.	200	ARICA		2
BELEN 3	Ped.	300	ARICA		2
ABUNDANCIA 1	Ped.	300	ARICA		2
ABUNDANCIA 2	Ped.	300	ARICA		2
ABUNDANCIA 3	Ped.	300	ARICA		2
ABUNDANCIA 4	Ped.	300	ARICA		2
ABUNDANCIA 5	Ped.	300	ARICA		2
ABUNDANCIA 6	Ped.	300	ARICA		2
ABUNDANCIA 7	Ped.	300	ARICA		2
NACIMIENTO 1	Ped.	300	ARICA		2
NACIMIENTO 2	Ped.	300	ARICA		2
NACIMIENTO 3	Ped.	300	ARICA		2
MATEO 3	Ped	200	ARICA		2
MATEO 4	Ped.	200	ARICA		2
PASCUALA 1	Ped	300	ARICA		2
PASCUALA 2	Ped	300	ARICA		2
PASCUALA 3	Ped	300	ARICA		2
PASCUALA 4	Ped	300	ARICA		2
PASCUALA 5	Ped	200	ARICA		2
PASCUALA 6	Ped	300	ARICA		2
	Man	300	ARICA		2
MATEO 1 1 AL 20	Man	200	ARICA		2
MATEO 2 1 AL 20	Man	200	ARICA		2
	Man	200	ARICA		2
	Man	200	ARICA		2
	Expt	200			1 and 3
EMANUEL DEL 1 AL 20	Expt.	200			1 and 3
	LAPI.	200	AIIOA		
LAS SANTAS PROJECT					
SANTA CRISTINA	Exp	200		28-07-2010	
SANTA FI BA	Exp.	300		23-07-2010	
SANTA ELISA	Exp.	300		23-07-2010	
SANTA ISAURA	Exp.	300		28-07-2010	
SANTA JUANA	Exp.	300		28-07-2010	
	Exp. Exp	200		23-07-2010	
	Exp.	200		28-07-2010	
	Exp. Exp	200		20 07 2010	
	Exp. Exp	300		27-07-2011	
	Evp.	300		27-07-2011	
	Evp.	300		27-07-2011	
	Evp.	300		27-07-2011	
	Evp.	300		27-07-2011	
	Dod	200		21-01-2011	0
OANTA ANA /	reu.	200	ILLAFEL		2

SANTA ANA 8	Ped.	200	ILLAPEL	2
SANTA ANA 9	Ped.	300	ILLAPEL	2
SANTA ANA 10	Ped.	300	ILLAPEL	2
SANTA ANA 11	Ped.	300	ILLAPEL	2
SANTA ANA 12	Ped.	300	ILLAPEL	2
SANTA ANA 13	Ped.	300	ILLAPEL	2
SANTA ANA 14	Ped.	300	ILLAPEL	2
SANTA ANA 15	Ped.	300	ILLAPEL	2
SANTA ANA 16	Ped.	300	ILLAPEL	2
SANTA ANA 17	Ped.	300	ILLAPEL	2
SANTA ANA 18	Ped.	300	ILLAPEL	2
SANTA ANA 19	Ped.	300	ILLAPEL	2
SANTA ANA 20	Ped.	200	ILLAPEL	2
SANTA ANA 21	Ped.	200	ILLAPEL	2
SANTA ANA 22	Ped.	300	ILLAPEL	2
SANTA NATALIA 1 AL 40	Man.	200	ILLAPEL	2
SANTA CAMILA 1 AL 27	Man.	122	ILLAPEL	2
SANTA SANDRA 1 AL 40	Man.	200	ILLAPEL	2
SANTA CLARITA 1 AL 40	Man.	200	ILLAPEL	2
SANTA PAULINA 1 AL 40	Man.	200	ILLAPEL	2
SANTA MACARENA 1 AL 40	Man.	200	ILLAPEL	2
SANTA ANA 1 AL 60	Man.	300	ILLAPEL	2
SANTA MARIA 1 AL 60	Man.	300	ILLAPEL	2
SANTA CECILIA 1 AL 20	Man.	97	ILLAPEL	2
SANTA NORMA 1 AL 40	Man.	200	ILLAPEL	2
SANTA INES 1 AL 40	Man.	200	ILLAPEL	2
SANTA XIMENA 1 AL 60	Man.	289	ILLAPEL	2
SANTA MARIELA 1 AL 40	Man.	200	ILLAPEL	2
SANTA EMA 1 AL 27	Man.	132	ILLAPEL	2
SANTA GUADALUPE 1 AL 39	Man.	194	ILLAPEL	2

#### MINERA AMÉRICA DEL SUR SCM

208

Concession	Ped./Man./ Exp./Expt.	Area (ha)	Location	Expiration date	Notes
CARBONERAS PROJECT					
CARBONERAS 10	Ped.	300	MARIA ELENA		2
CARBONERAS 11	Ped.	300	MARIA ELENA		2
CARBONERAS 12	Ped.	300	MARIA ELENA		2
CARBONERAS 13	Ped.	300	MARIA ELENA		2
CARBONERAS 14	Ped.	300	MARIA ELENA		2
CARBONERAS 15	Ped.	300	MARIA ELENA		2
CARBONERAS 16	Ped.	300	MARIA ELENA		2
CARBONERAS 17	Ped.	300	MARIA ELENA		2
CARBONERAS 18	Ped.	300	MARIA ELENA		2
METEORITO PROJECT					
IBON 1 1 al 40	Man	200	MARIA FI FNA		2

IRON 1, 1 al 40	Man.	200	MARIA ELENA	2
IRON 2, 1 al 40	Man.	200	MARIA ELENA	2
IRON 3, 1 al 40	Man.	200	MARIA ELENA	2

IRON 4, 1 al 40	Man.	200	MARIA ELENA		2
IRON 5, 1 al 60	Man.	300	MARIA ELENA		2
IRON 6, 1 al 60	Man.	300	MARIA ELENA		2
JOYA 1, 1 al 60	Man.	300	MARIA ELENA		2
JOYA 2, 1 al 60	Man.	300	MARIA ELENA		2
TUINA PROJECT					
MANGANESO 4, 1 al 10	Man.	100	CALAMA		2
MANGANESO 5, 1 al 60	Man.	300	CALAMA		2
OXIN 1, 1 al 60	Man.	300	CALAMA		2
JUAN SOLDADO PROJECT					
AZUL 5	Exp.	300	LA SERENA	26-05-2011	
AZUL 6	Exp.	300	LA SERENA	26-05-2011	
AZUL 7	Exp.	300	LA SERENA	26-05-2011	
AZUL 8	Exp.	300	LA SERENA	27-05-2011	
TRES CRUCES PROJECT					
AGUILA 11, 1 AL 10	Man.	300	LA SERENA		2
AGUILA 16, 1 AL 200	Man.	300	LA SERENA		2
SERGIO 1 AL 5	Expt.	25	LA SERENA		2
TRES CRUCES 1	Exp.	300	LA SERENA	27-05-2011	
TRES CRUCES 2	Exp.	300	LA SERENA	05-12-2010	
TRES CRUCES 3	Exp.	300	LA SERENA	05-12-2010	
TRES CRUCES 4	Exp.	300	LA SERENA	05-12-2010	
TRES CRUCES 5	Exp.	300	LA SERENA	05/12/1010	
TRES CRUCES 6	Exp.	300	LA SERENA	17-02-2011	
TRES CRUCES 7	Exp.	300	LA SERENA	17-02-2011	
TRES CRUCES 8	Exp.	300	LA SERENA	17-02-2011	
TRES CRUCES 9	Exp.	300	LA SERENA	18-02-2011	
TRES CRUCES 10	Exp.	300	LA SERENA	27-05-2011	
TRES CRUCES 11	Exp.	200	LA SERENA	27-05-2011	
TRES CRUCES 12	Exp.	300	LA SERENA	28-05-2011	
TRES CRUCES 13	Exp.	200	LA SERENA	29-05-2011	
TRES CRUCES 14	Exp.	300	LA SERENA	28-05-2011	
TRES CRUCES 15	Exp.	300	LA SERENA	28-05-2011	
TRES CRUCES 16	Exp.	300	LA SERENA	29-05-2011	
TRES CRUCES 17	Exp.	200	LA SERENA	28-05-2011	
TRES CRUCES 18	Exp.	300	LA SERENA	29-05-2001	
CUNLAGUA PROJECT					
CUNLAGUA 1, 1 AL 30	Man.	300	ILLAPEL		2
CUNLAGUA 2, 1 AL 30	Man.	300	ILLAPEL		2
CUNLAGUA 3, 1 AL 20	Man.	200	ILLAPEL		2
CUNLAGUA 4, 1 AL 30	Man.	300	ILLAPEL		2
CUNLAGUA 5, 1 AL 30	Man.	300	ILLAPEL		2
CUNLAGUA SEIS	Exp.	300	ILLAPEL	28-08-2010	
CUNLAGUA SIETE	Exp.	300	ILLAPEL	28-08-2010	
CUNLAGUA OCHO	Exp.	300	ILLAPEL	28-08-2010	
CUNLAGUA NUEVE	Exp.	300	ILLAPEL	28-08-2010	

CUNLAGUA DIEZ	Exp.	100	ILLAPEL	28-08-2010
CUNLAGUA ONCE	Exp.	100	ILLAPEL	28-08-2010

#### MINERA PANAMERICANA SCM

Concession	Ped./Man./ Exp./Expt.	Area (ha)	Location	Expiration date	Notes
ANGEL PROJECT					
ANGEL 1	Exp.	300	COQUIMBO	30-06-2010	
ANGEL 2	Exp.	300	COQUIMBO	30-06-2010	
ANGEL 3	Exp.	200	COQUIMBO	30-06-2010	
CHITGUA PROJECT					
CHITIGUA 4, 1 AL 75	Man.	300	CALAMA		2
CHITIGUA 4, 76 AL 150	Man.	300	CALAMA		2
CHITIGUA 7, 1 AL 50	Man.	200	CALAMA		2
CHITIGUA 8, 1 AL 120	Man.	300	CALAMA		2
CHITIGUA 13, 1 AL 36	Man.	200	CALAMA		2
CHITIGUA 14, 1 AL 36	Man.	300	CALAMA		2
CHITIGUA 16, 1 AL 6	Man.	200	CALAMA		2
CHITIGUA 18, 1 AL 200	Man.	300	CALAMA		2
CHITIGUA 19, 1 AL 40	Man.	100	CALAMA		2
CHITIGUA 25, 1 AL 45	Man.	100	CALAMA		2
CHITIGUA 25, 46 AL 90	Man.	100	CALAMA		2
CHITIGUA 26, 1 AL 60	Man.	100	CALAMA		2
CHITIGUA 27, 1 AL 60	Man.	300	CALAMA		2
CHITIGUA 30, 1 AL 45	Man.	300	CALAMA		2
CHITIGUA 31, 1 AL 60	Man.	200	CALAMA		2
CHITIGUA 32, 1 AL 60	Man.	200	CALAMA		2
CHITIGUA 33, 1 AL 30	Man.	300	CALAMA		2
CHITIGUA 33, 31 AL 60	Man.	300	CALAMA		2
CHITIGUA 34, 1 AL 30	Man.	300	CALAMA		2
CHITIGUA 35, 1 AL 10	Man.	100	CALAMA		2

#### SANTA GRACIA PROJECT

CHACAY 1	Exp.	300	LA SERENA	09-05-2010
CHACAY 2	Exp.	300	LA SERENA	09-05-2010
CHACAY 3	Exp.	300	LA SERENA	12-05-2010
CHACAY 4	Exp.	100	LA SERENA	12-05-2010
CHACAY 5	Exp.	200	LA SERENA	12-05-2010
CHACAY 6	Exp.	200	LA SERENA	12-05-2010
CHACAY 7	Exp.	100	LA SERENA	12-05-2010
CHACAY 8	Exp.	300	LA SERENA	28-03-2010
CHACAY 9	Exp.	100	LA SERENA	28-03-2010
CHACAY 10	Exp.	100	LA SERENA	13-05-2010
CHACAY 11	Exp.	200	LA SERENA	13-05-2010
CHACAY 12	Exp.	100	LA SERENA	13-05-2010
CHACAY 13	Exp.	200	LA SERENA	13-05-2010
CHACAY 14	Exp.	300	LA SERENA	28-03-2010
CHACAY 15	Exp.	300	LA SERENA	13-05-2010
CHACAY 16	Exp.	300	LA SERENA	13-05-2010

CHACAY 17	Exp.	100	LA SERENA	13-05-2010	
CHACAY 18	Exp.	100	LA SERENA	13-05-2010	
CHACAY 19	Exp.	200	LA SERENA	14-05-2010	
CHACAY 20	Exp.	300	LA SERENS	14-05-2010	
CHACAY 21	Exp.	300	LA SERENA	14-05-2010	
CHACAY 22	Exp.	200	LA SERENA	14-05-2010	
CHACAY 23	Exp.	200	LA SERENA	14-05-2010	
CHACAY 24	Exp.	200	LA SERENA	08-05-2010	
CHACAY 25	Exp.	200	LA SERENA	08-05-2010	
CHACAY 26	Exp.	200	LA SERENA	09-05-2010	
CHACAY 27	Exp.	200	LA SERENA	09-05-2010	
CHACAY 28	Exp.	200	LA SERENA	08-05-2010	
CHACAY 29	Exp.	300	LA SERENA	14-05-2010	
CHACAY 30	Exp.	300	LA SERENA	08-05-2010	
CHACAY 31	Exp.	300	LA SERENA	08-05-2010	
CHACAY 32	Exp.	200	LA SERENA	14-05-2010	
CHACAY 33	Exp.	200	LA SERENA	08-05-2010	
CHACAY 34	Exp.	300	LA SERENA	08-05-2010	
CHACAY 35	Exp.	300	LA SERENA	08-05-2010	
CHACAY 36	Exp.	300	LA SERENA	14-05-2010	
CHACAY 37	Exp.	100	LA SERENA	09-02-2011	
TANIA 1	Exp.	300	LA SERENA	19-02-2011	
TANIA 2	Exp.	300	LA SERENA	19-02-2011	
TANIA 3	Exp.	200	LA SERENA	19-02-2011	
TANIA 4	Exp.	100	LA SERENA	20-02-2011	
LAS PERDICES 1	Ped.	300	LA SERENA		2
LAS PERDICES 2	Ped.	300	LA SERENA		2
LAS PERDICES 3	Ped.	300	LA SERENA		2
LAS PERDICES 4	Ped.	300	LA SERENA		2
LAS PERDICES 5	Ped.	200	LA SERENA		2
LAS PERDICES 6	Ped.	300	LA SERENA		2
LAS PERDICES 7	Ped.	300	LA SERENA		2
LA CUYANA 1 AL 5	Expt.	25	LA SERENA		1
SAN SEBASTIÁN 1 AL 5	Expt.	25	LA SERENA		1
LA COIPA 3, 1 AL 30	Man.	300	LA SERENA		2
LA COIPA 4, 1 AL 20	Man.	200	LA SERENA		2
LA COIPA 6, 1 AL 30	Man.	300	LA SERENA		2
SANTA GRACIA 12, 1 AL 300	Man.	300	LA SERENA		2

#### SERVICIOS E INVERSIONES FUTURO LTDA.

Concession	Ped./Man./ Exp./Expt.	Area (ha)	Location	Expiration date	Notes
MANTOS GRANDES PROJECT					
MANTOS 14	Exp.	300	MONTE PATRIA	31-12-2010	
MANTOS 15	Exp.	200	MONTE PATRIA	31-12-2010	
MANTOS 16	Ped.	300	MONTE PATRIA		2
MANTOS 17	Ped.	300	MONTE PATRIA		2
MANTOS 18	Ped.	200	MONTE PATRIA		2
MANTOS 19	Ped.	300	MONTE PATRIA		2
MANTOS 20	Ped.	300	MONTE PATRIA		2

FUTUTO CINCO UNO AL SESENTA	Expt.	300	MONTE PATRIA	1
MANTOS GRANDES UNA AL ONCE	Expt.	55	MONTE PATRIA	1
MANTOS CHICOS UNA AL VEINTE	Expt.	100	MONTE PATRIA	1
LA ESCONDIDA UNA AL VEINTE	Expt.	100	MONTE PATRIA	1
MANTOS 1, 1 AL 10	Man.	100	MONTE PATRIA	2
MANTOS 2, 1 AL 20	Man.	200	MONTE PATRIA	2
MANTOS 3, 1 AL 20	Man.	200	MONTE PATRIA	2
MANTOS 4, 1 AL 20	Man.	200	MONTE PATRIA	2
MANTOS 5, 1 AL 20	Man.	200	MONTE PATRIA	2
MANTOS 6, 1 AL 30	Man.	300	MONTE PATRIA	2
MANTOS 7, 1 AL 300	Man.	178	MONTE PATRIA	2
MANTOS 8, 1 AL 130	Man.	95	MONTE PATRIA	2
MANTOS 9, 1 AL 30	Man.	300	MONTE PATRIA	2
MANTOS 10, 1 AL 300	Man.	136	MONTE PATRIA	2
MANTOS 11, 1 AL 130	Man.	50	MONTE PATRIA	2
MANTOS 12, 1 AL 300	Man.	268	MONTE PATRIA	2
MANTOS 13, 1 AL 100	Man.	99	MONTE PATRIA	2
MANTOS 21, 1 AL 20	Man.	200	MONTE PATRIA	2
MANTOS 21, 21 AL 30	Man.	100	MONTE PATRIA	2
MANTOS 22, 1 AL 20	Man.	200	MONTE PATRIA	2

With the exception of those concessions that are subject to an Option Agreement, all the Mining Properties listed in this Mining Property Schedule are 100% owned by Minera Hemisferio Sur SCM, Minera América del Sur SCM, Minera Panamericana SCM and Servicios e Inversiones Futuro respectively.

#### Key

#### **Mining Property**

Ped. "Pedimento" (request for exploration mining concession).

- Man. "Manifestación" (request for exploitation mining concession).
- Exp. Exploration mining concession.
- Expt. Exploitation mining concession or "Pertenencia".

#### Notes

- 1. The exploitation mining concession has an indefinite effective period and to maintain its validity the concessionaire only has to pay the annual mining patent ("Amparo").
- 2. "Pedimento" and "Manifestación" are the request for exploration and exploitation mining concessions respectively. The validity of a "Pedimento" and of a "Manifestación" is subject to the compliance by their petitioner with all the requirements that for the constitution of an exploration or exploitation concessions, respectively, are contemplated in the MC.
- 3. These mining concessions are owned by a company called Sociedad Minera Kaiora International Limitada, and are subject to an Option Agreement between this company as the "Offeror" and Minera Hemisferio Sur SCM as the "Beneficiary".

Set out below is a summary of the contracts to which the Company is a party which may be material in terms of this Prospectus.

To fully understand all rights and obligations of a material contract it would be necessary to review each contract in full and the summaries below should be read in that light.

#### 9.1 Kaiora Option agreement

The Kaiora Option Agreement is an agreement between Minera Hemisferio Sur SCM (MHS), a 99.99% subsidiary of the Company and Sociedad Minera Kaiora International Limitada (Kaiora). By the agreement made in March 2009 MHS has an option to acquire an interest in two mining licences being "Emanuel del 1 AL 20" and "Awahou 1-20" which together cover approximately 136 square kilometres near Putre in northern Chile. These two licences are granted exploitation mining concessions and constitute part of the Los Pumas Manganese Project.

MHS will acquire an interest in the mining licences by the acquisition of shares in a Chilean mining company which is yet to be formed.

The acquisition may occur by two options, being Option A and Option B.

MHS exercised Option A prior to 1 December 2009 by the total payment of US\$1,050,000. US\$50,000 was paid prior to the agreement, a further payment of US\$200,000 was paid within 6 months of the date of the agreement and the balance of the sum of US\$800,000 was paid in November 2009. By exercising Option A, MHS has the right to 50% of the Chilean company to be formed to hold the mining licences.

MHS has a further right by Option B to acquire the remaining 50% ownership of the shares to be held in the Chilean holding company. By a deed of variation in November 2009 MHS has two alternatives in respect of Option B. Firstly, it may exercise Option B by paying US\$700,000 by 31 January 2010. If this alternative is not undertaken, MHS may exercise Option B by making a payment of US\$1,000,000 by 1 December 2010.

The agreement is governed by the laws of Chile.

#### 9.2 Executive Director agreements

The Company has entered into executive service agreements with Mr Tennant and Mr Pearson.

Mr Tennant is employed as the managing director of the Company to perform the functions and responsibilities of the role of managing director including as delegated or assigned by the Board. Mr Tennant additionally performs the role as Chairman of the Company until the appointment by the Board of a non-executive Chairman.

Mr Pearson is employed as an executive of the Company to perform the functions and responsibilities of the role of an executive director including as delegated or assigned by the Board.

The agreements are to commence from the date of listing of the Company on the ASX and supersede and replace any existing agreements. The engagement of Mr Tennant as managing director and Mr Pearson as an executive director continues until terminated in accordance with the agreements. The Company may terminate the employment upon limited events akin to misconduct or incapacity. Additionally, either party may terminate the agreement without cause on six months written notice.

Mr Tennant will receive an annual salary of \$350,000 inclusive of statutory superannuation. Mr Tennant will not be paid a separate director's fee for serving on the Board.

Mr Pearson will receive an annual salary of \$250,000 inclusive of statutory superannuation. Mr Pearson will not be paid a separate director's fee for serving on the Board.

The agreements are governed by the laws of Western Australia.

#### 9.3 Corporate Advisor Mandate Agreement

Pursuant to an agreement executed on 12 October 2009 between Euroz Securities Limited (Euroz) and the Company, Euroz has been engaged as the Company's exclusive corporate advisor to provide corporate services including managing and facilitating the Offer and providing general corporate advice to the Company including advice relating to the Offer and post-Offer marketing and selling services.

The relevant fee payable by the Company to Euroz under the agreement is a monthly retainer of \$25,000 payable from the date of the agreement (October 2009) capped to a maximum amount of \$75,000. The agreement is governed by the laws of Western Australia.

#### 9.4 Underwriting agreement

The Offer is fully underwritten at the Offer Price by the Underwriter pursuant to an underwriting agreement dated 2 December 2009 between the Company and the Underwriter. The Underwriter may at any time at its own cost appoint sub-underwriters or Brokers to the Offer.

Under the agreement, subject to completion of the Offer, Southern Hemisphere has agreed to pay to the Underwriter an underwriting fee equal to 4% of the total proceeds of the Offer, a management fee equal to 1% of the total proceeds of the Offer and 1,000,000 Options with an exercise price of 25 cents and an expiry date of 31 December 2012. The Options will be issued within 5 business days of the close of the Offer. The terms of the Options are set out in section 10.5.

The agreement contains various representations and warranties made by the Company to the Underwriter which are usual for an agreement of this nature. Additionally, the agreement imposes various obligations on the Company including obligations relating to the Offer and the Prospectus complying with regulatory requirements and the Company ensuring that for six months after the closing date it cannot undertake various events of change such as change to its capital structure, constituent documents, undertaking a share buy-back and the like.

Subject to certain exclusions, including liabilities arising from wilful default, fraud or gross negligence, the Company has agreed to indemnify the Underwriter and its directors, officers, employees and agents against all prosecutions, losses, liabilities, damages, costs and expenses arising from the Company's non-compliance with any legal or regulatory requirements, any form of advertising or statement concerning the Offer, any statement, misstatement or omission from the Prospectus, or from the Company's breach of the agreement.

The Underwriter may terminate its obligations under the agreement in any of the following circumstances:

- (a) (Indices fall): the S&P ASX 200 Index is at any time after the date of the agreement 10% or more below its respective level as at the close of business on the Business Day prior to the date of the agreement;
- (b) (Prospectus): the Company does not lodge the Prospectus on the lodgement date or the Prospectus or the Offer is withdrawn by the Company;
- (c) (**Copies of Prospectus**): the Company fails to provide copies of the Prospectus as the Underwriter reasonably requires and such failure is not remedied within a further 3 business days;
- (d) (**No Listing Approval**): Listing approval has not been granted by the shortfall notice deadline date or, having been granted, is subsequently withdrawn, withheld or qualified;
- (e) (Supplementary prospectus):
  - (i) the Underwriter, having elected not to exercise its right to terminate its obligations under the agreement as a result of an adverse change, forms the view on reasonable grounds that a supplementary prospectus should be lodged with ASIC for any of the reasons referred to in section 719 of the Corporations Act and the Company fails to lodge a supplementary prospectus in such form and content and within such time as the Underwriter may reasonably require; or
  - (ii) the Company lodges a supplementary prospectus without the prior written agreement of the Underwriter; or
- (f) (Non-compliance with disclosure requirements): it transpires that the Prospectus does not contain all the information that investors and their professional advisers would reasonably require to make an informed assessment of:
  - (i) the assets and liabilities, financial position and performance, profits and losses and prospects of the Company; and
  - (ii) the rights and liabilities attaching to the underwritten securities;
- (g) (Misleading Prospectus): it transpires that there is a statement in the Prospectus that is misleading or deceptive or likely to mislead or deceive, or that there is an omission from the Prospectus (having regard to the provisions of sections 710, 711 and 716 of the Corporations Act) or if any statement in the Prospectus becomes misleading or deceptive or likely to mislead or deceive or if the issue of the Prospectus is or becomes misleading or deceptive or likely to mislead or deceive;

- (h) (Restriction on Allotment): the Company is prevented from allotting the underwritten securities within the time required by the agreement, the Corporations Act, the Listing Rules, any statute, regulation or order of a court of competent jurisdiction by ASIC, ASX or any court of competent jurisdiction or any governmental or semi-governmental agency or authority;
- (i) (Withdrawal of consent to Prospectus): any person (other than the Underwriter) who has previously consented to the inclusion of its, his or her name in the Prospectus or to be named in the Prospectus, withdraws that consent;
- (ASIC application): an application is made by ASIC for an order under section 1324B or any other provision of the Corporations Act in relation to the Prospectus, the shortfall notice deadline date has arrived, and that application has not been dismissed or withdrawn;
- (k) (ASIC hearing): ASIC gives notice of its intention to hold a hearing under Section 739 of the Corporations Act in relation to the Prospectus to determine if it should make a stop order in relation to the Prospectus or ASIC makes an interim or final stop order in relation to the Prospectus under section 739 of the Corporations Act;
- (I) (Takeovers Panel): the Takeovers Panel makes a declaration that circumstances in relation to the affairs of the Company are unacceptable circumstances under Pt 6.10 of the Corporations Act, or an application for such a declaration is made to the Takeovers Panel;
- (m) (Hostilities): there is an outbreak of hostilities or a material escalation of hostilities (whether or not war has been declared) after the date of this agreement involving one or more of Australia, New Zealand, Indonesia, Japan, Russia, the United Kingdom, the United States of America, India, Pakistan, or the Peoples Republic of China, Israel or any member of the European Union, or a terrorist act is perpetrated on any of those countries or any diplomatic, military, commercial or political establishment of any of those countries anywhere in the world;
- (n) (Authorisation): any authorisation which is material to anything referred to in this Prospectus is repealed, revoked or terminated or expires, or is modified or amended in a manner unacceptable to the Underwriter;
- (o) (Indictable offence): a director or senior manager of a Company or any subsidiary is charged with an indictable offence;
- (p) (Termination Events): any of the following events occurs:
  - (i) (**Default**): default or breach by the Company under the agreement of any terms, condition, covenant or undertaking;
  - (ii) (Incorrect or untrue representation): any representation, warranty or undertaking given by the Company in the agreement is or becomes untrue or incorrect;
  - (iii) (Contravention of constitution or Act): a contravention by the Company or any subsidiary of any provision of its constitution, the Corporations Act, the Listing Rules or any other applicable legislation or any policy or requirement of ASIC or ASX;
  - (iv) (Adverse change): an event occurs which gives rise to a material adverse effect or any adverse change or any development including a prospective adverse change after the date of the agreement in the assets, liabilities, financial position, trading results, profits, forecasts, losses, prospects, business or operations of any Company or any subsidiary including, without limitation, if any forecast in the Prospectus becomes incapable of being met or in the Underwriter's reasonable opinion, unlikely to be met in the projected time;
  - (v) (Error in Due Diligence Results): it transpires that any of the due diligence results or any part of the verification material was false, misleading or deceptive or that there was an omission from them;
  - (vi) (**Significant change**): a "new circumstance" as referred to in section 719(1) of the Corporations Act arises that is materially adverse from the point of view of an investor;
  - (vii) (**Public statements**): without the prior approval of the Underwriter a public statement is made by the Company in relation to the Offer, the Issue or this Prospectus;
  - (vii) (Misleading information): any information supplied at any time by the Company or any person on its behalf to the Underwriter in respect of any aspect of the Offer or the Issue or the affairs of the Company or any subsidiary is or becomes misleading or deceptive or likely to mislead or deceive;
  - (ix) (Official Quotation qualified): the official quotation is qualified or conditional other than if the qualification or condition would have a material adverse effect;
- (x) (Change in Act or policy): there is introduced, or there is a public announcement of a proposal to introduce, into the Parliament of Australia or any of its States or Territories any Act or prospective Act or budget or the Reserve Bank of Australia or any Commonwealth or State authority adopts or announces a proposal to adopt any new, or any major change in, existing, monetary, taxation, exchange or fiscal policy;
- (Prescribed Occurrence): a prescribed occurrence occurs such as where the Company or a subsidiary undertakes certain capital events (such as converting its shares or reducing its share capital) or an insolvency event occurs;
- (xii) (Suspension of debt payments): the Company suspends payment of its debts generally;
- (xiii) (Event of Insolvency): an event of insolvency occurs in respect of the Company or any subsidiary;
- (xiv) (Judgment against a Relevant Company): a judgment in an amount exceeding \$25,000 is obtained against a Company or any subsidiary;
- (xv) (Litigation): litigation, arbitration, administrative or industrial proceedings are after the date of the agreement commenced against the Company or any subsidiary, other than any claims foreshadowed in the Prospectus;
- (xvi) (**Board and senior management composition**): there is a change in the composition of the Board or a change in the senior management of the Company before the date of issue of the underwritten securities without the prior written consent of the Underwriter;
- (xvii) (Change in shareholdings): there is a material change in the major or controlling shareholdings of the Company or any subsidiary or a takeover offer or scheme of arrangement pursuant to Chapter 5 or 6 of the Corporations Act is publicly announced in relation to a Relevant Company;
- (xviii) (**Timetable**): there is a delay in any specified date in the agreed Timetable which is greater than 3 business days;
- (xix) (Force Majeure): a force majeure event affecting the Company's business or any obligation under the Agreement lasting in excess of 7 days occurs;
- (xx) (Certain resolutions passed): the Company or any subsidiary passes or takes any steps to pass a resolution under section 254N, section 257A or section 260B of the Corporations Act or a resolution to amend its constitution without the prior written consent of the Underwriter;
- (xxi) (**Capital Structure**): the Company or any subsidiary alters its capital structure in any manner not contemplated by the Prospectus;
- (xxii) (Breach of Material Contracts): any material contracts are terminated or substantially modified;
- (xxiii) (**Investigation**): any person is appointed under any legislation in respect of companies to investigate the affairs of the Company or any subsidiary; or
- (xxiv) (Market Conditions): a suspension or material limitation in trading generally on ASX occurs or any material adverse change or disruption occurs in the existing financial markets, political or economic conditions of Australia, Japan, the United Kingdom, the United States of America or other international financial markets.

For the events listed in sub-paragraphs (a) to (o), the Underwriter is entitled to terminate its underwriting obligations immediately by written notice. For the events listed in sub-paragraph 9.4(p), the Underwriter is entitled to terminate its underwriting obligations only if the event is likely to have a material adverse effect or could give rise to a liability of the Underwriter under the Corporations Act.

The agreement is governed by the laws of Western Australia.

# 10.1 Interests of Directors

Other than as set out below or elsewhere in this Prospectus, no Director or proposed Director holds at the date of this Prospectus, or held at any time during the last two years before the date of lodgement of this Prospectus with ASIC, any interest in:

- (a) the formation or promotion of the Company; or
- (b) any property acquired or proposed to be acquired by the Company in connection with its formation or promotion of the Company or the Offer; or
- (c) the Offer;

and no amounts have been paid or agreed to be paid by any person and no benefits have been given or agreed to be given by any person:

- (d) to a Director or proposed Director to induce him or her to become, or to qualify as, a Director; or
- (e) for services provided by a Director or proposed Director in connection with the formation or promotion of the Company or the Offer.

## Holdings of Directors

Prior to ASX listing the Directors will have a relevant interest in securities as set out in the table below.

Director	Shares	Options	Warrants
Trevor Tennant	15,559,587	2,013,441	1,573,270
James Pearson	9,037,451	1,835,969	237,250
Eduardo Valenzuela	4,744,424	1,624,849	58,279
Richard Billingsley	50,000	166,666	Nil
Glenn Laing	456,000	166,668	Nil
David Craig	Nil	100,000	Nil

The Options held by Trevor Tennant consist of 1,013,441 Options with an exercise price of C\$0.40 and an expiry date of 13 January 2013 and 1,000,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012. The Warrants held by Trevor Tennant consist of 1,198,270 Warrants with an exercise price of C\$0.60 and an expiry date of 17 December 2009 and 375,000 Warrants with an exercise price of C\$0.20 and an expiry date of 8 December 2010.

The Options held by James Pearson consist of 1,085,969 Options with an exercise price of C\$0.40 and an expiry date of 13 January 2013 and 750,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012. The Warrants held by James Pearson consist of 187,250 Warrants with an exercise price of C\$0.60 and an expiry date of 17 December 2009 and 50,000 Warrants with an exercise price of C\$0.20 and an expiry date of 8 December 2010.

The Options held by Eduardo Vanezuela consist of 874,849 Options with an exercise price of C\$0.40 and an expiry date of 13 January 2013 and 750,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012. The Warrants held by Eduardo Vanezuela consist of 8,279 Warrants with an exercise price of C\$0.60 and an expiry date of 17 December 2009 and 50,000 Warrants with an exercise price of C\$0.20 and an expiry date of 8 December 2010.

The Options held by Richard Billingsley consist of 66,666 Options with an exercise price of C\$0.20 and an expiry date of 1 November 2011 and 100,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012.

The Options held by Glenn Laing consist of 66,668 Options with an exercise price of C\$0.20 and an expiry date of 1 November 2011 and 100,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012.

The Options held by David Craig consist of 100,000 Options to be issued with an exercise price of A\$0.30 and an expiry date of 31 December 2012.

The 2,800,000 Options to be held by Directors with an exercise price of A\$0.30 and an expiry date of 31 December 2012 will only come into effect upon successful completion of the Offer. Investors are referred to section 10.5 for further information.

The Directors are not required to hold any Shares in the Company under the Articles.

## **Remuneration of Directors**

Mr Trevor Tennant as Chairman and Managing Director will be paid \$350,000 per annum inclusive of statutory superannuation and a director's fee. The material terms of his employment are summarised in section 9.2. In the two years prior to the date of this Prospectus he has received a total remuneration of approximately \$280,000.

Mr James Pearson as Executive Director will be paid \$250,000 per annum inclusive of statutory superannuation and a director's fee. The material terms of his employment are summarised in section 9.2. In the two years prior to the date of this Prospectus he has received a total remuneration of approximately \$170,000.

Mr Eduardo Valenzuela will be paid \$30,000 as a director's fee plus commercial rates for any necessary consulting services. In the two years prior to the date of this Prospectus, Mr Valenzuela has received a total remuneration of approximately \$115,000.

Mr Richard Billingsley will be paid \$30,000 as a director's fee plus any relevant superannuation. In the two years prior to the date of this Prospectus, Mr Billingsley has received a total remuneration of approximately \$55,500.

Mr Glenn Laing will be paid \$30,000 as a director's fee plus any relevant superannuation. In the two years prior to the date of this Prospectus, Mr Laing has received a total remuneration of approximately \$74,000.

Mr David Craig will be paid \$40,000 plus superannuation as a director's fee. In the two years prior to the date of this Prospectus Mr Craig has not received any remuneration from the Company.

Directors may be paid reasonable expenses incurred by them on business of the Company.

## 10.2 Interests of experts and advisors

Except as disclosed in this Prospectus, no expert, promoter or any other person named in this Prospectus as performing a function in a professional advisory or other capacity in connection with the preparation or distribution of the Prospectus, nor any firm in which any of those persons is or was a partner nor any company in which any of those persons is or was associated with, has now, or has had, in the two year period ending on the date of this Prospectus, any interest in:

- (a) the formation or promotion of the Company; or
- (b) property acquired or proposed to be acquired by the Company in connection with its formation or promotion or the Offer; or
- (c) the Offer.

Except as disclosed in this Prospectus, no amounts of any kind (whether in cash, securities or otherwise) have been paid or agreed to be paid to any expert, promoter or any other person named in this Prospectus as performing a function in a professional advisory or other capacity in connection with the preparation or distribution of the Prospectus, or to any firm in which any of those persons is or was a partner or to any company in which any of those persons is or was associated with, for services rendered by that person in connection with the formation or promotion of the Company or the Offer.

Fairweather & Lemonis has acted as solicitors to the Offer. In respect of this work, the Company will pay approximately \$90,000 (exclusive of GST and disbursements). Subsequent fees will be paid in accordance with normal hourly rates. Fairweather & Lemonis has been paid fees of approximately \$25,000 in the two years prior to the date of this Prospectus for other legal services.

Coffey Mining Pty Ltd has prepared the Independent Geologist's Report in this Prospectus. The Company will pay approximately \$185,000 (exclusive of GST and disbursements) to Coffey Mining Pty Ltd in respect of this work. Coffey Mining Pty Ltd have not received any other fees for services to the Company in the two years prior to the date of this Prospectus.

Stantons International Pty Ltd has prepared the Investigating Accountant's Report in this Prospectus. In respect of this work, the Company will pay approximately \$15,000. Stantons International Pty Ltd and their related entities have not received any other fees for services to the Company in the two years prior to the date of this Prospectus.

Quinzio & Vergara has prepared the Solicitor's Report on Licences in this Prospectus. In respect of this work, the Company will pay approximately \$15,000. Quinzio & Vergara has been paid fees of approximately \$98,000 in the two years prior to the date of this Prospectus for other legal services.

Euroz Securities Limited is the Underwriter to the Offer and the Corporate Advisor to the Company. The Company will pay \$400,000 (exclusive of GST and disbursements) to Euroz Securities Limited as the underwriter (representing 5% of the funds raised of \$8,000,000). The Company will also issue 1,000,000 Options on the terms set out in section 10.5. Euroz Securities Limited will also be paid a total of \$75,000 in its capacity as Corporate Advisor to the Company. In the two years prior to the date of this Prospectus Euroz Securities Limited was paid \$21,500 in commissions for corporate advisory services.

## 10.3 Rights and liabilities attaching to Shares

The rights attaching to Shares in the Company are governed by the Articles of the Company and in certain circumstances regulated by applicable Canadian law including the Business Corporations Act (British Columbia) and the TSXV Rules, the Listing Rules and the general law.

The following is a summary of the principal rights of the holders of Shares in the Company. This summary is not exhaustive and does not constitute a definitive statement of the rights and liabilities of Shareholders. To obtain such a statement, persons should seek independent legal advice.

Investors should note that they will be issued with CDIs for Shares under this Prospectus. Please see sections 2.11 and 10.4 for more information about CDIs. CDI holders have the same rights as holders of Shares which are legally registered in their own name, however, as set out in section 10.4 the arrangements for voting are different for CDIs.

## Issues of Shares and other securities

The Company may issue, allot, sell and otherwise dispose of shares to persons, in the manner, on the terms and conditions and for the issue price that the Directors may determine. Except as provided by the Business Corporations Act, no share may be issued until it is fully paid. Each shareholder is entitled to a share certificate representing the shares registered in the shareholder's name or a non-transferable written acknowledgement of the shareholder's right to obtain such a certificate. The Company may issue share purchase warrants, options and rights upon such terms and conditions as the directors determine.

# **Transfer of Shares**

A transfer of a share of the Company must not be registered unless a duly signed instrument of transfer in respect of the shares is received by the Company and the share certificate or written acknowledgement of the shareholder's right to obtain a share certificate has been surrendered to the Company. Except as otherwise provided by the Business Corporations Act, the transferor of shares is deemed to remain the holder of the shares until the name of the transferee is entered in securities register of the Company in respect of the transfer.

# Notice of meetings

The Company must hold an annual general meeting each year. The Company must send notice of any meeting of shareholders to each shareholder entitled to attend the meeting.

## **Voting Rights**

Subject to any special rights or restrictions attached to any shares and to restrictions imposed on joint shareholders, at a general meeting of members every shareholder or proxy holder has one vote on a show of hands and one vote per share on a poll. Voting may be in person or by proxy, legal personal representative or a trustee in bankruptcy.

## **Election of Directors**

There must be a minimum of three Directors. At every annual general meeting the shareholders must elect a board of Directors. All Directors cease to hold office immediately before the election or appointment of Directors but are eligible for re-election or re-appointment.

## Dividends

Subject to the rights of shareholders holding shares with special rights as to dividends (at present there are none), the Directors may from time to time declare and authorize payment of dividends as they deem advisable. All dividends must be declared and paid according to the number of shares held.

## Indemnities

Subject to the Business Corporations Act, the Company must indemnify a Director, former director or alternate director of the Company against all eligible penalties to which such person is liable and the expenses incurred by such person in respect of that proceeding.

## Alteration to the Articles

If the Business Corporations Act does not specify the type of resolution and the Articles do not specify another type of resolution, the Company may by ordinary resolution alter the Articles.

# Listing Rules

If the Company is admitted to the Official List, then despite anything in the Constitution, if the Listing Rules prohibit an act being done, the act must not be done. Nothing in the Constitution prevents an act being done that the Listing Rules require to be done. If the Listing Rules require an act to be done or not to be done, authority is given for that act to be done or not to be done (as the case may be). If the Listing Rules require the Constitution to contain a provision and it does not contain such a provision, the Constitution is deemed to contain that provision. If the Listing Rules require the Constitution not to contain a provision and it contains such a provision, the Constitution is deemed not to contain that provision. If a provision of the Constitution is inconsistent with the Listing Rules, the Constitution is deemed not to contain that provision to the extent of the inconsistency.

# 10.4 Rights attaching to CDIs

The ASTC Settlement Rules contain provisions designed to ensure that holders of CDIs have all the direct economic benefits of holding Shares. With the exception of voting arrangements, CDI holders have all the same rights as Shareholders whose Shares are registered in their name, that is who hold Shares rather than CDIs. Further details regarding the rights of CDI holders are set out below.

## (a) Voting

As holders of CDIs do not appear on the Company's share register, they are not entitled to vote at Shareholder meetings. However the ASTC Settlement Rules require the Company to send notices of Shareholder meetings to each CDI holder at the address recorded on the CDI register if any Shareholder meeting is convened. This notice must include a form permitting the CDI holder to direct CDN to cast proxy votes according to the wishes of the CDI holder for whom it holds Shares. The Company is obliged to collect and process these directions. CDN is required to vote in accordance with the instructions it receives from CDI holders.

If a CDI holder wishes to vote in person at a meeting of Shareholders (whether on a show of hands or on a poll), he will first need to convert his CDIs into Shares.

(b) Dividends and other entitlements

The ASTC Settlement Rules ensure that CDI holders have the right to receive dividends, rights issues and bonus issues as Shareholders. Where a dividend or any other cash distribution is made in a currency other than Australian dollars, the Company's Australian registry (acting as CDN's agent) will convert the dividend or distribution into Australian dollars. The payment will then be made to CDI holders in Australian dollars in accordance with each CDI holder's entitlement.

# (c) Takeovers

If any takeover bid is made in respect of any of the Shares of which CDN is the registered holder, CDN is prohibited from accepting the offer made under the takeover bid except to the extent that acceptance is authorised by the CDI holders in accordance with the ASTC Settlement Rules. CDN must accept a takeover offer if a holder of CDIs instructs it to do so in respect of the Shares underlying those CDIs.

## 10.5 Option and Warrant terms

## Warrant terms

The Company has issued Warrants in the Company as follows (disregarding 5,457,844 warrants exercisable at C\$0.60 expiring on 17 December 2009):

Series	Number
Exercisable at C\$0.20 on or before 8 December 2010	3,835,000
Exercisable at C\$0.40 on or before 29 August 2011	7,500,000

Each Warrant gives the warrant-holder the right to purchase at any time up to 5.00 pm on the expiry date one fully paid Share of the Company at the exercise price subject to adjustments. Each Warrant shall be void and of no value after the expiry date if it is not exercised.

The material terms of the Warrants are the same for each series. A summary of the material terms are:

(a) To exercise a Warrant, the Warrant holder must execute a subscription form and surrender the Warrant Certificate to the Company and pay the exercise price to the Company in the lawful money

of Canada. On surrender of the Warrant Certificate and payment of the exercise price, the Warrant holder shall be deemed to be the holder of record of the number of Shares to be so issued and the Warrant holder shall be entitled to delivery of a Share Certificate.

- (b) The holding of Warrant Certificates does not constitute the Warrant holder a Shareholder of the Company nor entitle the Warrant holder to any right or interest in the Company except as provided in the Warrant Certificate.
- (c) Following issue of the Shares, the Company will use its best efforts to obtain the listing of the Shares on each stock exchange or over-the-counter market on which the Shares are listed from time to time.
- (d) All Shares which are issued on the exercise of the Warrants are deemed to be fully paid and freed from all taxes, liens and charges with respect to the issue thereof.
- (e) The Warrant Certificate is a valid and enforceable obligation of the Company enforceable in accordance with the provisions of the Warrant Certificate.
- (f) In the event of any reorganisation (including consolidation, sub-division, reduction or return) of the issued capital of the Company at any time before the expiry date, all rights of the Warrant holder are to be changed in a manner consistent with the Listing Rules.
- (g) There are no participating rights or entitlements inherent in the Warrants and the Warrant holder will not be entitled to participate in new issues of capital which may be offered to holders of Shares before the expiry date of the Warrants. However, the Company will ensure that for the purposes of determining entitlements to any such issue, the record date will be at least 7 business days after the issue is announced. This will give Warrant holders the opportunity (where available) to exercise their Warrants prior to the date for determining entitlements to participate in any such issue.
- (h) If there is a bonus issue (Bonus Issue) to shareholders on or before the expiry date of the Warrants, then the number of Shares over which a Warrant is exercisable will be increased by the number of Shares which the Warrant holder would have received if the Warrant had been exercised before the record date for the Bonus Issue.
- (i) In the event that the Company makes a pro rata issue of securities, the exercise price of the Warrants will be adjusted in accordance with the formula set out in Listing Rule 6.22.2.
- (j) If a dispute arises with respect to any adjustment to the exercise price or the number of underlying Shares such disputes shall be conclusively determined by the auditors of the Company.
- (k) The Warrants may be transferred by the Warrant holder completing and delivering to the Company a transfer form.

## **Option terms**

The Company has and will issue Options to Directors, employees and consultants as detailed below:

Incentive Options Series	Number
Exercisable at C\$0.20 on or before 1 November 2011 (issued)	133,334
Exercisable at C\$0.40 on or before 13 January 2013 (issued)	3,356,579
Exercisable at A\$0.30 on or before 31 December 2012 (to be issued)	5,200,000

The Options referred to above have been or will be issued under the Stock Option Plan other than 150,000 A\$0.30 Options to be issued to consultants. These 150,000 A\$0.30 Options while issued outside the Stock Option Plan to consultants, will be issued on the same terms as Options to be issued under the Plan. The material terms of the Stock Option Plan and the Options granted under the Stock Option Plan are set out in section 10.6 below. The 5,200,000 A\$0.30 Options to be issued will be issued after the Closing Date of this Prospectus but before ASX listing. The Options will have a condition that they do not vest until the Company has been listed on ASX for 12 months.

## **Underwriting Agreement Options**

Under the terms of the Underwriting Agreement the Company has agreed to issue 1,000,000 Options to the Underwriter exercisable at A\$0.25 on or before 31 December 2012. The Options will be issued within 5 business days of the close of the Offer.

Otherwise the full terms of the Options to be issued to the Underwriter are as follows:

- (a) Each Option will entitle the holder to one Share in the capital of the Company.
- (b) The Options may be exercised at any time prior to 30 months from the date of issue (Expiry Date).

- (c) The exercise price of the Options is A\$0.25 per Option.
- (d) The Options will not be quoted and may only be transferred with the prior approval of the Board.
- (e) The Company will provide to each Option holder a notice that is to be completed when exercising the Options (Notice of Exercise). Subject to any terms to the contrary, the Options may be exercised by the Option holder in whole or in part by completing the Notice of Exercise and forwarding the same to the Secretary of the Company to be received prior to the Expiry Date. The Notice of Exercise must state the number of Options exercised, the consequent number of Shares to be allotted and the identity of the proposed allottee. The Notice of Exercise by an Option holder must be accompanied by payment in full for the relevant number of Shares being subscribed, being an amount of the exercise price per Share.
- (f) All Shares issued upon the exercise of the Options will rank equally in all respects with the Company's then issued Shares. The Company must apply to ASX within 7 business days after the date of issue of all Shares pursuant to the exercise of Options to be admitted to quotation.
- (g) There are no participating rights or entitlements inherent in the Options and the holders will not be entitled to participate in new issues or pro-rata issues of capital to Shareholders during the term of the Options. Thereby, the Option holder has no rights to a change in the exercise price of the Option or a change to the number of underlying securities over which the Option can be exercised except in the event of a bonus issue. The Company will ensure, for the purposes of determining entitlements to any issue, that Option holder will be notified of a proposed issue after the issue is announced. This will give Option holders the opportunity to exercise their Options prior to the date for determining entitlements to participate in such issues.
- (h) If from time to time on or prior to the Expiry Date the Company makes a bonus issue of securities to holders of Shares in the Company (Bonus Issue), then upon exercise of his or her Options a holder will be entitled to have issued to him or her (in addition to the Shares which he or she is otherwise entitled to have issued to him or her upon such exercise) the number of securities which would have been issued to him or her under that Bonus Issue if the Options had been exercised before the record date for the Bonus Issue.
- (i) In the event of any reconstruction (including consolidation, subdivisions, reduction or return) of the issued capital of the Company, all rights of the Option holder shall be reconstructed (as appropriate) in accordance with the Listing Rules.

Finally, the Company has further issued 271,250 Options with an exercise price of C\$0.40 and an expiry date of 17 December 2009.

# 10.6 Stock Option Plan

The Company has a Stock Option Plan which gives eligible employees as additional compensation, the opportunity to participate in the success of the Company by granting to those employees options exercisable over periods of up to five years to buy Shares in the Company. The material terms of the Plan are summarised below.

## (a) Grant of options

The Board may, from time to time, authorise the issue of Options to eligible employees. The Options will be issued for no consideration and each Option will carry the right in favour of the Option holder to subscribe for one Share (fully paid ordinary) in the capital of the Company.

An eligible employee is a full or part time employee or a Director of the Company or an associated body corporate. The Company must obtain Shareholder approval before Options may be granted to a Director of, or otherwise a related party of, the Company.

The Board may impose performance criteria such as vesting hurdles.

Options issued under the Plan are not transferable.

## (b) Restrictions

The Options may only be issued or exercised within the limitations imposed by the Corporations Act, the Listing Rules and the TSX-V Rules.

For so long as the TSX-V Rules apply to the Company, the maximum number of Shares which may be issued pursuant to options granted under the Plan shall be equal to 10% of the Company's issued share capital from time to time. Further, within a one year period the number of Shares which may be issued under the Plan to insiders must not exceed 10% of the total number of issued shares; and 5% to any

one optionee; and 2% to any person who undertakes 'investor relations activities'.

Further, where the Board authorises the issue of options to employees situated in Australia or for sale in Australia, the maximum number of Shares which may be allocated under the Plan that would be issued under the Plan were each Option issued pursuant to the Plan exercised, and the number of Shares issued by the Company pursuant to an employee share or option scheme implemented by the Company during the previous five years may not exceed 5% of the total number of Shares on issue as at the date any Options are offered pursuant to the Plan.

# (c) Exercise price and expiry date

The exercise price of the Options to be issued under the Plan shall be at a price equal to the market price prevailing on the date the Option is granted less applicable discount, if any, permitted by the policies of the TSX-V and the ASX and approved by the Board.

The expiry date will be determined by the Board but will be no longer than five years after the grant date or ten years after the grant date if the Company is classified as Tier One issuer by the TSX-V.

# (d) Exercise of Options

The Board may determine when any Option will become exercisable and may determine that the Option will be exercisable in instalments or pursuant to a vesting schedule. Each Option may be exercised on satisfaction of all vesting conditions up to 4.00 pm on the expiry date and shall not be exercisable thereafter.

(e) Notice of exercise

Options may only be exercised by the Option holder delivering a notice to the Company specifying the number of Shares in respect of which the Option is exercised together with payment in full of the exercise price for each Share.

(f) Bonus issue

If, prior to the expiry of any Options, the Company makes a bonus Share issue to the holders of Shares on a pro rata basis, the number of Shares over which an Option is exercisable will be increased by the number of Shares which the Option holder would have received if the Option had been exercised before the date the Shares the subject of the bonus issue had been duly allotted and issued.

(g) Reconstruction of capital

In the event that prior to the expiry of any Options, there is a reconstruction (including consolidation, subdivision, reduction, return or pro-rata cancellation) of the issued capital of the Company, then the number of Options to which each Option holder is entitled or the exercise price or both will be reconstructed in the manner required by the Listing Rules.

## (h) Pro-rata issues

In the event the Company makes a pro-rata issue of securities, the exercise price of the Options will be adjusted in accordance with the formula set out in Listing Rule 6.22.2.

## (i) Administration of the Plan

The Board will supervise the administration of the Plan and has a discretion to amend the rules. Amendments to the Plan are subject to the approval of Shareholders.

# 10.7 Company tax status and financial year

The Company is taxed in Canada as a public company. The financial year of the Company ends on 30 June annually.

# 10.8 Dividend policy

The Company does not intend to pay dividends on securities for the year ending 30 June 2010.

Any future determination as to the payment of dividends by the Company will be at the discretion of the Directors and will depend upon matters such as the availability of distributable earnings, the operating results and financial condition of the Company, future capital requirements, general business and other factors considered relevant by the Directors. No assurances in relation to the payment of dividends, or the franking credits attached to such dividends, can be given.

# 10.9 Investing in a Canadian company listed on TSX-V

The Company is incorporated under the laws of British Columbia, Canada. This section contains a summary of certain Canadian and Australian corporate laws to assist in understanding the regulatory regime which the Company is currently, and will be, subject to. The comparison below is only an overview and should not be viewed as an exhaustive statement of either the relevant Canadian or Australian laws.

## Canadian position Australian position

# Share issues

The Company must comply with both the Canadian and Australian position

Neither the Business Corporations Act (British Columbia) ("BCA") nor the Securities Acts impose any restrictions on the issue of shares (subject to compliance with the prospectus requirements or exemptions from such requirements available under the Securities Acts), but in the event of issuance of more than 50% of the issued capital of the Company in combination with a change in control, such share issuance will be deemed a reverse takeover under the TSX-V Policies and the TSX-V Policies may require shareholder approval to issue the shares. The Constitution does not contain any requirement for an offer of new shares to be made to existing shareholders prior to making an offer to persons who are not currently shareholders of the Company.

The Listing Rules permit the Directors to issue equity securities without shareholder approval up to a maximum number in any 12 month period equivalent to 15% of the issued capital of the Company prior to the date of issue. The Listing Rules do not contain any requirement for an offer of new shares to be made to existing shareholders prior to making an offer to persons who are not currently shareholders of the Company.

## Substantial shareholders

Shareholders need only comply with the Canadian position.

The Securities Acts provides that a shareholder is an 'insider' (as defined under the Securities Acts) if that person's (and that person's associates) have a relevant interest in 10% or more of the voting shares in the Company. The Securities Acts require a shareholder who is an insider in a reporting company to file insider reports in the prescribed form with the Securities Commission of each jurisdiction in which the Company is a reporting issuer. In addition, within two days after the person becomes aware that they have become an insider, an early warning report in the prescribed form must be filed with such Securities Commission.

Similar notification requirements apply in the event that a shareholder's substantial holding increases or decreases by more than 2% of the total votes in a company or where a person ceases to have a substantial holding. The Corporations Act provides that a shareholder has a 'substantial holding' if that person's (and that person's associates) have a relevant interest in 5% or more of the voting shares in the company. The Corporations Act requires a shareholder who is a substantial shareholder in a listed company to give written notice in the prescribed from to the company and ASX within two business days or, if there is a takeover bid for the company, by 9.30am on the next trading day of the ASX, after the person becomes aware that they have become a substantial shareholder.

Similar notification requirements apply in the event that a shareholder's substantial holding increases or decreases by more than 1% of the total votes in a company or where a person ceases to have a substantial holding.

## Takeovers

Compliance with the Canadian position only is required.

Canadian position	Australian position
The Securities Acts govern takeovers of reporting issuers in Canada. The acquisition of more than 20% of a company's issued capital is considered to be a takeover bid. The Securities Acts set out certain exceptions which apply to these rules, such as where securities are acquired from less than five holders. Takeover bids must treat all shareholders alike and must not involve collateral benefits. Various restrictions on conditional offers apply and there are also substantial restrictions on the ability of an offeror to withdraw or suspend a takeover offer. The BCA and Securities Acts also permit compulsory acquisition by 90% holders.	<ul> <li>The Corporations Acts governs a takeover of certain listed and unlisted companies registered in Australia. The Corporations Act provides generally that a person must not acquire a 'relevant interest' in voting shares in a company, if because of the transaction a person's voting power in the company:</li> <li>increases from 20% or below to above 20%; or</li> <li>increases from a starting point which is above 20% but less than 90%.</li> <li>The Corporations Act set out certain exceptions which apply to these rules, such as acquisitions of relevant interests in shares where that acquisition is a creeping acquisition of not more than 3% in any six month period.</li> <li>Takeover bids must treat all shareholders alike and must not involve collateral benefits. Various restrictions on conditional offers apply and there are also substantial restrictions on the ability of an offeror to withdraw or suspend a takeover offer.</li> </ul>
compulsory acquisition by 90% holders.	acquisition is a creeping acquisition of not more than 3% in any six month period. Takeover bids must treat all shareholders alike and must not involve collateral benefits. Various restrictions on conditional offers apply and there are also substantial restrictions on the ability of an offeror to withdraw or suspend a takeover offer. The Corporations Act also permits compulsory acquisition of outstanding securities by 90% holders.

# 10.10 Expenses of the Offer

The total estimated costs of this Prospectus including fees to be paid to the Underwriter, solicitors, Independent Geologist and Investigating Accountant, listing fees, Prospectus design, printing and other miscellaneous expenses will be payable by the Company and these expenses are estimated to be approximately \$800,000 exclusive of any GST which may be payable on that amount.

# 10.11 Consents

The following parties have given their written consent to be named in this Prospectus and for the inclusion of statements made by those parties (as described below in the form and context in which they are included), and have not withdrawn such consent before lodgement of this Prospectus with ASIC.

- (a) Fairweather & Lemonis has consented to being named as the Solicitors to the Offer.
- (b) Coffey Mining Pty Ltd has consented to being named as the Independent Geologist to the Company and the inclusion of the Independent Geologist's Report in this Prospectus and all statements referring to it in this Prospectus.
- (c) Stantons International Pty Ltd have consented to being named as the Investigating Accountant to the Company and the inclusion of the Investigating Accountant's Report in this Prospectus.
- (d) Quinzio & Vergara has consented to being named as the Solicitors Reporting on Licences to the Company and the inclusion of the Solicitor's Report on Licences in this Prospectus.
- (e) Euroz Securities Limited has consented to being named as Underwriter to the Offer and the Corporate Advisor to the Company.

Each of the parties referred to above in this section:

- does not make, or purport to make any statement in this Prospectus, or on which a statement made in this Prospectus is based other than as specified in this section;
- to the maximum extent permitted by law, expressly disclaims and takes no responsibility for any part of this Prospectus other than a reference to its name and a statement included in the Prospectus with the consent of that party as specified in this section; and
- has not caused or authorised the issue of this Prospectus.

# 10.12 Legal Proceedings

Legal proceedings may arise from time to time in the course of the business of the Company.

As at the date of this Prospectus, there are no material legal proceedings affecting the Company and the Directors are not aware of any legal proceedings pending or threatened against or affecting the Company.

## 10.13 Electronic Prospectus

Pursuant to Class Order 00/44 the ASIC has exempted compliance with certain provisions of the Corporations Act to allow distribution of an electronic prospectus and electronic Application Form on the basis of a paper prospectus lodged with ASIC and the publication of notices referring to an electronic prospectus or electronic Application Form, subject to compliance with certain conditions.

If you have received this Prospectus as an electronic Prospectus, please ensure that you have received the entire Prospectus accompanied by the Application Form. If you have not, please contact the Company and the Company will send you, for free, either a hard copy or a further electronic copy of the Prospectus or both.

The Company reserves the right not to accept an Application Form from a person if it has reason to believe that when that person was given access to the electronic Application Form, it was not provided together with the electronic Prospectus and any relevant supplementary or replacement Prospectus or any of those documents were incomplete or altered.

The Directors state that they have made all reasonable enquiries and on that basis have reasonable grounds to believe that any statements made by the Directors in this Prospectus are not misleading or deceptive and that in respect to any other statements made in the Prospectus by persons other than Directors, the Directors have made reasonable enquiries and on that basis have reasonable grounds to believe that persons making the statement or statements were competent to make such statements, those persons have given their consent to the statements being included in this Prospectus in the form and context in which they are included and have not withdrawn that consent before lodgement of this Prospectus with ASIC, or to the Directors knowledge, before any issue of the Shares pursuant to this Prospectus.

Each Director has consented to the lodgement of this Prospectus with ASIC and has not withdrawn that consent.

Dated: 3 December 2009

Tennent

Signed for and on behalf of Southern Hemisphere Mining Limited by Trevor Tennant Chairman and Managing Director Where the following terms are used in this Prospectus they have the following meanings:

AFSL	Australian Financial Services Licence;
Allotment	the allotment and transfer of Shares and CDIs under this Prospectus;
Applicant	a person who submits a valid Application Form pursuant to this Prospectus;
Application	a valid application made on an Application Form to subscribe for Shares pursuant to this Prospectus;
Application Form	the application form attached to this Prospectus;
Application Monies	the monies payable in connection with an Application;
ARBN	Australian Registered Body Number;
Articles	the articles of the Company;
ASTC Settlement Rules	the rules published by ASX Settlement and Transfer Corporation Pty Ltd (ABN 49 008 504 532);
ASIC	the Australian Securities & Investments Commission;
ASX	the ASX Limited ACN 008 624 691;
Board	the Board of Directors of Southern Hemisphere;
CDI	CHESS Depositary Interest representing a unit of beneficial ownership in the Shares registered in the name of CDN;
CDN	CHESS Depositary Nominees Pty Ltd;
Chairman	the Chairman of Southern Hemisphere who at the date of this Prospectus is Mr Trevor Tennant;
CHESS	Clearing House Electronic Subregister System;
Closing Date	the closing date for receipt of Application Forms under this Prospectus, estimated to be 5.00pm WST on 17 December 2009 or an amended time as set by the Board;
Company or Southern Hemisphere	Southern Hemisphere Mining Limited ARBN 140 494 784, a company incorporated under the laws of British Columbia, Canada and where the context requires, SHM Group;
Corporate Directory	the Corporate Directory at the front of this Prospectus;
Corporations Act	the Corporations Act 2001 (Cth);
Definitive Feasibility Study	the feasibility study of the Company's Los Pumas Manganese Project as described in section 3;
Directors	the directors of Southern Hemisphere;
Exposure Period	the seven day period from the date of this Prospectus;
GST	Goods and services tax;
IAR	Investigating Accountant's Report;
Independent Geologist	Coffey Mining Pty Ltd;
Inferred Resource	means as defined in the JORC Code;
Investigating Accountant	Stantons International Pty Ltd;
JORC Code	the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia;

Kaiora Option Agreement	the option agreement to acquire shares in a company holding licences that will form part of the Los Pumas Manganese Project summarised at section 9.1.;
Km	kilometre;
Listing Rules	the official listing rules of the ASX;
Los Pumas Manganese Project	the manganese Project described at section 3.3 of this Prospectus;
Mineral Resource	means as defined in the JORC Code;
Minimum Subscription	the amount to be raised under this Prospectus being \$8,000,000;
Mn	the chemical symbol for Manganese;
Mt	Million tonnes;
Offer	an invitation made in this Prospectus to subscribe for Shares;
Official List	the official list of the ASX;
Opening Date	11 December 2009;
Option	an option giving the holder a right to subscribe for a Share;
Privacy Act	the Privacy Act 1988 (Cth);
Project	a project in which the Company has an interest;
Prospectus	this Prospectus and includes the electronic prospectus described in section 10.13;
Securities Act	the Securities Acts of British Columbia and Alberta and the rules, regulations, policies and instruments promulgated thereunder;
Share	a fully paid ordinary share in the Company and where the context requires, a CDI;
Shareholder	the registered holder of Shares in the Company and where the context requires, the registered holder of CDIs;
Share Registry	the Company's Australian share registry, Computershare Investor Services Pty Ltd (ACN 078 279 277);
SHM Group	the Company and its subsidiaries;
Southern Hemisphere or Company	Southern Hemisphere Mining Limited ARBN 140 494 784, a company incorporated under the laws of British Columbia, Canada and where the context requires, SHM Group;
TSX-V	TSX Venture Exchange Inc;
TSX-V Policies	the policies of TSX-V, as set out in the TSX-V Corporate Finance Manual and the rules of the TSX-V;
Underwriter	Euroz Securities Limited ACN 089 314 983 AFSL 243302;
Warrant	a warrant giving the holder a right to subscribe for a Share;
WST	Western Standard Time, Perth, Western Australia;
\$ or A\$	Australian dollars;
C\$	Canadian dollars; and
US\$	United States dollars.

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# SOUTHERN HEMISPHERE MINING LIMITED APPLICATION FORM

## **APPLICANTS DETAILS:**

Full	nan	ne (F	PLEA	SE F	RIN	T)																								
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I/We whose full name(s) and address appear above hereby apply for the number of Shares shown above (to be allocated to me/us by the Company in respect of this Application) under the Prospectus on the terms set out in the Prospectus.

Cheque Details:

PLEASE ENTER	Drawer	Bank	BSB or Branch	Amount
CHEQUE				
DETAILS				

My/Our contact numbers in the case of inquiry are:

Telephone ( ) .....

Fax ( )																									
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NOTE: Cheques should be made payable to Southern Hemisphere Mining Limited - CDI Offer Account, crossed "NOT NEGOTIABLE" and forwarded to Computershare Investor Services Pty Limited, Level 2, Reserve Bank Building, 45 St George's Terrace, Perth, Western Australia, 6000 to arrive no later than 5pm (WST) on the Closing Date.

#### Declaration

This Application Form does not need to be signed. By submitting this Application Form and a cheque for the Application Monies I/we:

apply for the number of Shares specified in the Application Form or such lesser number as may be allocated by the Directors upon and subject to the terms of the (1) Prospectus;

agree to be bound by the constitution of the Company; (2)

- declare that all statements made by me/us in this Application Form are complete and accurate; and (3) (4)
- authorise the Directors to complete or amend this Application Form where necessary to correct any errors or omissions.

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## INSTRUCTIONS TO APPLICANTS

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#### B. Application Monies

Enter the relevant amount of Application Monies. To calculate your Application Monies, multiply the number of Shares applied for by A\$0.25.

#### C. Applicant Name(s)

Enter the full name you wish to appear on the holding statement of CDIs. This must be either your own name or the name of a company. Up to 3 joint Applicants may register. You should refer to the table below for the correct forms of registrable title. Applications using the wrong form of names may be rejected. Clearing House Electronic Subregister System (CHESS) participants should complete their name identically to that present in the CHESS system.

#### D. Postal Address

Enter your postal address for all correspondence. All communications to you from the Share Registry will be mailed to the person(s) and address as shown. For joint Applicants, only one address can be entered.

#### E. Contact Details

Enter your contact details. These are not compulsory but will assist us if we need to contact you.

#### F. CHESS

The Company will apply to the ASX to participate in CHESS, operated by ASX Settlement and Transfer Corporation Pty Ltd, a wholly owned subsidiary of ASX Limited. In CHESS, the Company will operate an electronic CHESS Subregister of security holdings and an electronic Issuer Sponsored Subregister of security holdings. The Company will not be issuing certificates of applicants in respect of CDIs issued. If you are a CHESS participant (or are sponsored by a CHESS participant) and you wish to hold CDIs issued to you under this Application on the CHESS Subregister, enter your CHESS HIN. Otherwise, leave this section blank and on issue, you will be issuer sponsored and allocated a Securityholder Reference Number (SRN).

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GPO Box D182	OR	Level 2, Reserve Bank Building
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		PERTH WA 6000

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Use full and complete names	Ms Louise Susan Williams	Louise Williams
Trusts	Mrs Susan Jane Smith	Sue Smith Family Trust
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Deceased Estates	Ms Jane Mary Smith &	Estate of late John Smith
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Long Names.	Mr John William Alexander	Mr John W A Robertson-Smith
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Superannuation Funds	Jane Smith Pty Ltd	In the Smith Pty Ltd Superannuation
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# SOUTHERN HEMISPHERE MINING LIMITED APPLICATION FORM

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I/We whose full name(s) and address appear above hereby apply for the number of Shares shown above (to be allocated to me/us by the Company in respect of this Application) under the Prospectus on the terms set out in the Prospectus.

Cheque Details:

PLEASE ENTER	Drawer	Bank	BSB or Branch	Amount
CHEQUE				
DETAILS				

My/Our contact numbers in the case of inquiry are:

Telephone ( ) .....

Fax ( )																									
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NOTE: Cheques should be made payable to Southern Hemisphere Mining Limited - CDI Offer Account, crossed "NOT NEGOTIABLE" and forwarded to Computershare Investor Services Pty Limited, Level 2, Reserve Bank Building, 45 St George's Terrace, Perth, Western Australia, 6000 to arrive no later than 5pm (WST) on the Closing Date.

#### Declaration

This Application Form does not need to be signed. By submitting this Application Form and a cheque for the Application Monies I/we:

apply for the number of Shares specified in the Application Form or such lesser number as may be allocated by the Directors upon and subject to the terms of the (1) Prospectus;

agree to be bound by the constitution of the Company; (2)

- declare that all statements made by me/us in this Application Form are complete and accurate; and (3) (4)
- authorise the Directors to complete or amend this Application Form where necessary to correct any errors or omissions.

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## INSTRUCTIONS TO APPLICANTS

Please post or deliver the completed Application Form together with a cheque for the Application Monies to the Share Registry. If an Applicant has any questions on how to complete this Application Form, please telephone the Share Registry on 1300 557 010. The Application Form must be received by the Share Registry no later than 5pm (WST) on the Closing Date.

#### A. Shares Applied For

Enter the number of Shares you wish to apply for. Applications must be for a minimum of 8,000 Shares. Applications in excess of the minimum must be in multiples of 1,000 Shares.

#### B. Application Monies

Enter the relevant amount of Application Monies. To calculate your Application Monies, multiply the number of Shares applied for by A\$0.25.

#### C. Applicant Name(s)

Enter the full name you wish to appear on the holding statement of CDIs. This must be either your own name or the name of a company. Up to 3 joint Applicants may register. You should refer to the table below for the correct forms of registrable title. Applications using the wrong form of names may be rejected. Clearing House Electronic Subregister System (CHESS) participants should complete their name identically to that present in the CHESS system.

#### D. Postal Address

Enter your postal address for all correspondence. All communications to you from the Share Registry will be mailed to the person(s) and address as shown. For joint Applicants, only one address can be entered.

#### E. Contact Details

Enter your contact details. These are not compulsory but will assist us if we need to contact you.

#### F. CHESS

The Company will apply to the ASX to participate in CHESS, operated by ASX Settlement and Transfer Corporation Pty Ltd, a wholly owned subsidiary of ASX Limited. In CHESS, the Company will operate an electronic CHESS Subregister of security holdings and an electronic Issuer Sponsored Subregister of security holdings. The Company will not be issuing certificates of applicants in respect of CDIs issued. If you are a CHESS participant (or are sponsored by a CHESS participant) and you wish to hold CDIs issued to you under this Application on the CHESS Subregister, enter your CHESS HIN. Otherwise, leave this section blank and on issue, you will be issuer sponsored and allocated a Securityholder Reference Number (SRN).

# Please ensure that your registration details match your CHESS REGISTRATION details EXACTLY and include your HIN. Failure to match CHESS REGISTRATION exactly will result in stock being made ISSUER SPONSORED.

#### G. Payment

Make your cheque, bank draft or money order payable to Southern Hemisphere Mining Limited – CDI Offer Account in Australian currency and cross it Not Negotiable. Your cheque, bank draft or money order must be drawn on an Australian Financial Institution. Complete the cheque details in the boxes provided. Cheques will be processed on the day of receipt and as such, sufficient cleared funds must be held in your account as cheques returned unpaid may not be re-presented and may result in your Application being rejected. Pin (do not staple) your cheque(s) to the Application Form where indicated. Cash will not be accepted. Receipt for payment will not be forwarded.

If an Application Form is not completed correctly, or if the accompanying payment is for the wrong amount, it may still be accepted. Any decision of the Directors as to whether to accept an Application Form, and how to construe, amend or complete it shall be final. An Application Form will not however, be treated as an application for more Shares than is indicated by the amount of the accompanying cheque. The Application Form does not need to be signed.

### Forward your completed Application Form together with the Application Monies to:

C/- Computershare Investor Services Pty Ltd		C/- Computershare Investor Services Pty Ltd
GPO Box D182	OR	Level 2, Reserve Bank Building
PERTH WA 6840		45 St. George's Terrace
		PERTH WA 6000

## CORRECT FORMS OF REGISTRABLE TITLE

Note that ONLY legal entities are allowed to hold Shares. Application Forms must be in the name(s) of a natural person(s), companies or other legal entities acceptable to the Company. At least one full given name and the surname is required for each natural person. Application Forms cannot be completed by persons under 18 years of age. Examples of the correct form of registrable title are set out below.

Type of Investor	Correct Form of Registration	Incorrect Form of Registration
Individual Use given names in full, not initials	Mr John Alfred Smith	🚯 A Smith 🧳
Company Use the company's full title, not abbreviations	ABC Pty Ltd	ABC P/L or ABC Co
Joint Holdings	Mr Peter Robert Williams &	PeterRobert &
Use full and complete names	Ms Louise Susan Williams	Louise Williams
Trusts	Mrs Susan Jane Smith	Sue Smith Family Trust
Use the trustee(s) personal name(s).	<sue a="" c="" family="" smith=""></sue>	
Deceased Estates	Ms Jane Mary Smith &	Estate of late John Smith
Use the executor(s) personal name(s).	Mr Frank William Smith	or 🔪 🎢
	<est a="" c="" john="" smith=""></est>	John Smith Decessed
Minor (a person under the age of 18)	Mr John Alfred Smith	Master Peter Smith
Use the name of a responsible adult with an appropriate designation.	<peter a="" c="" smith=""></peter>	
Partnerships	Mr John Robert Smith &	John Smith and Son
Use the partners personal names.	Mr Michael John Smith	
	<john a="" and="" c="" smith="" son=""></john>	
Long Names.	Mr John William Alexander	Mr John W A Robertson-Smith
	Robertson-Smith	
Clubs/Unincorporated Bodies/Business Names	Mr Michael Peter Smith	ABC Pennis Association
Use office bearer(s) personal name(s).	<abc a="" association="" c="" tennis=""></abc>	
Superannuation Funds	Jane Smith Pty Ltd	In the Smith Pty Ltd Superannuation
Use the name of the trustee of the fund.	<super a="" c="" fund=""></super>	Fund



P.O. Box 598 West Perth Western Australia 6872 Telephone: 61 8 9481 2122