



**ANNUAL INFORMATION FORM**

**For the year ended April 30, 2014**

**Dated: July 2, 2014**

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## **ITEM 1: CAUTIONARY STATEMENT ON FORWARD-LOOKING INFORMATION**

Certain statements contained in this document are forward-looking statements concerning anticipated developments in the Corporation's operations in future periods, planned exploration activities, adequacy of the Corporation's financial resources and other events or conditions that may occur in the future. Forward-looking statements are frequently, but not always, identified by words such as "expects", "anticipates", "believes", "intends", "estimates", "potential", "targeted", "plans", "possible", and similar expressions, or statements that events, conditions or results "will", "may", "could" or "should" occur or be achieved. Such forward-looking statements include, but are not limited to, those statements with respect to the Kami Royalty, Alderon Iron Ore Corporation, the Voisey's Bay Royalty, Prairie Royalties, the Julienne Lake iron ore deposit, the Central Mineral Belt Royalty, the price of commodities with respect to the previously mentioned projects and entities, the timing and amount of estimated future production, capital expenditures and reserves determination, that involve known or unknown risks, uncertainties and other factors, which may cause the Corporation's actual results, performance or achievements to be materially different from those projected, implied or foreseen by such forward-looking statements.

A number of factors could cause actual events or results to differ materially from any forward looking information, including, without limitation: fluctuations in the prices of the primary commodities that drive royalty revenue; fluctuations in the value of the Canadian dollar; changes in national and local government legislation, including permitting and licensing regimes and taxation policies; regulations and political or economic developments in any of the jurisdictions where properties in which the Corporation holds a royalty or other interest are located; influence of macro-economic developments; reduced access to debt and equity capital; litigation; title, permit or licensing disputes related to the Corporation's interests or any of the properties in which the Corporation holds a royalty or other interest; excessive cost escalation as well as development, permitting, infrastructure, operating or technical difficulties on any of the properties in which the Corporation holds a royalty or other interest; rate and timing of production differences from resource estimates; and risks and hazards associated with the business of development and mining on any of the properties in which the Corporation holds a royalty or other interest, including, but not limited to unusual or unexpected geological and metallurgical conditions, slope failures or cave ins, flooding and other natural disasters.

The forward looking information contained in herein is based upon assumptions management believes to be reasonable, including, without limitation: the ongoing operation of the properties in which the Corporation holds a royalty or other interest by the owners or operators of such properties in a manner consistent with past practice; the accuracy of public statements and disclosures made by the owners or operators of such underlying properties; no material adverse change in the market price of the commodities that underlie the asset portfolio; no adverse development in respect of any significant property in which the Corporation holds a royalty or other interest; the accuracy of publicly disclosed expectations for the development of underlying properties that are not yet in production; and the absence of any other factors that could cause actions, events or results to differ from those anticipated, estimated or intended. However, there can be no assurance that forward looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Forward looking information is not a guarantee of future performance. The Corporation cannot be certain that actual results will be consistent with any forward looking information disclosed herein. Accordingly, undue reliance should be placed on forward looking information due to the inherent uncertainty therein. For additional information with respect to risks, uncertainties and assumptions, please refer to the "Risk Factors" section below.

Unless otherwise noted, the information given herein is as of April 30, 2014.

## **ITEM 2: CURRENCY**

All currency references in this Annual Information Form (the “AIF”) are to Canadian dollars unless otherwise indicated.

## **ITEM 3: TECHNICAL AND THIRD PARTY INFORMATION**

Except where otherwise stated, the disclosure in this AIF relating to properties and operations on the properties in which Altius holds royalty interests is based primarily on information publicly disclosed by the owners or operators of these properties and information available in the public domain as at April 30, 2014. As a royalty holder, Altius has limited, if any, access to properties included in its asset portfolio. Altius generally relies on publicly available information regarding these properties and operations and generally has no ability to independently verify such information. Additionally, Altius has, and may from time to time, receive operating information from the owners and operators of these properties, which it is not permitted to disclose to the public. Altius is dependent on the operators of the properties and their qualified persons to provide information to Altius or on publicly available information to prepare required disclosure pertaining to properties and operations on the properties on which Altius holds royalty interests and generally has limited or no ability to independently verify such information. Although Altius does not have any knowledge that such information may not be accurate, there can be no assurance that such third party information is complete or accurate.

## **ITEM 4: CORPORATE STRUCTURE**

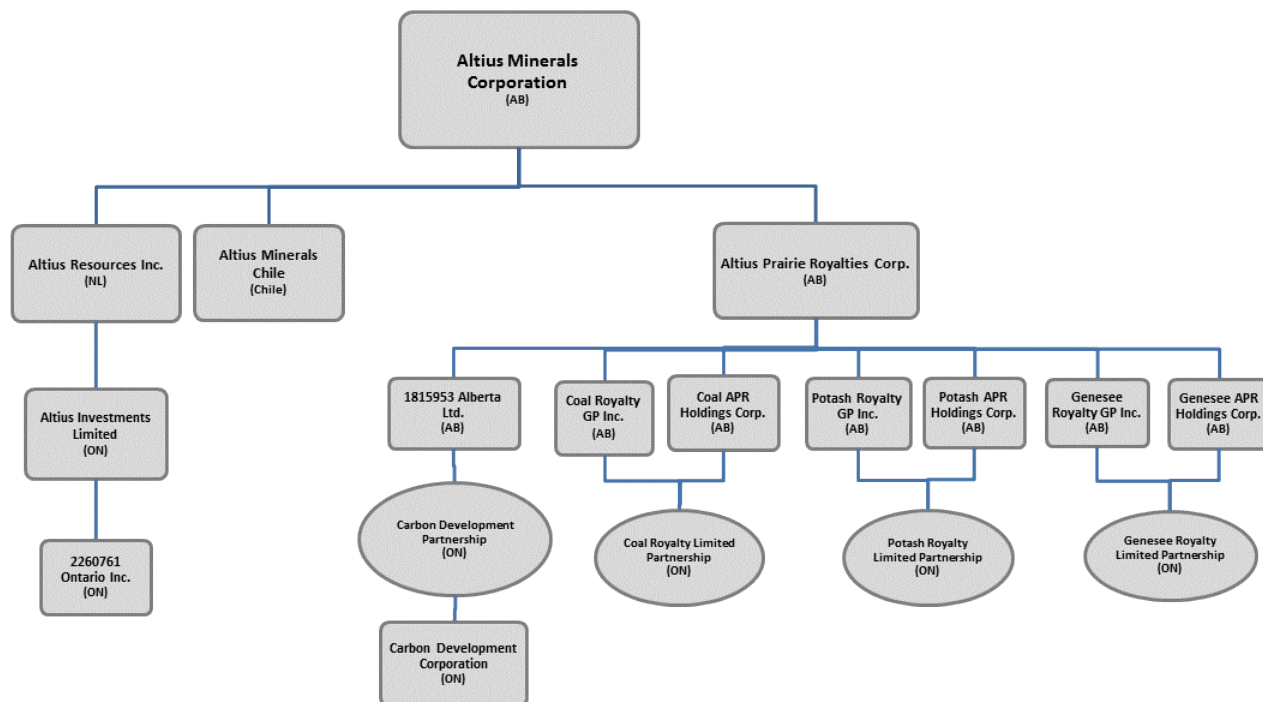
### **4.1 Name, Address and Incorporation**

Altius Minerals Corporation (the “Corporation” or “Altius”) was incorporated as a private corporation under the name 730260 Alberta Inc. by certificate and articles of incorporation (the “Articles”) issued pursuant to the provisions of the *Business Corporations Act* (Alberta) on March 5, 1997. The Articles were amended by certificate and articles of amendment dated June 12, 1997 to remove the "private company" provisions and the restrictions on share transfers and to change the name of the Corporation to “Altius Minerals Corporation.”

The head office of the Corporation is located at Suite 202 – 66 Kenmount Road, St. John’s, Newfoundland and Labrador A1B 3V7. Its registered office is located at 850, 901 – 9 Ave SW, Calgary, Alberta T2P 3C5.

### **4.2 Inter-Corporate Relationships**

The following chart sets forth the material subsidiaries of the Corporation and the Corporation's equity interest in each subsidiary.



## ITEM 5: GENERAL DEVELOPMENT OF THE BUSINESS

### 5.1 Significant Acquisitions

On December 24, 2013, the Corporation and Altius Prairie Royalties Corp. (“APRC”), a wholly-owned subsidiary of the Corporation, entered into a definitive agreement (the “Arrangement Agreement”) with Sherritt International Corporation (“Sherritt”), Prairie Mines & Royalty Ltd. (“PMRL”), a former wholly-owned subsidiary of Sherritt, and Westmoreland Coal Company pursuant to which the Corporation agreed to indirectly acquire a 52.369% interest in the coal and potash royalty business operated by PMRL (“Prairie Royalties”). The Corporation agreed to fund \$240.9 million of the \$460 million aggregate purchase price for Prairie Royalties alongside Liberty Metals & Mining Holdings, LLC, a subsidiary of Boston-based Liberty Mutual Insurance, and the Chairman of Haywood Securities Inc. and certain trusts controlled by him, who agreed to acquire the remaining interest in Prairie Royalties. The Arrangement Agreement also provided for the indirect acquisition of Sherritt’s 50% interest (the “Sherritt CDP Interest”) in Carbon Development Partnership (“CDP”), an Ontario partnership owned 50% by Sherritt and 50% by the Ontario Teachers’ Pension Plan Board (“OTPPB”), for a purchase price of \$21 million. The acquisition of Prairie Royalties and the Sherritt CDP interest was completed on April 28, 2014 pursuant to a court-approved plan of arrangement under the *Business Corporations Act* (Alberta).

On April 22, 2014, Altius entered into a purchase agreement with OTPPB, OTPPB SCP Inc. and APRC whereby Altius agreed to purchase the remaining 50% of CDP from OTPPB (the “OTPPB CDP Interest”)

on substantially the same terms and conditions as those contained under the Arrangement Agreement for a purchase price of \$21 million. The acquisition of the OTPPB CDP Interest closed on May 13, 2014.

Prairie Royalties holds five thermal coal and metallurgical coal royalties and six potash royalties located in the provinces of Alberta and Saskatchewan. The coal royalties include royalties in respect of electrical coal produced from the Genesee Mine, the Paintearth Mine, the Sheerness Mine and the Highvale Mine, and a royalty interest in respect of metallurgical coal produced from the Cheviot Mine, each of which is located in Alberta. The potash royalties include royalties in respect of potash produced from the Rocanville Mine, Cory Mine, Allan Mine, Patience Lake Mine, Esterhazy Mine and Vanscoy Mine, each of which is located in Saskatchewan.

CDP holds a portfolio of small production stage royalties on potash and electrical coal operations and exploration stage coal projects with more than 7.2 billion tonnes of measured and indicated resources of coal and approximately 4.7 billion tonnes of inferred resources of coal. CDP also holds potash properties with approximately 77.3 Mt of proven and probable reserves of potash and approximately 1.6 billion tonnes of inferred resources of potash in Saskatchewan.

The aggregate purchase price for the acquisitions of Prairie Royalties and CDP was \$282.9 million. Altius financed the acquisition of Prairie Royalties and the Sherritt CDP Interest through (i) a senior secured non-revolving credit facility in the amount of \$140 million that was provided by Sprott Resource Lending Partnership, Earlston Investment Corp. and the Chairman of Haywood Securities Inc. (the “Credit Facility”) (ii) a \$7.2 million unsecured loan that was provided by the Chairman of Haywood Securities Inc. (the “Unsecured Loan”) and (iii) \$114.7 million of cash and marketable securities on hand.

Altius financed the acquisition of the OTPPB CDP Interest through the issuance of 4,643,000 common shares at a price of \$14.00 per share for total gross proceeds of \$65,002,000 pursuant to a short form prospectus dated May 6, 2014 (the “Offering”). The Offering closed on May 13, 2014, and Altius used \$21 million of the net proceeds of the Offering to acquire the OTPPB CDP Interest, with the balance of the net proceeds of the Offering being used (i) to repay the Unsecured Loan of \$7.2 million, (ii) to repay \$21 million under the Credit Facility and (iii) for general corporate purposes.

The Credit Facility is repayable over a five year period with quarterly principal repayments of \$2,000,000, commencing October 31, 2014, bearing interest at variable rates as follows:

<b>Principal Amount Outstanding</b>	<b>Interest Rate</b>
\$120,000,000 to \$140,000,000	8.85%
\$110,000,000 to \$119,999,999.99	7.80%
\$100,000,000 to \$109,999,999.99	7.35%
\$80,000,000 to \$99,999,999.99	6.95%
\$0 to \$79,999,999.99	6.50%

The Credit Facility allows for optional prepayments of principal at the end of each calendar month. On April 28, 2015, a cash fee of 2% of the principal amount in excess of \$80,000,000 will be payable.

Altius and its subsidiaries, other than Minera Altius Chile, Limitada, Consultora Altius Chile Limitada and 2260761 Ontario Ltd., act as guarantors under the Credit Facility (the “Credit Parties”). The lenders

under the Credit Facility have taken a secured charge against all real property of the Credit Parties and share pledges of all the equity interests in each of the Credit Parties.

The Corporation filed Form 51-102F4 (Business Acquisition Report) in respect of the acquisitions of Prairie Royalties and CDP on June 23, 2014.

## **5.2 Three Year History**

Over the past three years, the Corporation has continued to evolve from a junior mineral exploration company into a diversified minerals royalty company with royalty interests in 12 producing mines located in Canada.

The Corporation created much of its current strong financial position by selling its founding stake in Aurora Energy Resources Inc. ("Aurora") for gross proceeds of approximately \$208 million over a three year period commencing in 2006. Aurora held the Central Mineral Belt ("CMB") uranium properties located in Labrador. The Corporation also realized cash and share proceeds of approximately \$63 million from the sale of its 9.4% interest in International Royalty Corporation ("IRC") during the year ended April 30, 2010, and received share proceeds with a market value of approximately \$86 million at the time of transfer in exchange for its interest in the Kamistaitusset ("Kami") iron ore property located in western Labrador to Alderon Iron Ore Corporation ("Alderon") during the year ended April 30, 2011.

The Corporation has continued to embark upon various mineral exploration and resource based opportunities with a goal of attracting project level funding and operating partners with complementary technical and financial expertise. In these circumstances, the Corporation generally retains a minority project stake and royalty interests. As at April 30, 2014, the Corporation had eight active exploration alliances with various companies.

### Year Ended April 30, 2012

On September 8, 2011, Alderon released results of the Preliminary Economic Assessment ("PEA") study on the Rose Central Deposit of the Kami Project completed by BBA Inc. located in Montreal, Quebec and the Stassinu Stantec Limited Partnership located in St. John's, Newfoundland and Labrador. The PEA demonstrated very attractive project economics. Based on a production rate of 8 Mt per year of iron ore concentrate at a grade of 65.5% iron and an iron recovery of 82.8%, the PEA shows a Net Present Value ("NPV") of US\$3.07 billion at a cash flow discount rate of 8%. The pre-tax internal rate of return ("IRR") for the project is 40.2%. The level of accuracy of the PEA is considered to be -20%/+30%. The PEA is currently based only on the development of the defined resources of the Rose Central deposit and not on the Rose North deposit.

On September 13, 2011 Alderon released the results of the initial NI 43-101 mineral resource estimate on the Rose North deposit of the Kami iron ore project (the "Kami Project"). The inferred mineral resource estimate at Rose North totals 480 Mt at 30.3% iron based on a cut-off grade of 20% iron. The resource estimate for all three zones (Rose North, Rose Central and Mills Lake) within the Kami project is: 490 Mt at 30.0% iron indicated and 598 Mt at 30.3% iron inferred.

In December 2011, Alderon completed a non-brokered private placement of two million flow-through common shares at a price of \$3.00 per flow-through share for gross proceeds of \$6 million. The gross proceeds raised from the offering were used by Alderon for exploration expenditures on its Kami project, which will constitute Canadian exploration expenditures (as defined in the *Income Tax Act* (Canada)) and will be renounced for the 2011 taxation year. The Corporation did not participate in this financing.

In January 2012, Alderon closed an equity financing with Liberty Metals & Mining Holdings, LLC ("LMM"), a subsidiary of Liberty Mutual Group. LMM purchased 14,981,273 common shares of Alderon

on a private placement basis for an aggregate purchase price of approximately \$40 million at a price per share of \$2.67. Alderon used the net proceeds of the placement primarily to fund the 2012 winter drilling program and commencement of the feasibility study for the Kami Project, to secure long-lead equipment and for general and administrative expenses. The Corporation did not participate in this financing. As a result of these financings, the Corporation's interest in Alderon was reduced to approximately 33%. In early 2012 Alderon completed infill drilling on the Rose North Zone to upgrade the resource category to be utilized in the feasibility study. Under the terms of the subscription agreement, LMM was provided with a pre-emptive right to participate in future equity financings of Alderon.

On April 13, 2012, Alderon signed a definitive subscription agreement with Hebei Iron and Steel Group Co. Ltd. ("Hebei") for a strategic partnership.

#### Year Ended April 30, 2013

In July 2012, Alderon announced that it has entered into an agreement with the Sept-Îles Port Authority (the "Port") to secure usage of a new multi-user deep water dock facility that the Port is constructing. Pursuant to the agreement, Alderon reserved an annual capacity of eight million metric tonnes of iron ore that Alderon can ship through the Port. Construction of the Port is expected to be completed by 2014.

In August 2012 Alderon amended its offtake and financing agreement with Hebei. The total consideration from the agreement was amended to \$182.2 million from \$194 million to reflect the change in the market conditions. On September 4, 2012, Hebei made the first payment to Alderon of \$62.3 million to acquire 19.9% of the common shares of Alderon. Concurrently, Liberty Metals and Mining made an additional investment in Alderon of \$9.2 million through a private placement of 3,816,181 shares to maintain its ownership percentage in Alderon at 14.5%. Altius' percentage ownership in Alderon after these transactions was reduced from 32.8% to 25.3%.

On September 4, 2012, Alderon closed the private placement with Hebei pursuant to which Hebei indirectly acquired 25,858,889 common shares of Alderon at a price of \$2.41 per share for gross proceeds to Alderon of approximately \$62.3 million, representing 19.9% of the issued and outstanding common shares of Alderon. Concurrent with the closing of the Hebei private placement on September 4, 2012, and pursuant to a subscription agreement dated May 29, 2012, as amended August 23, 2012, LMM acquired 3,816,181 common shares of Alderon at a price of \$2.41 per share for gross aggregate proceeds to Alderon of approximately \$9.2 million.

In January 2013 Alderon announced the results of its feasibility study of the Kami Project (North Rose and Rose Central deposits) by BBA Inc. that indicated an internal rate of return of 29.3% and a net present value of \$3.2 billion discounted at 8%. The projected mine life is expected to be 30 years producing approximately 8 Mt of iron concentrate per annum.

On March 15, 2013 Alderon announced that Hebei contributed the remaining \$119.9 million of its initial investment in Alderon and that Alderon has contributed the Kami Project to a limited partnership ("Kami LP") which is owned 25% by Hebei and 75% by Alderon.

This concluded Hebei's initial strategic investment, first announced on April 13, 2012, into both Alderon and its Kami Project for an aggregate amount of \$182,200,000, in exchange for 19.9% of the outstanding common shares of Alderon (completion announced on Sept. 4, 2012) and a 25% interest in the Kami LP, which was established to own the Kami Project. Alderon owns the remaining 75% interest in the Kami LP. Altius owns approximately 25% of the common shares of Alderon and holds a 3% gross sales royalty on the Kami Project.



The Corporation continues to hold 25% of the total outstanding shares of Alderon and a 3% GSR on the Kami Project

The Corporation also entered into an agreement with Zeus Capital Inc. (“Zeus”) of Santiago, Chile, to establish a mineral exploration prospect generation business in Chile. Altius, Zeus and its investors will contribute a total of \$7.1-million into the new business entity at various milestones over a four-year period. Altius holds a 49% equity stake and a retained royalty interest in all projects generated by the venture. In addition to its portion of equity financing, Zeus has arranged up to \$14 million in financing in the form of a non-recourse loan from the Chilean government's Fenix program that is designed to promote the development of a domestic junior exploration sector in Chile. Exploration work commenced in Chile through, Fondo de Inversion Privado Mining Equity (“Mining Equity”), the entity created to conduct exploration work under the alliance. Early stage work included mapping/sampling and prospecting in various regions throughout Chile as well as the evaluation of several mineral properties held by cash constrained junior exploration companies and individuals. No mineral rights acquisitions were completed during the year and technical evaluation continued. A Chile-dedicated technical team was established to operate the business.

In October 2012, the Government of Newfoundland and Labrador requested expressions of interest regarding development of a designated Exempt Mineral Land (“EML”) that contains the Julienne Lake iron ore deposit. Altius has conducted exploration drilling and geophysical work on its adjacent claims that confirms extension of the deposit to the northeast and southwest. On May 31, 2013, the Corporation and its partners submitted a detailed proposal to combine the EML with its surrounding mineral claims to develop the entirety of the deposit as a larger and longer life mining operation.

In January 2013, the shareholders of 2260761 invested an additional \$5,600,000 to take advantage of depressed equity markets in the junior sector. The Corporation’s share of this investment was \$5,000,000 and its percentage ownership did not change as a result of the transaction.

The Corporation continued its exploration activity on other projects during the year.

#### Year Ended April 30, 2014

During the year ended April 30, 2014, the Corporation continued generative exploration activities in eastern Canada and Chile with its various alliance and earn-in partners.

The Corporation also continued dialogue with the Government of Newfoundland and Labrador regarding its proposal to develop the Julienne Lake Iron Ore Property in alliance with Chinese partners. In October 2012, the Government of Newfoundland and Labrador (“GNL”) requested expressions of interest (“EOI”) regarding development of a designated Exempt Mineral Land (“EML”) in the western Labrador iron ore mining district that contains the undeveloped Julienne Lake iron ore deposit. In May 2013, after invitation by GNL, the Corporation and its Chinese partners (the “JL Alliance”) submitted a detailed proposal for the development of the EML and Altius’ adjacent mineral rights, where the Corporation had confirmed the extension of the Julienne Lake deposit. On April 16, 2014, it was announced that the JL Alliance had been selected by GNL to enter into exclusive final stage negotiations for the award of the EML the Julienne Lake deposit. Altius intends to contribute its mineral claims to the JL Alliance in exchange for a royalty interest on the consolidated project as well as a minority equity interest. Discussions between the JL Alliance and the Province of Newfoundland and Labrador are ongoing.

Alderon continued to make significant progress towards its goal of developing the Kami Project located in western Labrador, Canada. Long-lead equipment orders were placed, release from both the Provincial and Federal Environmental Assessment (“EA”) process was granted in February 2014, a Power Purchase

Agreement (“PPA”) with a subsidiary of Nalcor energy was executed and a comprehensive benefits agreement was announced with the Province of Newfoundland and Labrador. Alderon remains focused on securing the remaining necessary capital to fund the proposed Kami mine construction

Altius holds a 25.3% founding equity interest in Alderon and a 3% Gross Sales Royalty (“GSR”) on the Kami Project. Alderon’s ongoing progress is described in greater detail on their website at <http://www.alderonironore.com/>.

Following the acquisition of Prairie Royalties and CDP on April 28, 2014 (See Item 5.1 – Significant Acquisitions), Altius emerged as a significant mineral royalty company. The acquisition of Prairie Royalties and CDP has substantially diversified Altius’ asset base by commodity, geography and asset. Altius now has royalty revenue from six commodities with more than 50% of that revenue expected to be from low risk, inflation adjusted electrical coal royalties and no single asset that contributes more than 22% of estimated revenue. The Corporation has treated the interest purchased in Prairie Royalties as a joint venture by virtue of joint control over the relevant activities and therefore use the equity method of accounting. At year end, CDP was also treated as a joint venture and accounted for using the equity method however, subsequent to year end, the Corporation has 100% ownership of the partnership and will consolidate the results of operations and assets and liabilities.

## **ITEM 6: DESCRIPTION OF THE BUSINESS**

### **6.1 General**

Altius is a diversified minerals royalty company with royalty interests in 12 producing mines located in Canada. The royalty interests include mining operations that produce thermal (electrical) and metallurgical coal, potash, nickel, copper and cobalt. The Corporation also holds other significant pre-development stage royalty interests that include: a 3% gross sales royalty (“GSR”) on Alderon Iron Ore Corporation’s (“Alderon”) Kami Project; a 2% GSR on production from Paladin’s Central Mineral Belt uranium project, as well as several other earlier stage royalties.

Altius may also invest in publicly traded mineral royalty or royalty-like companies when the Corporation’s management believes the value of the underlying royalty interests are not properly reflected in the company’s market capitalization.

Altius’ 12 production stage royalties have been largely acquired using a combination of profits generated from its mineral exploration/project generation activities and debt and equity procurement.

Low cost project generation is conducted with a primary objective of creating royalty interests at nominal cost. Altius accomplishes this by conducting early stage mineral exploration and prospect generation utilizing a small team of geoscientists, prospectors, and consultants that develop mineral exploration initiatives through scientific concept development and field work. Concepts of merit are advanced through to mineral rights acquisition and then marketed to prospective partners for the purpose of securing select third parties to finance and advance the projects. The Corporation creates agreements with other companies related to the mineral exploration opportunities it generates, which results in the Corporation carrying minority and non-operating project and/or equity and royalty interests. In some cases the Corporation receives shares in public companies which, depending on a number of factors, are monetized and the proceeds used for further project generation work and/or to acquire additional third party royalties.

The Corporation currently has 15 employees.

## **Founding Equity Stakes**

### ***Alderon***

The Corporation currently holds a 25.3% interest in Alderon, a Corporation conducting further exploration and evaluation work on the Kami iron ore property located in western Labrador. The Corporation received its equity stake in exchange for transfer of the Kami iron ore property during the year ended April 30, 2011.

See Item 5, “General Development of the Business” for additional information on Alderon and the Kami Project.

### ***Mining Equity***

The Corporation currently holds a 49% interest in Fondo de Inversion Privado Mining Equity (“Mining Equity”), the entity created to conduct mineral exploration and prospect generation in Chile. Altius, and its investors will contribute a total of \$7.1-million into the new business entity at various milestones over a four-year period. See Item 5, “General Development of the Business” for additional information on the activities of Mining Equity.

## **Exploration and Royalty Creation**

The majority of the Corporation’s current resource exploration properties are located in the Province of Newfoundland and Labrador. The Corporation has exposure to gold, base metals, iron ore, and uranium through a varied equity and exploration portfolio that is partially funded by joint venture partners or through earn-in agreements. The Corporation prefers to enter into earn-in or joint venture mineral exploration agreements with various industry funding partners and continues to directly invest in new generative projects and initiatives with a goal of attracting partners. These agreements typically result in the Corporation holding minority project interests and royalties. Financing for the exploration of the Corporation’s mineral properties is provided partially from the Corporation’s own operating cash flows but also through earn-in/joint venture agreements with other exploration and mining companies.

The Corporation currently has eight active exploration agreements or joint alliances with various mining industry partners from around the world.

## **6.2 Risk Factors**

The following is a summary of significant business risks as they pertain to the outlook and conditions currently known to management which could have a material impact on the financial condition and results of the operations of the Corporation and its investments and royalty interests. The risks described are not the only ones faced by the Corporation and any risks in combination or individually could have a material adverse effect on the Corporation’s financial condition and results of operations.

### ***Operational and Development Risk***

The Corporation operates in the mineral exploration sector, which implicitly involves a high degree of risk caused by limited chances of discovery of an economic deposit and eventual mine development. The Corporation mitigates this risk by cost-sharing with exploration partners and by continuously evaluating the economic potential of each mineral property at every stage of its life cycle.

### *Development Stage Projects*

Profits from commercial operations will depend on a significant number of factors, including economic feasibility, changing market conditions, aboriginal involvement, environmental and governmental regulations, labour availability, the cost of and the ability to attract external financial capital, and the ability to attract partners with sufficient technical expertise and relevant industry experience to further develop the various projects. Any failure to meet one or a combination of these factors may result in project delays or potential cancellation and the Corporation's future operating results may be adversely affected.

### *Dependence on Third Party Property Owners and Operators*

The revenue derived from the Corporation's royalty portfolio is based on production by third party property owners and operators. These owners and operators are responsible for determining the manner in which the properties underlying the royalties are exploited, including decisions to expand, continue or reduce production from a property, and decisions to advance exploration efforts and conduct development of non-producing properties. The Corporation will have little or no input on such matters. The interests of third party owners and operators and those of the Corporation on the relevant properties may not always be aligned. As an example, it will, in almost all cases, be in the interest of the Corporation to advance development and production on properties as rapidly as possible in order to maximize near term cash flow, while third party owners and operators may, in many cases, take a more cautious approach to development as they are at risk on the cost of development and operations. The inability of the Corporation to control the operations for the properties in which it has a royalty interest may result in a material and adverse effect on the Corporation's profitability, results of operation and financial condition.

### *Exposure to Mineral Price Fluctuations*

The revenue derived by the Corporation from the its royalty portfolio and investments will be significantly affected by changes in the market price of the commodities that underlie those royalties and other investments, which can affect production levels to which its royalty portfolio is tied. The Corporation's revenue will be particularly sensitive to changes in the price of metallurgical coal and potash, as the revenue from these commodities represent the majority of the cash flow expected to be derived in the near future. Commodity prices, including those to which the Corporation is exposed, fluctuate on a daily basis and are affected by numerous factors beyond the control of the Corporation, including levels of supply and demand, industrial development levels, inflation and the level of interest rates. Such external economic factors are in turn influenced by changes in international investment patterns, monetary systems and political developments.

All commodities, by their nature, are subject to wide price fluctuations and future material price declines will result in a decrease in revenue or, in the case of severe declines that cause a suspension or termination of production by relevant operators, a complete cessation of revenue from royalties or working interests applicable to one or more relevant commodities. Moreover, the broader commodity market tends to be cyclical, and a general downturn in overall commodity prices could result in a significant decrease in overall revenue. Any such price decline may result in a material and adverse effect on the Corporation's profitability, results of operation, financial condition and dividend policy.

### *Limited Access to Data and Disclosure for Royalty Portfolio*

The Corporation neither serves as the mine property owner or operator for the properties underlying its royalty portfolio, and in almost all cases the Corporation has no input into how the operations are conducted. Consequently, the Corporation has varying access to data on the operations or to the actual properties themselves. This could affect its ability to assess the value of the royalty interest or enhance the

royalty's performance. This could also result in delays in cash flow from that anticipated by the Corporation based on the stage of development of the applicable properties underlying its royalty portfolio. The Corporation's royalty payments may be calculated by the royalty payors in a manner different from the Corporation's projections and the Corporation may or may not have rights of audit with respect to such royalty interests. In addition, some royalties may be subject to confidentiality arrangements that govern the disclosure of information with regard to royalties and as a result the Corporation may not be in a position to publicly disclose non-public information with respect to certain royalties. The limited access to data and disclosure regarding the operations of the properties in which the Corporation has an interest may restrict the Corporation's ability to assess the value or enhance its performance, which may result in a material and adverse effect on the Corporation's profitability, results of operation and financial condition.

#### *Dependence on Payment from Royalty Payors*

The Corporation will be dependent to a large extent upon the financial viability and operational effectiveness of owners and operators of the properties underlying its royalty portfolio. Payments from production generally flows through the operator and there is a risk of delay and additional expense in receiving such revenues. Payments may be delayed by restrictions imposed by lenders, delays in the sale or delivery of products, recovery by the operators of expenses, the establishment by the operators of mineral reserves for such expenses or the bankruptcy, insolvency or other adverse financial condition of the operator. The Corporation's rights to payment under the royalties must, in most cases, be enforced by contract without the protection of a security interest over property that the Corporation could readily liquidate. This inhibits the Corporation's ability to collect outstanding royalties upon a default. In the event of a bankruptcy, insolvency or other arrangement of an operator or owner, the Corporation will be treated like any other unsecured creditor, and therefore have a limited prospect for full recovery of royalty revenue.

#### *The Ability to Attract Partners for Exploration*

The probability of successfully progressing early stage projects is dependent on an ability to attract exploration partners to share project expenditures and to provide additional technical expertise required to develop projects. If the Corporation is unable to attract partners to cost-share project expenditures and to provide additional technical expertise, the level of exploration the Corporation could perform with limited personnel may be adversely impacted. This could affect the likelihood of discovering future commercially feasible projects.

#### *Credit facility*

The Credit Facility is subject to certain restrictive conditions that limit the discretion of management with respect to certain business matters, including financial covenants that require the Corporation to meet certain financial ratios, financial condition tests and other restrictive covenants. A failure to comply with the obligations in the Credit Facility could result in a default which, if not cured or waived, could result in a termination of the Credit Facility.

#### *Leverage Risk*

The Corporation's degree of leverage, particularly given the drawdown under the Credit Facility that was used to complete the acquisition of Prairie Royalties and CDP, could have adverse consequences for the Corporation, including: limiting the Corporation's ability to obtain additional financing for working capital, debt service requirements, acquisitions and general corporate or other purposes; restricting the Corporation's flexibility and discretion to operate its business; having to dedicate a portion of the

Corporation's cash flows from operations to the payment of interest on its existing indebtedness and not having such cash flows available for other purposes including expenditures that are important to its growth and strategies; exposing the Corporation to increased interest expense on borrowings at variable rates; limiting the Corporation's ability to adjust to changing market conditions; and placing the Corporation at a competitive disadvantage compared to its competitors that have less debt.

### *Debt and Equity Financing*

Because of their size and scale, the success of some resource-based projects depends on the ability of the Corporation, its partners or its investments to raise the financial capital required to successfully construct and operate a project. This ability may be affected by general economic and market conditions, including the perceived threat or actual occurrence of an economic recession or liquidity issues. If market conditions are not favourable, major resource based projects could be cancelled or delayed, or the expected rate of return to the Corporation may be significantly diminished.

### *Government Regulations*

The Corporation's operations are subject to extensive governmental regulations with respect to such matters as environmental protection, health, safety and labour; mining law reform; restrictions on production or export, price controls and tax increases; aboriginal land claims; and expropriation of property in the jurisdictions in which it operates. Compliance with these and other laws and regulations may require the Corporation to make significant capital outlays which may slow its growth by diverting its financial resources. The enactment of new adverse regulations or regulatory requirements or more stringent enforcement of current regulations or regulatory requirements may increase costs, which could have an adverse effect on the Corporation. The Corporation cannot give assurances that it will be able to adapt to these regulatory developments on a timely or cost effective basis. Violations of these regulations and regulatory requirements could lead to substantial fines, penalties or other sanctions.

### *Key Employee Attraction and Retention*

The Corporation's continued success is highly dependent on the retention of key personnel who possess business and technical expertise and are well versed in the various projects underway and under consideration. The number of persons skilled in the acquisition, exploration and development of natural resource and mining projects is limited and competition for such persons is intense. As the Corporation's business activity grows, additional key financial, administrative and operations personnel as well as additional staff may be required. Although the Corporation believes it will be successful in attracting, training and retaining qualified personnel, there can be no assurance of such success. If the Corporation is not successful in attracting, training and retaining qualified personnel, the efficiency of operations may be affected. Additionally, should any key person decide to leave, then the success of one or more of the projects underway or under consideration could be at risk.

Although safety and health factors are considered integral to all aspects of the Corporation, mineral exploration is an inherently risky business. In the event of an accident or an unforeseen circumstance, the Corporation has emergency succession plans in place for both the Chair and the CEO of the Corporation as well as for other members of senior management.

### *Exploration Alliances*

The Corporation's objective is to create joint ventures or corporate structures related to the opportunities it generates, which results in the Corporation carrying minority and non-operating project or equity interests and/or royalty interests. In certain circumstances the Corporation must rely on the decisions and

expertise regarding operational matters for properties, equity interests and other assets including: whether, when and how to commence permitting; feasibility analysis; facility design and operation, processing, plant and equipment matters; and the temporary or permanent suspension of operations. In some of these instances, it may difficult or impossible for the Corporation to ensure that the properties and assets are operated in its best interest.

### *Legal Claims*

Altius may become party to legal claims arising in the ordinary course of business, including as a result of activities of joint ventures in which it has an interest. There can be no assurance that any such legal claims will not result in significant costs to Altius.

### *Title to Mineral Properties Cannot Be Assured*

The acquisition of title to mineral properties is a very detailed and time consuming process. Title to, and the area of, mineral rights may be disputed and additional amounts may have to be paid to surface rights owners in connection with any development of mining activity. The properties may also be subject to prior unregistered agreements of transfer or aboriginal land claims, and title may be affected by undetected defects. Although Altius believes it has taken reasonable measures to ensure that title to its properties are in good standing, there is no guarantee that title to its properties will not be challenged or impaired by third parties, or that such rights and title interests will not be revoked or significantly altered to the detriment of the Corporation.

### *Financial Instrument Risk*

The Corporation's financial assets and financial liabilities are exposed to various risk factors that may affect the fair value presentation or the amount ultimately received or paid on settlement of its assets and liabilities. The Corporation manages these risks through prudent investment and business decisions, and, where the exposure is deemed too high, the Corporation may enter into derivative contracts to reduce this exposure. The Corporation does not utilize derivative financial instruments for trading or speculative purposes. Hedge accounting is applied only when appropriate documentation and effectiveness criteria are met. The Corporation does not currently use any hedges.

A summary of the major financial instrument risks and the Corporation's approach to the management of these risks are highlighted below.

#### *Credit risk*

Credit risk is the risk that a third party might fail to fulfill its performance obligations under the terms of a financial instrument. Credit risk arises from cash and cash equivalents, short-term investments and receivables. The Corporation closely monitors its financial assets, including the receivables from royalty operators who are responsible for remitting royalty revenues. The operators are established and reputable companies in the mining and mineral sector and as such management does not believe we have a significant concentration of credit risk.

#### *Foreign currency risk*

Distributions from LNRLP are exposed to foreign currency fluctuations on a portion of its accounts receivable related to royalty revenue, which is denominated and paid in US dollars. The Corporation does not enter into any derivative contracts to reduce this exposure since the receivable is short-term in nature and the expected receivable amount cannot be predicted reliably.

### *Liquidity risk*

The Corporation believes that on a long-term basis its revenue generating assets and net working capital position will enable it to meet current and future obligations at the current level of activity. This conclusion could change with a significant change in the operations of the Corporation or from other developments.

### *Other price risk*

The value of the Corporation's mining and mineral related investments is exposed to fluctuations in the quoted market price depending on a number of factors, including general market conditions, company-specific operating performance and the market value of the commodities that the companies may focus on. The Corporation does not utilize any derivative contracts to reduce this exposure.

The Corporation may be unable to sell its entire interest in an investment without having an adverse effect on the fair value of the security due to low trading volumes on some investments. The Corporation does not enter into any derivative contracts to reduce this exposure.

### *Interest rate risk*

The Corporation has debt and is therefore exposed to interest rate risk on liabilities. The Corporation manages this risk by having fixed interest rates over a 5 year term on the debt. The Corporation's cash and cash equivalents may fluctuate in value depending on the market interest rates and the time to maturity of the instruments. The Corporation manages this risk by limiting the maximum term to maturity on invested funds or holding the investments to maturity.

## **ITEM 7: MATERIAL ROYALTY INTERESTS**

### **7.1 Kami Royalty**

The Corporation holds a 3% gross sales royalty on the Kami Project ("Kami Royalty") and also has a 25.3% equity interest in Alderon, a publicly traded company that holds the Kami Project.

The Kami Royalty is material to the Corporation for purposes of National Instrument 43-101 ("NI 43-101"). Additional information on the Kami Royalty can be found in Schedule "A" to this AIF.

### **7.2 Genesee Royalty**

The Corporation holds a royalty on the Genesee coal mine (the "Genesee Royalty"), which is located approximately 70 km southwest of Edmonton, Alberta. The Genesee mine, which open pit mine, has been in operation since 1989 and has an annual production capacity of 5.6 Mt. Its coal is delivered to the Genesee power station which is approximately 25 km southwest of the mine. The power station is operated by Capital Power Corporation.

The coal rights underlying the Genesee Royalty have been unitized with the coal rights of other owners within a larger geographic area and are subject to a unitization agreement. The Genesee Royalty is comprised of (i) a crown equivalent royalty, calculated as the greater of a royalty calculated in accordance with the Alberta Coal Royalty Regulations as they stood at April 1981, or the per tonne provincial royalty payable for coal produced from Crown leases and (ii) an overriding royalty, which is an agreed upon base rate that is escalated by the GDP implicit price index published by Statistics Canada.



The Genesee Royalty is material to the Corporation for purposes of NI 43-101. Additional information on the Genesee Royalty can be found in Schedule “B” to this AIF.

### **7.3 Sheerness Royalty**

The Corporation holds a royalty on the Sheerness coal mine (the “Sheerness Royalty”). The Sheerness mine is located approximately 160 km northeast of Calgary, Alberta. Operations commenced in 1986 and currently have an annual production capacity of 4.0 Mt. Coal is delivered by road from the open pit mine to the Sheerness power station, which is adjacent to the mine. Sheerness power station is owned by ATCO Power Ltd. (50%) and TransAlta Corporation (50%).

The Sheerness Royalty is payable under four leases/agreements. The Sheerness Royalty is non-unitized and the royalty rate is based on an agreed base rate escalated by the GDP implicit price index published by Statistics Canada. Teck Resources Ltd. retains the right to receive a royalty on revenue earned from the mining of certain of the lands underlying the Sheerness Royalty. This royalty is non-unitized and the royalty rate is set at 5% of the gross revenue received for coal deliveries made from the leased area.

The Sheerness Royalty is material to the Corporation for purposes of NI 43-101. Additional information on the Sheerness Royalty can be found in Schedule “C” to this AIF.

## **ITEM 8: DIVIDENDS AND DISTRIBUTIONS**

During the Corporation’s three most recently completed financial years, no dividends or distributions have been paid to shareholders of the Corporation. The future payment of dividends or distributions will be dependent upon the financial requirements to fund future growth, the financial condition of the Corporation and other factors the Corporation’s board of directors (the “Board”) may consider appropriate in the circumstances. The Corporation is not aware of any restrictions that could prevent the paying of dividends or distributions.

## **ITEM 9: DESCRIPTION OF CAPITAL STRUCTURE**

### *Authorized and Issued Capital*

The Corporation is authorized to issue an unlimited number of common shares and an unlimited number of preferred shares. As at April 30, 2014, there were 27,595,821 common shares, and no preferred shares issued and outstanding.

On May 13, 2014, the Corporation closed an equity financing under a short form prospectus whereby an additional 4,643,000 common shares were issued.

### *Common Shares*

The holders of common shares are entitled to dividends if, as and when declared by the board of directors, to one vote per share at meetings of common shareholders of the Corporation and, upon liquidation, dissolution, or winding up to receive on a pro rata basis the net assets of the Corporation after payment of debts and other liabilities, in each case subject to the rights, privileges, restrictions and conditions attaching to any other series or class of shares ranking senior in priority or on a pro rata basis with the common shares. The common shares do not carry any pre-emptive subscription, redemption or conversion rights, nor do they contain any sinking or purchase fund provisions. *Preferred Shares*

The preferred shares may be issued in one or more series, each consisting of a number of preferred shares as determined by the Board who also may fix the designations, rights, privileges, restrictions and conditions attaching to the shares of each series of preferred shares. The preferred shares, with respect to payment of dividends and distribution of assets in the event of voluntary or involuntary liquidation, dissolution or winding-up or any other distribution of the assets, rank on a parity with the preferred shares of every other series and shall be entitled to preference over the common shares and the shares of any other class ranking junior to the preferred shares.

## **ITEM 10: MARKET FOR SECURITIES**

The Corporation's common shares trade on the Toronto Stock Exchange under the trading symbol "ALS". The common shares were listed for trading on the Toronto Stock Exchange on January 15, 2007, prior to which they were listed for trading on the TSX Venture Exchange.

### **10.1 Price Range and Trading Volume**

The following table sets forth the reported high and low sale prices and the trading volumes of the Corporation's common shares for each month in the fiscal year ending April 30, 2014.

<b>Month</b>	<b>Price Range</b>		<b>Trading Volume</b>
	<b>High</b> \$	<b>Low</b> \$	
May 2013	11.43	9.86	412,410
June 2013	10.89	9.09	592,533
July 2013	10.70	9.55	255,727
August 2013	11.57	10.39	243,028
September 2013	11.50	10.63	251,587
October 2013	11.20	10.47	254,288
November 2013	11.10	10.48	278,685
December 2013	12.56	10.36	550,445
January 2014	16.12	12.26	1,874,093
February 2014	15.85	14.02	591,866
March 2014	15.67	12.95	987,541
April 2014	16.32	14.33	1,114,240

## **ITEM 11: DIRECTORS AND OFFICERS**

### **11.1 Name, Address, Occupation and Security Holding**

The following table sets forth the names, the municipalities of residence, the positions held with the Corporation and the principal occupations of each of the directors and executive officers:

<b>Name and Province and Country of Residence Position and Date of Appointment</b>	<b>Principal occupation</b>

<b>Name and Province and Country of Residence Position and Date of Appointment</b>	<b>Principal occupation</b>
John Baker <sup>2</sup> Newfoundland and Labrador, Canada Director since June 1997, Chairman since November 2006 <sup>5</sup>	Partner, McInnes Cooper, a law firm
Brian Dalton Newfoundland and Labrador, Canada President and CEO, Director since June 1997	President and CEO of the Corporation
Frederick Mifflin <sup>1,2,3,4</sup> Ontario, Canada Director since November 2006	Vice Chairman, Blair Franklin Capital Partners Inc., an independent financial advisory firm
Susan Sherk <sup>1,2,3</sup> Newfoundland and Labrador, Canada Director since November 2006	Socio-Economic Consultant and a former Senior Human Environment Associate with AMEC Environment and Infrastructure, a division of AMEC Americas Limited, an international project management and services company
Donald Warr <sup>1,4</sup> Newfoundland and Labrador, Canada Director since November 2006	Partner, Blackwood & Warr Chartered Accountants
Jamie Strauss <sup>3,4</sup> London, United Kingdom Director since October 2010	Director, Strauss Partners, a mining finance boutique firm
Ben Lewis Newfoundland and Labrador, Canada Chief Financial Officer since October 2006	Chief Financial Officer of the Corporation
Chad Wells Newfoundland and Labrador, Canada Vice President, Corporate Development/Corporate Secretary since February 2003	Corporate Secretary and Vice President, Corporate Development of the Corporation
Lawrence Winter Newfoundland and Labrador, Canada Vice-President, Exploration since October 2006	Vice-President, Exploration of the Corporation

**Notes:**

- (1) Member of the Audit Committee.
- (2) Member of the Compensation Committee.
- (3) Member of Governance Committee.
- (4) Member of Investment Committee.
- (5) Effective June 30, 2014, Mr. Baker will become the full time Executive Chairman of Altius.

Except as otherwise noted in the footnote below<sup>1</sup>, each of the directors and the officers of the Corporation has held the principal occupation set forth opposite his or her name for the past five years.

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<sup>1</sup> Mr. Strauss has held various financial brokerage positions in London for the past five years.

As at the date of this AIF, the directors, executive officers and key employees of the Corporation, as a group, own beneficially, directly or indirectly, or exercise control or direction over 2,355,024 common shares or 7.3% of the issued and outstanding common shares. Each director holds office until the next annual general meeting of shareholders or until his or her successor is elected or appointed.

## **11.2 Corporate Cease Trade Orders or Bankruptcies**

During the past ten years, except as noted below, none of the directors, executive officers or shareholders holding a sufficient number of securities to affect materially the control of the Corporation is or has been a director or executive officer of any other company that while such person was acting in that capacity: (a) was the subject of a cease trade order or similar order or an order that denied such company access to any exemption under securities legislation for a period of more than 30 consecutive days, (b) was subject to an event that resulted, after the director or executive officer ceased to be a director or executive officer, in such company being the subject of a cease trade or similar order or an order that denied such company access to any exemption under securities legislation, for a period of more than 30 consecutive days, or (c) within a year of that person ceasing to act in that capacity, such company became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

John Baker, Chairman, and Brian Dalton, CEO, also serve as directors of NLRC, a 39.6% owned equity investment of the Corporation. In response to a bankruptcy petition initiated by a contractor, NLRC sought and was granted creditor protection under the BIA on June 24, 2008. This protection enabled NLRC, under the supervision of a trustee, to formulate a proposal for restructuring and to continue its efforts to attract financing and/or partners for the refinery project. The initial period of creditor protection granted was 30 days, and was later extended until October 17, 2008. NLRC filed a proposal with the Trustee and Official Receiver on October 17, 2008 and an amended Proposal on or about November 6, 2008 (the "Proposal"). The Proposal was approved by Order of the Supreme Court of Newfoundland and Labrador on November 20, 2009. Altius Resources Inc. filed a Proof of Claim in the amount of \$30,099,254.52 - \$30,092,865 of which is a secured claim as a result of debenture dated December 20, 2007 and registered under the PPSA on February 19, 2008. Under the Proposal, NLRC is given a continued period of time, up to 3 years, to search for an equity partner, buyer or funding (the "Standstill Period"). During the Standstill Period, funds which would otherwise be allocated to Altius, as secured creditor, will be utilized to maintain the existence of regulatory approvals and to fund the cost of a reduced equity solicitation process. The Proposal further states that, upon Project commencement, creditors will receive 100% of the amount owing to them plus interest within 30 days of the Date of Restructuring defined as the earlier of the following: (i) the date at which all or substantially all of the shares or all or substantially all of the non-tangible assets of NLRC are sold, (ii) the date at which financing of the NLRC Project is achieved, and (iii) the date at which construction of the NLRC Project commences. On June 12, 2014 the Trustee under the Amended Proposal delivered a Notice of Default in the Performance of a Proposal indicating that there had been a default in the performance of a provision of the Proposal which was not cured or waived and that the Trustee intends to apply for its discharge as proposal trustee. The Trustee further advised that creditors may now take proceedings to annul the Amended Proposal and place NLRC in bankruptcy.

## **11.3 Penalties or Sanctions**

None of the directors, executive officers or shareholders holding a sufficient number of securities to affect materially the control of the Corporation has been subject to (a) any penalties or sanctions by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority or (b) any other penalties or sanctions imposed by a court

or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

#### **11.4 Personal Bankruptcies**

During the past ten years, none of the directors, executive officers or shareholders holding a sufficient number of securities to affect materially the control of the Corporation has become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of such director, executive officer or shareholder.

#### **11.5 Conflicts of Interest**

Some of the directors and officers are or may be engaged in business activities on their own behalf and on behalf of other corporations and situations may arise where some of the directors may be in potential conflict of interest with the Corporation. Conflicts, if any, will be subject to the procedures and remedies under the *Business Corporations Act* (Alberta).

### **ITEM 12: LEGAL PROCEEDINGS**

The Corporation and its subsidiaries are not a party to any material legal proceedings.

CDP, which is now a wholly-owned subsidiary of Altius, has been served with demands for arbitration from Bow City Power Ltd. (“BCPL”) arising out of a 2007 purchase agreement, in which BCPL alleged that CDP hindered it from obtaining certain consents under, and improperly placed a lien on certain coal rights subject to, the purchase agreement. Altius believes that the BCPL claims are without merit, and has not recorded any provision for such claims in its accounts. However, as with any action, a successful outcome cannot be guaranteed. No date for an arbitration hearing has been set.

### **ITEM 13: INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

There are no material interests, direct or indirect, of any director, executive officer, or any person or company who beneficially owns, directly or indirectly, more than 10% of the outstanding common shares or any known associate or affiliate of such persons, in any transaction during the three most recently completed financial years or during the current financial year which has materially affected or is reasonably expected to materially affect the Corporation or a subsidiary of the Corporation.

### **ITEM 14: TRANSFER AGENT AND REGISTRAR**

TMX Equity Transfer Services, through its office in Toronto, Ontario, is the transfer agent and registrar for the Corporation’s common shares.

### **ITEM 15: MATERIAL CONTRACTS**

The following are the material contracts entered into by Altius during the financial year ended April 30, 2014 or since such time or before such time and that are still in effect:

- 1) Agreement between Altius Resources Inc. and Alderon Resource Corp. dated as of December 6, 2010 relating to the payment of the Kami Royalty;

- 2) Arrangement agreement among Westmoreland Coal Company, Westmoreland Canada Holdings Inc., Altius, APRC, Sherritt, 1683740 Alberta Ltd. 1836774 Ontario Limited, PMRL and Coal Valley Resources Inc. dated as of December 24, 2013, as amended by an amending agreement dated April 27, 2014, relating to the acquisition of Prairie Royalties and the Sherritt CDP Interest;
- 3) Credit Agreement among APRC, Altius, Altius Investments Limited, Altius Resources Inc., Sprott Resource Lending Partnership, Earlston Investments Corp. and John Tognetti dated April 28, 2014 relating to the Credit Facility; and
- 4) Agency agreement among Altius, Scotia Capital Inc., Haywood Securities Inc., BMO Nesbitt Burns Inc., Sprott Private Wealth L.P., Raymond James Ltd. and Salman Partners Inc. dated May 6, 2014 relating to the offering of 4,643,000 common shares at a price of \$14.00 per share.

A copy of each material contract is available on SEDAR under Altius' profile at [www.sedar.com](http://www.sedar.com).

In the normal course of business, the Corporation enters into and maintains several earn-in agreements or exploration alliances with other exploration companies to provide technical support and to cost – share in exploration expenditures. These agreements normally result in the Corporation holding a reduced ownership in the mineral property and holding a royalty interest in any future potential mining revenues. While these agreements are not individually material, any of them could become material pending a significant mineral discovery.

#### **ITEM 16: INTERESTS OF EXPERTS**

Other than transactions carried out in the ordinary course of business of the Corporation or its subsidiaries, none of the directors or executive officers of the Corporation, any shareholder directly or indirectly beneficially owning, or exercising control or direction over, more than 10% of the outstanding Common Shares, nor an associate or affiliate of any of the foregoing persons has had, during the three most recently completed financial years of the Corporation or during the current financial year, any material interest, direct or indirect, in any transactions that materially affected or would materially affect the Corporation or its subsidiaries.

Information regarding the Kami Project included in this AIF is based upon the technical report entitled “Feasibility Study of the Rose Deposit and Resource Estimate for the Mills Lake Deposit of the Kamistiatusset (Kami) Iron Ore Property, Labrador” with an effective date of December 17, 2012 (the “Kami Report”). The Kami Report, prepared at the request of Alderon, was authored by Angelo Grandillo, P. Eng., M. Eng. and Patrice Live, Ing. of BBA Inc., Paul Deering, P. Eng., P. Geo. of Stantec Consulting Ltd., and Michael Kociumbas, P. Geo. and Richard W. Risto, M.Sc., P. Geo. of Watts, Griffis and McOuat Limited, each of whom is a “qualified person” as such term is defined in NI 43-101 and each of whom is independent of the Corporation.. The Kami Report is available for review under Alderon's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

Information regarding the Genesee mine and Sheerness mine have been excerpted or derived from Sherritt's December 31, 2013 annual information form (the “Sherritt AIF”) and , the technical report entitled “Technical Report, Genesee Mine, Alberta” dated May 19, 2006 (the “Genesee Report”) and the technical report entitled “Technical Report, Sheerness Mine, Alberta” dated May 19, 2006.. Keith Wilson, P. Eng., of Norwest, a “qualified person” as such term is defined in NI 43-101 and who is independent of the Corporation, has reviewed and approved the scientific and technical information in this annual information form on the Genesee mine and Sheerness Mine. Readers should consult the Sherritt AIF, the

Genesee Report and the Sheerness Report to obtain further particulars regarding the Genesee mine and Sheerness Mine. The Sherritt AIF, the Genesee Report and the Sheerness Report are available for review under Sherritt's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

None of the qualified persons mentioned above own any securities of the Corporation or of any associate or affiliate of the Corporation.

Deloitte LLP is the auditor of the Corporation and is independent of the Corporation within the meaning of the Rules of Professional Conduct of the Institute of Chartered Accountants of Newfoundland and Labrador.

## **ITEM 17: AUDIT COMMITTEE**

The purpose of the Corporation's audit committee is to provide assistance to the Board in fulfilling its legal and fiduciary obligations with respect to matters involving the accounting, auditing, financial reporting, internal control and legal compliance functions of the Corporation. It is the objective of the audit committee to maintain free and open communications among the Board, the independent auditors and the financial and senior management of the Corporation.

The full text of the audit committee's charter is included as Schedule "D" to this AIF.

### **17.1 Composition of the Audit Committee**

The audit committee is comprised of Susan Sherk, Fred Mifflin and Don Warr. All members are financially literate and are independent, as defined under Section 1.4 and 1.5 of National Instrument 52-110 *Audit Committees* ("NI 52-110").

### **17.2 Relevant Education and Experience**

#### **Donald Warr**

Mr. Warr is a chartered accountant with over 40 years of experience in providing accounting and financial services. He has been a partner in the firm of Blackwood & Warr Chartered Accountants since 1992. Prior to 1992, Mr. Warr was a partner with a national public accounting firm. Mr. Warr was the Chief Financial Officer of the Corporation from February 2004 to October 2006.

#### **Susan Sherk**

Ms. Sherk is a Socio-Economic Consultant. Past positions include Senior Human Environment Associate with AMEC Environment and Infrastructure, a division of AMEC Americas Limited, an international project management and services company, Assistant Deputy Minister with the Government of the Province of Newfoundland and Labrador, Manager of Corporate Communications for Michelin Tires (Canada) Limited and Senior Public Affairs Manager with Mobil Oil Canada and Mobil Corporation. Ms. Sherk is a director of Investors Group and Mackenzie Inc. and is a former member of the Public Sector Pension Investment Board.

#### **Frederick Mifflin**

Mr. Mifflin is Vice Chairman of Blair Franklin Capital Partners Inc., an independent financial advisory firm. From 1989 to 2006, Mr. Mifflin was employed by BMO Capital Markets Inc. in various executive positions. Mr. Mifflin holds a B. Comm. (Honours) degree from Queen's University, an M.B.A. from

The University of Chicago and is a graduate of the Advanced Management Program of the Harvard Business School. Mr. Mifflin is also a director accredited by the Institute of Corporate Directors.

### **17.3 Pre-Approval Policies and Procedures**

Under its terms of reference, the audit committee is required to review and pre-approve the objectives and scope of the audit work to be performed by the Corporation's external auditors and their proposed fees. In addition, the audit committee is required to review and pre-approve all non-audit services which the Corporation's external auditors are to perform.

Pursuant to these procedures since their implementation, all of the services provided by the Corporation's external auditors relating to the fees reported as audit, audit-related, tax and all other services have been approved by the audit committee.

### **17.4 Audit Fees**

The aggregate fees billed by the external auditors in the years ending April 30, 2014 and April 30, 2013 for audit services were \$310,358 and \$190,141 respectively.

### **17.5 Tax Fees**

The aggregate fees billed by the external auditors in the years ending April 30, 2014 and April 30, 2013, for tax compliance, tax advice and tax planning services were \$73,095 and \$73,402, respectively.

### **17.6 Audit Related Fees**

The aggregate fees billed by the external auditors in the years ending April 30, 2014 and April 30, 2013, for all audit-related fees were \$nil and \$nil, respectively.

### **17.7 All Other Fees**

All other fees billed by the external auditors in the years ending April 30, 2014 and April 30, 2013 were \$307,328 and \$nil, respectively.

## **ITEM 18: ADDITIONAL INFORMATION**

Additional information relating to the Corporation may be found on the System for Electronic Document Analysis and Retrieval (SEDAR) at [www.sedar.com](http://www.sedar.com).

Additional information, including regarding directors' and officers' remuneration and indebtedness, principal holders of the Corporation's securities and securities authorized for issuance under equity compensation plans, is contained in the Corporation's management information circular for its most recent annual meeting of shareholders that involved the election of directors. Additional information is also provided in the Corporation's financial statements and Management's Discussion & Analysis for its most recently completed financial year.



## SCHEDULE "A"

### KAMI ROYALTY

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#### ITEM 7.1: KAMI ROYALTY

The Corporation holds a 3% gross sales royalty on the Kami Property (“Kami Royalty”) and also has a 25.3% equity interest in Alderon, a publicly traded company.

National Instrument 41-101 (“NI 43-101”) requires disclosure of technical information with respect to material mineral projects. The information contained in this AIF is primarily extracted from the Kami Report and general information available in the public domain including Alderon annual reports, Alderon annual information forms, press releases, and information available on Alderon’s website.

The following description of the Kami Property has been summarized from the Kami Report prepared by Angelo Grandillo, Eng, M.Eng. of BBA, Patrice Live, Ing. of BBA, Paul Deering, P. Eng., P. Geo. of Stantec, Michael Kociumbas, B.Sc., P. Geo. of WGM, and Richard W. Risto, M.Sc., P. Geo. of WGM. In certain instances, information has been updated since this report by the Corporation or Alderon. The Kami Report was commissioned at the request of Alderon management. Unless specifically noted otherwise, the following disclosure regarding the Kami Property has been reviewed and approved by the authors, each a “qualified person” within the meaning of NI43-101, and, in some cases, is a direct extract from the Kami Report. The full Kami Report is available under the Alderon’s corporate profile on SEDAR at [www.sedar.com](http://www.sedar.com).

#### ***Property Description and Location***

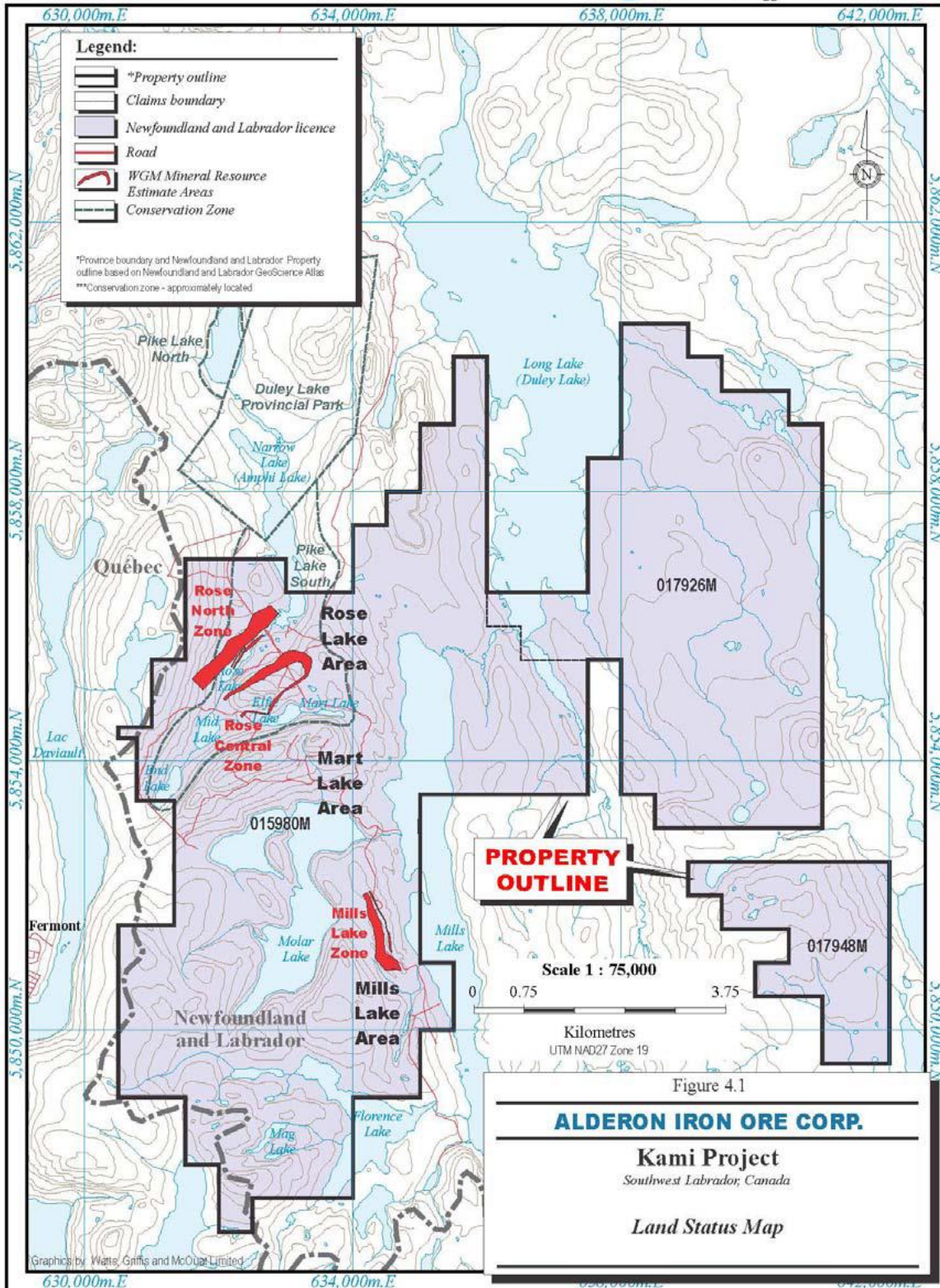
##### *Property Location*

The Property is located in Western Labrador. It is approximately 10 km southwest from the Town of Wabush, Newfoundland and Labrador and immediately adjacent (east) of the town of Fermont in Québec. The Property perimeter is approximately 6 km southwest from the Wabush Mines mining lease. The Property in Labrador consists of two non-contiguous blocks and spans an area that extends about 12 km east-west and 13 km north-south in NTS map areas 23B/14 and 15, and centered at approximately 52°49’N latitude and 67°02’W longitude. The location of the Property and the mineral resource areas are illustrated on Figure 1 below. The mineral reserve areas are contained within the Rose North and Rose Central mineral resource areas identified.

**FIGURE 1  
KAMI PROPERTY MAP**



ADV KAM / ADV\_12\_License\_Map.cdr  
Last revision date: Friday 9 November, 2012



### *Property Description and Ownership*

Alderon acquired a 100% interest in the Property on December 6, 2010 from the Corporation. The purchase is subject to a 3% gross sales royalty payable in favour of the Corporation.

The Property is located in the Province of Newfoundland and Labrador. Québec claims previously held by Alderon have been renounced. All mining and processing operations will take place within Newfoundland and Labrador provincial boundaries. The Property includes three map-staked licences, namely 015980M, 017926M and 017948M, totaling 305 claim units covering 7,625 hectares. Surface rights on these lands are held by the provincial government. Table 1 provides details of Alderon's current mineral land holdings in Labrador, which has been updated from the Kami Report.

**TABLE 1: KAMISTIATUSSET PROPERTY IN LABRADOR**

<b>License</b>	<b>Claims</b>	<b>Area (ha)</b>	<b>NTS Areas</b>	<b>Issuance Date</b>	<b>Renewal Date</b>	<b>Report Date</b>
015980M	191	4,775	23B14 23B15	29-Dec-04	29-Dec-14	27-Feb-15
017926M	92	2,300	23B15	30-Aug-10	30-Aug-15	29-Oct-14
017948M	22	550	23B15	10-Sep-10	10-Sep-15	10-Nov-14
<b>Total</b>	<b>305</b>	<b>7,625</b>				

Subsequent to the date of the Kami Report, in connection with the Limited Partnership funding by Hebei, the Property was transferred to Kami General Partner Limited, as managing general partner on behalf of and in trust for the Limited Partnership. The Limited Partnership is owned as to 25% by Hebei and 75% by Alderon.

In Labrador, a mineral exploration licence is issued for a term of five (5) years. However, a mineral exploration licence may be held for a maximum of twenty (20) years provided the required annual assessment work is completed and reported and the mineral exploration licence is renewed every five (5) years. The minimum annual assessment work must be completed on or before the anniversary date. The assessment report must then be submitted within sixty (60) days after the anniversary date. Licence 015980M was renewed December 29, 2009 with a fee payment of \$4,775.00. Licence 015980M will remain in good standing until December 29, 2023, at which time a total of \$229,200.00 of acceptable work expenditures are required. In addition, renewal fees for Licence 015980M will be due on December 29, 2014 and every five (5) years following. Licences 017926M and 017948M must be renewed by the date set forth in Table 1.

### *Permitting*

During 2012, Alderon advanced its feasibility and design levels studies by conducting a geotechnical investigation campaign for the evaluation of subsurface soil and rock conditions across the Kami Project site for all proposed mine site infrastructure. This included drilling, sampling and testing for the crusher, process plant, conveyors, tailings impoundment, railway, overburden and waste rock stockpile areas, power lines, roads, as well as miscellaneous structures. For execution of this work, Alderon was issued an Exploration Approval from the Government of Newfoundland and Labrador for an initial 450 boreholes under Permit No. E120047 and accompanying Water Use Licence No. WUL-12-035. A second Exploration Approval was issued to Alderon for an additional 90 boreholes under Permit No. E120186 and accompanying Water Use Licence No. WUL-12-124. Subsequent to this Permit, an amendment to the Permit was issued to Alderon from the Town of Labrador City (No. 12-930) to drill inside the Wetland Management Unit (as per the Wetland Stewardship Agreement) of Rose Lake during the fall. Alderon has also received an amendment to Water Use Licence No. WUL-12-035 from the Provincial Government of

Newfoundland and Labrador to include water withdraw points on Pike Lake South, within the Wetland Management Unit. The new Permit is issued under Water Use Licence No. WUL-12-153.

A fuel cache Permit was obtained from Government Services Newfoundland and Labrador by the helicopter company supporting this field program under Permit No. LB-FC-1206001. Two Permits to Alter a Water Body (Nos. ALT6572-2012 and ALT6637-2012) were issued to Alderon allowing for drilling inside the 15 m environmental buffer of several water bodies. The Town of Wabush issued to Alderon an Excavation Permit (No. BP-NO-4732) for drilling within the Town's municipal boundary.

A number of additional Permits and/or Permit Amendments were required from provincial and municipal regulators in order to cut trees for drill setup locations and drill along the proposed railway to the QNS&L rail line within the Town of Wabush's zoned Public Water Supply Area. A Permit for Development was issued to Alderon allowing for drilling specifically at the Jean River Crossing and generally within the Town's PWSA, excluding inside the 150 m environmental buffer of Wahnahnish Lake (No. PRO6543-2012).

An amendment to Alderon's Commercial Cutting Permit (No. 12-22-00314) was issued allowing cutting of trees for drill setups inside the 30 m environmental buffer of water bodies. All geotechnical drilling, sampling, and testing work was conducted within the Province of Newfoundland and Labrador.

Following release from the Provincial environmental assessment process, the Property will require a number of approvals, permits and authorizations prior to project initiation. In addition, throughout construction and operation, compliance with various standards contained in Federal and Provincial legislation, regulations and guidelines will be required. Alderon will also be required to comply with any other terms and conditions associated with the release. The permits, approvals and authorisations that will be required prior to project initiation are outlined below under “ – Mining Operations – Environment.”

### *Environmental Setting*

#### Kami Property

The existing (baseline) condition of the environment within and near the Kami Project area is the result, and reflects the effects, of other past and ongoing human activities in the region. A range of surveys were carried out in the project footprint and larger region to characterize the existing environmental conditions, including wildlife, vegetation, and freshwater surveys. Regional ambient air quality monitoring indicates that the average air quality in the region is good overall, with SO<sub>2</sub> and NO<sub>2</sub> ambient concentrations being below applicable standards and with total particulate levels occasionally exceeding guidelines. Baseline water quality monitoring data similarly shows that existing surface water quality is good, with several parameters occasionally and slightly exceeding ecological water quality guidelines. Prevailing winds are from the west and south.

The biophysical environment in which the Kami Project lies is within the Mid Subarctic Forest (Michikamau) Ecoregion of Western Labrador. Habitat types common to Western Labrador are found throughout the Project area. These habitat types support a wide range of wildlife species that are common throughout the region. Species at risk and species of conservation concern which have been observed in the Project area include: the Olive-sided Flycatcher (Threatened), and the Rusty Blackbird (species of conservation concern). There were no observations of any plant species listed as species at risk within the Project area. Eight plant species of conservation concern were recorded in the Project area; occurrences of all eight species were also recorded outside the vicinity of the Project. Consultation with Newfoundland and Labrador Department of Environment and Conservation is continuing to determine if additional species are to be considered as species of conservation concern. No caribou were observed in proximity to the Project area during the project surveys conducted in 2011 and 2012.

Wetlands cover a sizable proportion of the natural landscape of Labrador and are common throughout the Project area. Both Labrador City and Wabush have signed Municipal Wetland Stewardship Agreements with the provincial government and Eastern Habitat Joint Venture, which require the incorporation of wetland conservation in the scope of municipal planning. Each municipality was required to designate wetlands areas with their municipal planning areas as Habitat Management Units. The Project has been designed to avoid impacts on the Management Units wherever possible; however, the ore body intersects the Pike Lake South Management Unit. No unique habitat features were identified within the Management Unit or elsewhere within the Project area.

Fish species and fish habitat common to Western Labrador are present within the Project area. Recreational fisheries are conducted throughout the region and in close proximity to the Project area. There were no observations of any fish species listed as species at risk within the Project area, and no commercial or aboriginal fisheries have been identified in or near the Project area.

Current land and resource use in the vicinity of the Project area includes industrial activities, cabin use, hunting and trapping, angling, wood harvesting, berry picking, snowmobiling, and boating, among other recreational activities. Due to the close proximity to the towns of Labrador City and Wabush, recreational land use in this area is extensive. A number of cabins have been identified within the Project area. There are no treaties or settled land claims which overlap the Project area. No aboriginal communities exist in close proximity to the Project, the closest being Schefferville, located approximately 200 km to the north. However, the Project is located in an area which five aboriginal groups assert as their traditional territory.

#### Concentrate Storage and Reclaim Facilities, Québec

The Pointe-Noire Terminal lies within the Municipality of Sept-Îles on Port Authority of Sept-Îles lands, adjacent to similar reclaim facilities operated by other users. The existing terminal at Pointe-Noire has been in operation for many decades and contains two industrial and port facilities similar to the facility proposed by Alderon. The region has long been the center of natural resource exploitation and the main resource industries are hydroelectricity generation and mining.

The Pointe-Noire Terminal site is in an industrialised area with few natural habitats. Remaining habitat at the proposed site consists mainly of patches of young mixed forest stands and mature coniferous stands. There is no freshwater fish habitat within the facility footprint. No species at risk or species of conservation concern were observed during field surveys. According to the “Centre de Données sur le Patrimoine Naturel du Québec” database, no flora species with special status are reported for the Port site area.

In 2009, Sept-Îles had a population of 25,686 inhabitants. The closest residential and recreational land use is located approximately 1.5 km from the site, in the low density Val Sainte-Marguerite. There are two aboriginal reserves in the vicinity: Uashat and Maliotenam (also known as Mani-Utenam), which are located approximately 10 and 26 km respectively, to the east. The Pointe-Noire Terminal is located within the asserted traditional territory of two aboriginal groups: the Innu of Uashat mak Mani-Utenam and the Innu of Matimekush-Lac John. Though located near Schefferville, approximately 500 km north of Sept Îles, the Innu of Matimekush-Lac John share their ancestral territory with the Innu of Uashat mak Mani-Utenam.

#### *Community Relations*

Alderon is committed to operating within a sustainable development framework. A key principle of sustainable development is to consult with stakeholders who may have an interest in or be affected by the Kami Project in order to build and maintain positive, long-term and mutually beneficial relationships. Alderon has adopted a ‘Life of Project’ approach to public consultation and developed a framework in

Alderon's Project Consultation Plan. The principles guiding the Public Consultation Plan are set out in Alderon's Communities Relations Policy:

- Engage stakeholders through meaningful, transparent and respectful communication and consultation.
- Value, acknowledge, and give consideration to the cultural diversity, unique traditions and the needs and aspirations of local people, communities, and other stakeholders.
- Develop relationships with local community leaders and provide timely responses to their communications.
- Understand, acknowledge and respond to the concerns of local people, communities, and other stakeholders; and
- Provide project information and updates on a regular basis.

Alderon has and will continue to conduct a wide range of public consultation initiatives to ensure that stakeholders are apprised of the progress of the Kami Project and afforded an opportunity to express any concerns. Information will be disseminated through digital and print media, including Alderon's website, e-mail, newspaper advertisements and newsletters and public information sessions. Consultation will take place through the following major engagement activities:

- Participation on multi-stakeholder committees;
- Council and staff information briefings;
- Stakeholder consultation events;
- Consultation with educational and training institutions;
- Information briefings with regulators;
- Media relations; and
- Participation in follow-up and monitoring committees.

Alderon recognizes the importance of building relationships based on mutual trust and respect with aboriginal groups having rights or interests that may be affected by the Kami Project. Alderon has developed an Aboriginal Relations Policy, which is based on the following principles:

- Respect for the legal and constitutional rights of aboriginal peoples.
- Respect for the unique history, diverse culture, values and beliefs of aboriginal peoples and their historic attachment to the land.
- Recognition of the need to pursue meaningful engagement with aboriginal groups.
- Recognition of the importance of collaboration with aboriginal groups to identify and respond to issues and concerns.

The Aboriginal Relations Policy is implemented through the Aboriginal Engagement Strategy and Action Plan which outlines a range of engagement activities, actions and initiatives to assist Alderon in identifying, understanding and addressing any potential effects of the Kami Project on aboriginal communities and groups and their current use of land and resources for traditional purposes. Alderon has identified five aboriginal groups, communities or organizations that may be affected by the Kami Project:

- Innu Nation (representing the Innu of Labrador);
- NunatuKavut Community Council;
- Innu Nation of Uashat mak Mani-Utenam;
- Innu Nation of Matimekush-Lac John; and
- Naskapi Nation of Kawawachikamach.

Alderon's engagement efforts with these groups commenced prior to project registration and are ongoing. Major engagement initiatives include the following:

- Information sharing initiatives;
- Community engagement initiatives;
- Traditional land and resource use studies; and
- Avoidance or mitigation initiatives.

It is Alderon's objective to continue to pursue positive and constructive relationships with each of these aboriginal groups throughout the life of the Kami Project until closure and decommissioning.

### ***Accessibility, Climate, Local Resources, Infrastructure and Physiography***

#### *Access*

The Property is accessible from Labrador City/Wabush, Newfoundland via 4x4 vehicle roads. All-Terrain Vehicle ("ATV") trails enable access to the remainder of the Property. Wabush is serviced daily by commercial airline from Sept-Îles, Montreal and Québec City and also by flights from Goose Bay, Deer Lake and St. John's.

#### *Climate*

The climate in the region is typical of Western Labrador (sub-Arctic climate). Winters are harsh, lasting about six to seven months with heavy snow from December through April. Summers are generally cool and wet; however, extended daylight enhances the summer workday period. Early and late winter conditions are acceptable for ground geophysical surveys and drilling operations. The prevailing winds are from the west and have an average of 14 km per hour, based on 30 years of records at the Wabush Airport.

#### *Local Resources and Infrastructure*

The Property is adjacent to the two towns of Labrador City, 2011 population 7,367 and Wabush, population 1,861. Together these two towns are known as Labrador West. Labrador City and Wabush were founded in the 1960s to accommodate the employees of the Iron Ore Company of Canada and Wabush Mines. A qualified work force is located within the general area due to the operating mines and long history of exploration in this region.

Although low cost power from a major hydroelectric development at Churchill Falls to the east is currently transmitted into the region for the existing mines operations, the current availability of additional electric power on the existing infrastructure in the region is limited. Alderon has made the required requests to Nalcor for the supply of power for the project and Nalcor has already initiated the process by undertaking the required studies. In its Press Release dated December 13, 2012, Alderon announced that it has entered into an agreement with Nalcor to commence Stage III of the process, which is expected to take 6-8 months to conclude. For an update on this matter that occurred subsequent to the date of the Kami Report see "Item 5 - General Development of the Business – Year Ending April 30, 2014" or Alderon's press release dated [February 25, 2014](#).

The Kami Project site is also located in proximity to other key services and infrastructure. The Kami Project will include a rail loop and a connection to the QNS&L Railway for transportation of product to port. Fresh water sources on the site are plentiful, although the plan is to maximize recycling and

minimize dependence on fresh water. A preliminary site plan has been developed as part of the Feasibility Study, which indicates that there are enough barren areas on the site to permit permanent storage of waste rock and tailings.

Project design requires that certain infrastructure be located outside the mineral property limits. Alderon currently does not have surface rights to use these areas but it will acquire these rights at an appropriate time during project development.

### *Physiography*

The Property is characterized by gentle rolling hills and valleys that trend northeast-southwest to the north of Molar Lake and trend north-south to the west of Molar Lake, reflecting the structure of the underlying geology. Elevations range from 590 m to 700 m.

The Property area drains east or north into Long Lake. A part of the Property drains north into the Duley Lake Provincial Park before draining into Long Lake.

In the central Property area, forest fires have helped to expose outcrops; yet the remainder of the Property has poor outcrop exposure. The cover predominantly consists of various coniferous and deciduous trees with alder growth over burnt areas.

### *History*

The earliest geological reconnaissance in the southern extension of the Labrador Trough within the Grenville Province was in 1914, by prospectors in their search for gold. Several parties visited the area between 1914 and 1933, but it was not until 1937 that the first geological map and report was published. The metamorphosed iron formation in the vicinity of Wabush Lake was first recognized by Dr. J.E. Gill in 1933. A few years later, the Labrador Mining and Exploration Co. Ltd. (“**LM&E**”) evaluated the iron formation, but decided it was too lean for immediate consideration.

In 1949, interest in the Carol Lake area by LM&E was renewed and geological mapping was carried out in the Long Lake - Wabush Lake area by H.E. Neal for IOCC. The work was done on a scale of 1"=1/2 mi. and covered an area approximately 8 km wide by 40 km long from Mills Lake northward to the middle of Wabush Lake. This work formed part of the systematic mapping and prospecting carried on by LM&E on their concession. Concentrations of magnetite and specularite were found in many places west of Long Lake and Wabush Lake during the course of Neal's geological mapping. Broad exposures of this enrichment, up to 1.2 km long, assayed from 35% to 54% Fe and 17% to 45% SiO<sub>2</sub>. Ten enriched zones of major dimensions were located and six of these were roughly mapped on a scale of 1"=200 ft. Seventy four samples were sent to Burnt Creek for analysis. Two bulk samples, each about 68 kg, were taken for ore dressing tests. One was sent to the Hibbing Research Laboratory and the other was sent to the Bureau of Mines, Ottawa. The material was considered to be of economic significance as the metallurgical testing indicated that it could be concentrated.

Geological mapping on a scale of 1"=1/2 mi. was carried out by H.E. Neal in the Wabush Lake - Shabogamo Lake area in 1950. Neal also reported numerous occurrences of pyrolusite and psilomelane (botryoidal goethite being frequently associated with the manganese) within the iron formation and quartzite. Mills No. 1 was one of the iron deposits discovered in 1950 and was sampled and described at that time. A narrow irregular band of pyrolusite was reported to extend 457 m within a friable magnetite hematite iron formation located 914 m southwest of the prominent point on the west side of Mills Lake. In 1951, nearly all of the concession held by LM&E within the Labrador Trough was flown with an



airborne magnetometer. This survey showed the known deposits to be more extensive than apparent, from surface mapping and suggested further ore zones in drift-covered areas.

In 1953, a program of geological mapping in the Mills Lake - Dispute Lake area was conducted by R.A. Crouse of IOCC. Crouse considered the possibility of beneficiating ores within the iron formation and all high magnetic anomalies and bands of magnetite-specularite iron formation were mapped in considerable detail. Occurrences of friable magnetite-specularite gneiss containing enough iron oxides to be considered as beneficiating ore were found in several places west of Long Lake and northwest of Canning Lake. Representative samples assayed 18.55% to 43.23% Fe and 26.66% to 71.78% SiO<sub>2</sub>. Seven zones of this material were located in the area. Three of these (one of which was Mills No. 1 Deposit) were mapped on a scale of 1"=200 ft. On two of these occurrences, dip needle lines were surveyed at 122 m (400 ft) intervals. Forty-two samples were sent to the Burnt Creek Laboratory for analysis. Three samples were sent to Hibbing, Minnesota for magnetic testing. It was reported that at Mills No. 1, the ore was traced for a distance of 488 m along strike, with the minimum width being 107 m.

In 1957, an area of 86.2 km<sup>2</sup> to the west of Long Lake was remapped on a scale of 1"= 1,000 ft and test drilled by IOCC to determine areas for beneficiating ore. Dip needle surveying served as a guide in determining the locations of iron formation in drift-covered areas. 272 holes, for a total of 7,985 m (26,200 ft.) were drilled during the 1957 program (approximately 66 holes are located on the Property). Mathieson reported that there were no new deposits found as a result of the drilling, however, definite limits were established for the iron formation found during previous geological mapping. Three zones of "ore" were outlined, which included Mills No. 1 and an area of 19.1 km<sup>2</sup> was blocked out as the total area to be retained. According to Mathieson, the Mills No. 1 zone was outlined by six drillholes and found to have a maximum length of 3,048 m (10,000 ft) and a maximum width of 610 m (2,000 ft). The mineralization is described as being composed of specularite with varying amounts of magnetite, grading on average 32.1% Fe. A search by Altius for the logs and/or core from the 1957 LM&E drilling program has not been successful. From local sources, it is known that all holes drilled in this area were of small diameter and very shallow (~30 m).

Early in 1959, a decision was made by IOCC to proceed with a project designed to open up and produce from the ore bodies lying to the west of Wabush Lake and a major program of construction, development drilling and ore testing was started in the Wabush area. Also that year, geological mapping (1"=1,000 ft.) and magnetic profiling were conducted by LM&E in the Long Lake - Mills Lake area. Zones of potential beneficiating ores were located to the southwest of Mills Lake.

In 1972, an extensive airborne electromagnetic survey covered 2,150 km<sup>2</sup> of territory, and entailed a 2,736 km line of flying in the Labrador City area. The area covered, extended from the southern extremity of Kissing Lake to north of Sawbill Lake, and from approximately the Québec-Labrador border on the west to the major drainage system, through Long, Wabush and Shabogamo Lakes on the east. The survey was done by Sander Geophysics Ltd. (for LM&E) using a helicopter equipped with a NPM-4 magnetometer, a fluxgate magnetometer, a modified Sander EM-3 electromagnetic system employing a single coil receiver, and a VLF unit. In 1972 to 1973, an airborne magnetic survey was conducted over the area by Survair Ltd., Geoterrex Ltd., and Lockwood Survey Corporation Ltd., for the Geological Survey of Canada.

In 1977, geological mapping was initiated by T. Rivers of the Newfoundland Department of Mines and Energy within the Grenville Province, covering the Wabush-Labrador City area. This work was part of the program of 1:50,000 scale mapping and reassessment of the ratio of mineral potential of the Labrador Trough by the Newfoundland Department of Mines and Energy. Mapping was continued by Rivers in western Labrador from 1978 to 1980. As part of an experimental geochemical exploration program in Labrador by LM&E in 1978, many of the lakes in the Labrador City area were sampled, both for lake

bottom sediments and lake water. Lake sediment samples were sent to Barringer Research Ltd., Toronto, Ontario, for a multi-element analysis. Water samples were tested at Labrador City for acidity, before being acidified for shipment. Some samples were also shipped to Barringer for analysis and some were analyzed in the IOCC Laboratory in Sept-Îles. A sample portion was also sent to the Leach Brothers Laboratory in Hibbing Minnesota for additional analysis. On Block No. 24 (part of the Property), only one site was sampled. The sediment assay results indicated the sample was statistically "anomalous" in phosphorous. None of the water samples were defined as anomalous. Stubbins concluded that the samples, as a group, are widely scattered, and it is difficult to draw any firm conclusion from the results. He added that a further study might indicate that it is worthwhile to take additional samples.

In 1979, a ground magnetometer survey was conducted on Block No. 24 (part of the Property). A total of four lines having a combined length of 3,500 m were surveyed on this block. The standard interval between successive magnetometer readings was 20 m. Occasionally over magnetically "quiet" terrain, this interval was increased. Whenever an abrupt change in magnetic intensity was encountered, intermediate stations were surveyed. The magnetometer profiles and observations of rare outcrops confirm that oxide facies iron formation occurs on Block No. 24 (in the Mills No. 1 area of the Property). Also in 1979, one diamond drillhole was drilled by LM&E near the north end of Elfie Lake on the Property. The hole (No. 57-1) was drilled vertically to a depth of 28 m and did not encounter the iron oxide facies of interest. In 1983, LM&E collared a 51 m deep (168 ft) diamond drillhole 137 m north of Elfie Lake (DDH No. 57-83-1). The drillhole encountered metamorphosed iron formation from 17 m to a depth of 51 m. Of this, only 2 m was oxide facies. Core recovery was very poor (20%).

In 1981 and 1982, an aerial photography and topographic mapping program was completed by IOCC to re-photograph the mining areas as part of its program to convert to the metric system. Two scales of aerial photography (1:10,000 and 1:20,000) were flown, and new topographic maps (1:2,000 scale) were made from these photos. The photography was extended to cover all the lease and licence blocks in the Labrador City area.

During the summers of 1977 and 1978, a lake sediment and water reconnaissance survey was undertaken over about one-half (134,000 km<sup>2</sup>) of Labrador by the GSC, in conjunction with the Newfoundland Department of Mines and Energy. The survey was designed to provide the exploration industry with data on bedrock composition, and to identify metaliferous areas as large scale prospecting targets. Sampling continued in 1982 in southwestern Labrador. Water and sediments from lakes over an approximate area of 50,000 km<sup>2</sup> were sampled at an average density of one sample per 13 km<sup>2</sup>. Lake sediment samples were analyzed for U, Cu, Pb, Zn, Co, Ni, Ag, Mo, Mn, Fe, F, As, Hg and L.O.I. In addition, U, F and pH were determined on the water samples.

During 1985, field work by LM&E was concentrated on the northern part of Block No. 24. A pace and compass grid was established near Molar Lake. Cross lines were added at 152 m (500 ft) intervals. The grid was used to tie in the sample sites and a systematic radiometric survey was thus performed. There were four soil samples and six rock samples (one analyzed) collected. A possible source of dolomite as an additive for the IOCC's pellet plant was examined near Molar Lake. It was concluded from visual examination that the dolomite was high in silica.

In 2001, IOCC staked a considerable portion of the iron formation in the Labrador City area, with the Kamistatusset area being in the southern extent of the company's focus. Extensive geophysical testing was conducted over the area using airborne methods. The Kamistatusset area and the area north of the Property were recommended as a high priority target by SRK Consulting Ltd., as part of the 2001 IOCC Work Report. However, no work was reported for the area.

In 2004, Altius staked twenty (20) claims comprising license 10501M (predecessor to license 15980M). In the spring of 2006, Altius staked another thirty-eight (38) claims to the north, comprising license 11927M. License 10501M and license 15980M were subsequently replaced by license 15980M, which was acquired by Alderon from Altius.

### ***Geological Setting***

The Property is situated in the highly metamorphosed and deformed metasedimentary sequence of the Grenville Province, Gagnon Terrane of the Labrador Trough (“**Trough**”), adjacent to and underlain by Archean basement gneiss. The Trough, otherwise known as the Labrador-Québec Fold Belt, extends for more than 1,200 km along the eastern margin of the Superior Craton from Ungava Bay to Lake Pletipi, Québec. The belt is about 100 km wide in its central part and narrows considerably to the north and south. The Trough itself is a component of the Circum-Superior Belt that surrounds the Archean Superior Craton which includes the iron deposits of Minnesota and Michigan. Iron formation deposits occur throughout the Labrador Trough over much of its length.

The Trough is comprised of a sequence of Proterozoic sedimentary rocks, including iron formation, volcanic rocks and mafic intrusions. The southern part of the Trough is crossed by the Grenville Front representing a metamorphic fold-thrust belt in which Archean basement and Early Proterozoic platformal cover were thrust north-westwards across the southern portion of the southern margin of the North American Craton during the 1,000 Ma Grenvillian orogeny. Trough rocks in the Grenville Province are highly metamorphosed and complexly folded. Iron deposits in the Gagnon Terrane, (the Grenville part of the Trough); include those on the Property and Lac Jeannine, Fire Lake, Mont-Wright, Mont-Reed, and Bloom Lake in the Manicouagan-Fermont area, and the Luce, Humphrey and Scully deposits in the Wabush-Labrador City area. The metamorphism ranges from greenschist through upper amphibolite into granulite metamorphic facies from the margins to the orogenic centre of the Grenville Province. The highgrade metamorphism of the Grenville Province is responsible for recrystallization of both iron oxides and silica in primary iron formation, producing coarse-grained sugary quartz, magnetite, and specular hematite schist or gneiss (meta-taconites) that are of improved quality for concentration and processing.

North of the Grenville Front, the Trough rocks in the Churchill Province have been only subject to greenschist or sub-greenschist grade metamorphism and the principal iron formation unit is known as the Sokoman Formation. The Sokoman Formation is underlain by the Wishart Formation (quartzite) and the Attikamagen Group including the Denault Formation (dolomite) and the Dolly/Fleming Formations (shale). In the Grenville part of the Trough, where the Property is located, these same Proterozoic units can be identified, but are more metamorphosed and deformed. In the Grenville portion of the Trough, the Sokoman rocks are known as the Wabush Formation, the Wishart as the Carol Formation (Wabush area) or Wapusakatoo Formation (Gagnon area), the Denault as the Duley Formation and the Fleming as the Katsao Formation. A recent synthesis develops modern lithotectonic and metallogenic models of the Trough north of the Grenville Front. In practice, both sets of nomenclature for the rock formations are often used. Alderon and Altius have used the Menihek, Sokoman, Wishart, Denault, and Attikamagen nomenclature throughout their reports to name rock units on the Property. WGM has elected to retain this nomenclature but often gives reference to the other nomenclature.

The Property is underlain by folded, metamorphosed sequences of the Ferriman Group and includes (from oldest to youngest): Denault (Duley) Formation dolomitic marble (reefal carbonate) and Wishart (Carol) Formation quartzite (sandstone) as the footwall to the Sokoman (Wabush) Formation. The Sokoman (Wabush) Formation includes iron oxide, iron carbonate, and iron silicate facies and hosts the iron oxide deposits. The overlying Menihek Formation resulted from clastic pelitic sediments derived from emerging highlands into a deep-sea basin and marks the end of the chemical sedimentation of the Sokoman Formation.

Proterozoic biotite-garnet-amphibole dykes and sills cut through all formations.

Altius' exploration was focused on three parts of the Property known as the Mills Lake, Rose Lake and the Mart Lake areas. Alderon's 2010 to 2012 drilling was focused on the Rose Lake and Mills Lake areas. On some parts of the Property, the Sokoman (Wabush) is directly underlain by Denault (Duley) Formation dolomite and the Wishart (Carol) Formation quartzite is missing or is very thin. In other places, both the dolomite and quartzite units are present.

Alderon interprets the Property to include two iron oxide hosting basins juxtaposed by thrust faulting. The principal basin, here named the "Wabush Basin", contains the majority of the known iron oxide deposits on the Property. Its trend continues NNE from the Rose Lake area 9 km to the Wabush Mine and beyond the town of Wabush. The second basin, called the "Mills Lake Basin", lies south of the Elfie Lake Thrust Fault and extends southwards, parallel with the west shore of Mills Lake. Each basin has characteristic lithological assemblages and iron formation variants.

The portion of the Property east of the western shore of Mills Lake is dominated by gently dipping (15°-20°E) Denault Formation marble with quartz bands paralleling crude foliation. This block is interpreted as being thrust from the east onto the two basin complexes above. The marble outcrops across the 8 km width of licences 017926M and 017948M with consistent east dips. The thickness exposed suggests that several thrust faults may have repeated the Denault Formation stratigraphy. On licence 017948M, large blocks of Wishart quartzite were observed surrounding an elevated plateau. On prior maps this is shown as an infolded syncline of Sokoman Formation, but recent mapping by Alderon found no iron formation. Another area on licence 017926M, previously interpreted as a syncline with Sokoman and Menihek formations in its core did not show any airborne magnetic or gravity anomalies and recent Alderon mapping found only dolomite marble.

Alderon initiated its 2010 program by relogging Altius' drill core and replaced Altius' previous lithological codes with its codes. Amphibolite dikes and sills cut through all other rock units, but are particularly common in the Menihek Formation schists and are a consideration as they may negatively impact the chemistry of iron concentrates made from mineralization containing these rocks that may be difficult to exclude during mining.

## ***Exploration***

### *General*

Historic exploration is summarized above under " – History". Altius' initial exploration was in 2006, culminating in a diamond drilling program in 2008. Alderon acquired the Property in December 2010 and has since conducted an extensive exploration program.

### *Altius Exploration Programs 2006 – 2009*

Reconnaissance mapping and rock sampling commenced during the summer of 2006 and was completed during the 2007 field season. Ten 2006 samples of outcrop and boulders were assayed at SGS Lakefield for major elements. Grab samples yielded iron values typical of oxide facies iron formation. Further outcrop sampling was completed during the 2008 program. A total of 63 rock samples were collected, 29 of which were for chemical analysis while the remaining were collected for physical properties testing. The 2007 samples were sent to Activation Laboratories in Ancaster, Ontario and assayed for major elements, FeO and total sulphur. Nine rock samples from the Mills Lake area returned Fe values ranging from 9.7% Fe to 43.6% Fe and manganese values ranging from 0.43% Mn to 13.87% Mn. From the Molar Lake area, five rock samples were collected yielding 13.7% Fe to 23.6% Fe and 0.1% to 0.69%

Mn. From the Elfie Lake area, two grab samples were collected that respectively returned assay results of 25.9% Fe and 0.95% Mn and 17.9% Fe and 1.07% Mn. From the Mart Lake area, one sample was collected that yielded 16.3% Fe and 0.15% Mn. From the Rose Lake area, a few outcrops over a strike length of approximately 430 m were grab sampled. Values ranged from 5.6% Fe with 9.73% Mn from a sample near the iron formation – Wishart Formation contact to 29.7% Fe with 1.05% Mn from a magnetite specularite sample of iron formation.

Altius' 2007 exploration program also included a high resolution helicopter airborne magnetic survey carried out by Mcphar Geosurveys Ltd. The purpose of the airborne survey was to acquire high resolution magnetic data to map the magnetic anomalies and geophysical characteristics of the geology. The survey covered one block. Flight lines were oriented northwest-southeast at a spacing of 100 m. Tie-lines were oriented northeast-southwest at a spacing of 1,000 m. A total of 905 line km of data were acquired. Data was acquired by using precision differential GPS positioning. The rock samples were collected from the Property and sent for physical properties testing to support interpretation of the airborne magnetic survey results.

The results of the 2007 exploration program were positive with rock samples returning favorable iron values and the airborne magnetic survey effectively highlighting the extent of the iron formation. Following the 2007 exploration program, licenses 013935M, 013937M, 010501M, 011927M, 012853M and 012854M were grouped to form license 15037M and licenses 14957M, 14962M, 14967M and 14968M were staked.

The 2008 exploration program on the Property consisted of physical properties testing of the rock samples collected in 2007, line cutting, a ground gravity and magnetic survey carried out by Géosig of Saint Foy, Québec, a high resolution satellite imagery survey (Quickbird), an integrated 3-D geological and geophysical inversion model and 6,129.49 m of diamond drilling in 25 holes. The drilling program was designed to test three known iron ore occurrences on the Property (namely Mills Lake, Mart Lake and Rose Lake) that were targeted through geological mapping and geophysics.

The ground gravity and total field magnetic surveys were conducted along 69.8 km of cut gridlines spaced from 200 m to 400 m apart oriented northwest-southeast. Gravity surveying and high resolution positional data were collected at 25 m intervals. The magnetic survey stations were spaced at 12.5 m along the lines.

Mira Geoscience (“**Mira**”) was contracted to create a 3-D geological and geophysical inversion model of the Property. Mira was provided with the geological cross sections, airborne and ground geophysics data and the physical rock properties from each of the different lithologies. The 3-D geological and geophysical model was completed to help with target definition and drillhole planning.

Drilling confirmed the presence of oxide-rich iron formation at the three iron occurrences and was successful in extending the occurrences along strike and at depth. Drilling was also fundamental in testing stratigraphy and structure to help refine the geological and structural models for each area to aid in drillhole targeting.

#### *Alderon's Summer 2010 Exploration Program*

The 2010 exploration program started on June 1, 2010 and finished December 1, 2010. The program consisted mainly of a drilling program, but also included an airborne geophysical survey covering the three licences Alderon holds in Newfoundland and Labrador and the relogging and lithology re-coding of Altius' 2008 drill core. The airborne geophysical survey consisted of 1,079 line km of gravity and magnetic surveying covering a 130 km<sup>2</sup> area.

The geophysical survey measuring the gradient of the gravity field and magnetics was carried out by Bell Geospace Inc. (“**BGI**”) of Houston, Texas and flown over the Property from November 8, 2010 through November 11, 2010 onboard a Cessna Grand Caravan. The crew and equipment were stationed in Wabush. The survey was flown in a north-south direction with perpendicular tie lines. Eighty five survey lines and 13 tie lines were flown. The survey lines were 100 m apart on the western side of the survey area, and 300 m apart on the eastern side. The tie lines were 1,000 m apart. The survey lines vary from 10.3 km to 12.4 km in length, and the tie lines varied in length from 5.5 km to 11.7 km.

The survey plan defines a flight path that maintains a constant distance from the ground for the entire length of each survey line. However, it is not always possible to maintain the constant clearance because of variations in terrain relief. Ground clearance does not vary greatly in this survey due to the lack of severe terrain features and ground clearance ranged from 60 m to 187 m.

Magnetic data was acquired with a cesium vapor sensor. A radar altimeter system is deployed to measure the distance between the airplane and the ground. Along with the plane’s altitude acquired via GPS, radar altimetry data is used to produce a Digital Elevation Model (“**DEM**”). The full Tensor Gravity Gradiometry (Air FTG) system contains three Gravity Gradient Instruments (“**GGIs**”), each consisting of two opposing pairs of accelerometers arranged on a rotating disc.

Processing of the gravity data includes line leveling, terrain correction and noise reduction. Measured free air and terrain corrected maps for each of the six tensor components are provided.

Minimal data correction is required for magnetics. The majority of erroneous data is removed by the compensation process that corrects the data for the effects of the aircraft, as heading and position changes relative to the magnetic field. A base magnetometer was also used to record and remove the daily variations in the magnetic field due to regional factors. A lag correction is applied to correct the distance between the mag sensor and the GPS antennae. The lag correction is computed based on speed and distance to accurately shift the magnetic data to the GPS reference point and ensure that lines flown in opposite directions are not biased by the distance between the sensor and antennae. The earth's field is calculated and removed. Only minor line adjustments are required to remove any remnant errors that are apparent at line intersections. The data is then ready for reduction to the magnetic pole to approximate the anomaly directly over the causative body, and other derivative calculations to accentuate the anomalies.

#### *Alderon’s Winter 2011 Exploration Program*

Alderon’s winter 2011 program consisted of a drilling program on the Rose North deposit. Drilling started in early February and was completed on April 6. Alderon has also completed a LIDAR (Light Detection and Ranging) and air photo survey, however, this data has not been reviewed by WGM but it was used by Alderon to create a topographic surface for the mineral resource estimate and for subsequent mine design by BBA.

#### *Alderon’s 2011-2012 Exploration Program*

Alderon’s 2011-2012 exploration program was mostly a drilling program described under “ – Drilling”. The program started in June 2011 and continued to April 30, 2012 with a break for freeze-up. Drilling comprised infill holes on both the Rose and Mills Lake areas plus geotechnical drillholes and holes for collection of sample for metallurgical testwork. Geological reconnaissance mapping was done in several areas south and east of the Rose deposit, principally for condemnation study around the areas proposed for the mine site civil works.

An aerial photography orthorectification LIDAR survey was flown over the Property in August-September 2011. Aéro-Photo (1961) Inc. of Québec performed the work. Imagery was to a resolution of 20 cm per pixel. Allnorth Land Surveyors' of Kamloops, B.C., participated in establishing ground location control. A follow-up flight over just the original Kami Property was completed in fall 2012 using the same 20 cm resolution in order to document the reclamation works conducted on the 2008-2012 drill areas.

### *Mineralization and Structure*

Mineralization of economic interest on the Property is oxide facies iron formation. The oxide iron formation (“**OIF**”) consists mainly of semi-massive bands, or layers, and disseminations of magnetite and/or specular hematite (specularite) in recrystallized chert and interlayered with bands (beds) of chert with carbonate and iron silicates. Where magnetite or hematite represent minor component of the rock comprised mainly of chert, the rock is lean iron formation. Where silicate or carbonate becomes more prevalent than magnetite and/or hematite, then the rock is silicate iron formation (“**SIF**”) and or silicate-carbonate iron formation and its variants. SIF consists mainly of amphibole and chert, often associated with carbonate and contains magnetite or specularite in minor amounts. The dominant amphibole on the Kami Property is grunerite. Where carbonate becomes more prevalent, the rock is named silicate-carbonate or carbonate-silicate iron formation, but in practice, infinite variations exist between the OIF and silicate-carbonate iron formation composition end members. SIF and its variants and lean iron formation are also often interbedded with OIF.

The OIF on the Property is mostly magnetite-rich and some sub-members contain increased amounts of hematite (specularite). Hematite appears to be more prominent in Rose North mineralization than at either Rose Central or Mills Lake, but all zones contain mixtures of magnetite and hematite. At both Rose North and Rose Central and at Mills Lake, a bright pink rhodonite, which is a manganese silicate, is associated with hematite-rich OIF facies. Bustamite, a calcium manganese silicate, is said to be present. Deeply weathered iron formation in the Rose North Deposit also contains concentrations of secondary manganese oxides. There may also be other manganese species present.

### *Weathering*

The iron deposits in the region have all been affected to some degree by deep humid weathering, likely an extension of the Cretaceous weathering that formed the so-called Direct Shipping Ore (“**DSO**”) deposits around Schefferville, QC.

The weathering affects the Rose North limb from surface and continues below the base of the drilling at approximately -450 vertical m below surface. The weathering affects all rock types variably. Alderon's interpretation, based on mineralogical and textural evidence, is that it appears to have two stages. The earlier stage appears to be neutral to slightly alkaline with low oxidation levels. This is expressed in the iron deposits by:

1. Recrystallization of specular hematite to larger subhedral and euhedral crystals almost a magnitude larger than the original meta-taconite specular hematite;
2. Leaching of quartz and carbonate from the non-oxide matrix;
3. Destruction of Mn-silicate and carbonate minerals in the meta-taconite to Mn-oxides (psilomelane and pyrolusite) observed in several holes; and
4. Destruction of Fe-silicates.

The host lithologies, including Menihek schist and Wishart quartzite, are typically changed to soft rock with the original textures preserved, like saprolite weathering, in the schist and extensive leaching of quartz

in the quartzite, leaving a quartz-muscovite-calcite powder or porous rock. The iron in the micas is not oxidized. This pattern was observed in the SW Rose drilling in 2010 with all units and in the Wishart quartzite and Katsao paragneiss in the footwall of the Rose North deposit.

The second stage of weathering is superimposed on the first and is more intense closer to the surface. It is characterized by the onset of veins and fractures merging to larger replacements of the original iron formation with Fe-hydroxide minerals such as limonite and goethite with minor earthy red hematite. The manganese oxides remain as powdery psilomelane and minor crystalline pyrolusite in leached vugs.

The early stage weathering forms thin replacements along fracture and fault surfaces aligned with the later NW-trending extensional faults that cut all units. The fault fillings are mainly a dark green “chlorite” type mineral that have not been identified. Adjacent to the fractures, iron silicate is changed to the same “chlorite”, while carbonate grains are less affected. The fractures occasionally change along strike over a few meters to open space fillings that can contain fresh pyrite crystals, fine psilomelane powder, and calcite (but not quartz); limonite-goethite are scarce in these places.

Controls on the weathering patterns appear to be the reticulate pattern of older thrust faults parallel with the trend of the deposits crosscut by the younger NW faults. The two likely provided a connected system for deeper groundwater inflows at the root of the weathering zone.

The weathering may affect the metallurgy characteristics of the iron deposit by increasing the Fe grade by the loss of matrix, increasing porosity, reducing density and hardness, and creating Mn-oxides that can interfere with the extraction process.

#### *Wabush Basin – Rose Deposits*

The Wabush Basin on the Property contains (from south to north) the South Rose/Elfie Lake deposit, the Rose Central deposit and the Rose North deposit. These deposits represent different components of a series of gently plunging NNE-SSW upright to slightly overturned anticlines and synclines with parasitic smaller-scale folding. The Rose syncline appears to be dismembered by thrust faulting parallel to the D1 deformation from the SSE. The lateral extent of the southeast limb is limited, while the NW limb forms the long linear trend shown by the airborne magnetic and gravity anomalies and mapping. This fold system continues NNE from the western end of the Rose North deposit toward Long (Duley) Lake. The Wabush Mine deposit lies across the lake where the structure opens into a broad open syncline truncated by a northerly-trending late normal fault just west of Wabush.

The stratigraphy in the Rose area ranges from Katsao gneiss, north of the Rose syncline, up to the Menihek Formation mica schist. The contact between the Archean basement and the Denault marble is not exposed, nor has it been drilled to date. The Rose anticline exposes the Wishart Formation quartzite and drillholes also pass into Denault marble in the anticline core and also a thin Wishart unit abruptly passes down into Denault marble below the Mills Lake deposit. The contact relationship between the two units appears gradational to abrupt with increasing quartz at the base of the Wishart. The Wishart includes muscovite + biotite-rich schist and variations in quartzite textures. It appears more variable than the large quartzite exposures near Labrador City.

The upper contact of the Wishart Formation is abrupt. The base of the overlying iron formation often starts with a narrow layer of Fe-silicate-rich iron formation. Alderon’s exploration team correlates this member with the Ruth Fm. Locally; this is called the Basal Iron Silicate Unit (Wabush Mines terminology). The thickness of this subunit ranges 0 to 20 m.



The Sokoman Formation in the Rose Lake area includes three iron-oxide-rich stratigraphic domains or zones separated by two thin low-grade units. This is similar to the sequence observed at the Wabush Mine. At Rose Lake, the low-grade units composed of quartz, Fe-carbonate plus Fe-silicates and minor Fe oxides are thinner and more erratically distributed than at the Wabush Mine. The three oxide divisions or domains in a gross sense are mineralogically distinct and were used as the basis for geo-metallurgical domains and for the subsequent Mineral Resource estimate. These are named RC-1, RC-2, and RC-3 from stratigraphic base to top.

RC-1, the lower stratigraphic level at Rose Lake, typically has substantially higher specular hematite to magnetite ratio; magnetite content can be minimal to almost absent and is mostly restricted to the margins of the hematite unit. The principal gangue mineral is quartz with a little carbonate or Fe-silicate. Crystalline rhodonite is locally common. Occasionally, magnetite can be observed replacing the hematite as crystalline clusters to 2 cm with rhodonite coronas. This is interpreted as indicating a broad reduction in Fe oxidation during the peak of metamorphism. The Mn-silicates appear to be cleanly crystallized with little entrainment of Fe oxides. Mn measured in Davis Tube magnetite concentrates done as part of routine sample assaying shows values to 0.8% Mn, however, the overall amount of magnetite is low in the unit. In the Rose Central deposit, this unit appears to thin out along trend and depth to the SW. In the Rose North deposit, the equivalent NR-1 unit includes some secondary manganese oxides developed in the deeply weathered zone. Where the rock is fresh in Rose North, NR-1 and RC-1 rocks appear to have the same characteristics.

RC-2, the middle domain, typically is comprised of a series of interlayered hematite-rich and magnetite-rich OIF units with magnetite being more prominent. The mineralization is somewhat enriched in manganese as rhodochrosite. Davis Tube concentrates from the routine Davis Tube tests done as part of the sample assay program show Mn in the 0.6-1.2% Mn range. Gangue minerals include quartz, Fe-carbonate, and modest amounts of Fe-silicate. In the Rose North limb, the equivalent NR-2 forms two bands; the lower one is more consistent in thickness throughout the drilled length of the deposit while an upper part is thicker to the northeast and thins to the SW.

RC-3, the upper domain at Rose Lake, typically has a much higher magnetite:hematite ratio than the other domains, with hematite being uncommon in any quantity; however, the overall TFe% is the lowest of all three of the defined geo-metallurgical domains. The magnetite is typically finer-grained, although in parasitic fold crests can be coarser due to recrystallization. Characteristically, the Mn content of Davis Tube concentrates is relatively low at ~0.3% Mn. Upwards, this domain grades into assemblages containing less Fe oxide with increasing amounts of Fe-silicate and Fe-carbonate. In the Rose North area, the equivalent NR-3 is present in the same level and with similar Mn in magnetite concentrations as RC-3.

The uppermost part of the Sokoman is principally non-oxide facies. The thin magnetite layers that are present have the same level of Mn in magnetite bands as are typical of the RC-3 zone. The contact with the overlying Menihek Formation is a diachronous transition of interlayered Sokoman chemical sediments and Menihek flysch mud. The contact may locally be tightly folded or faulted by post-metamorphic movement parallel with the foliation, but many of the contacts between the two formations are delicately preserved and appear to be "one-way" and not folded stratigraphy. It is probable that all three contact controls are in play.

The Wabush Basin in the southern part of the Property is bounded to the south by a major arcuate ESE to SW-trending thrust fault along Elfie Lake towards Mills Lake. The east margin is bounded by a northerly thrust fault from the east and on the west by a curious probable thrust fault within the Denault Formation that truncates an ENE-striking open anticline.

The true width of the Rose Central deposit is in the order of 220 m wide, however, widths of mineralization rapidly attenuate through the hinge into the South Rose zone or limb and there is no consistent relationship between drillhole intersection length and true width. The true width of the Rose North deposit is in the order of 250 m to 350 m. The Rose North and the Rose Central deposits appear to represent respectively the NW and SW limbs of the same tight syncline. There is also likely another narrow highly attenuated perhaps tightly folded limb of Sokoman between the main Rose Central zone and the Rose North zone. The entire Rose system also appears to attenuate along strike to the SSW. WGM believes it likely that considerable second order and third order parasitic folding is also most likely present and is largely responsible for difficulties in tracing narrow layers of SIF, CSIF (variants) and magnetite and hematite-dominant OIF from drillhole intersection to intersection. Such folding would also, in WGM's opinion, be the main reason for the interlayering between Menihek-Sokoman-Wishart and even Denault formations, but as aforementioned, the relative importance of possible structural stacking also remains unresolved.

The 2011-12 infill drilling campaign indicated the effects of late, NW-striking, sub-vertical normal faulting. Alderon's interpretation suggests scale of movement is typically 40 to 180 m. The NW trend is sub-parallel with a major glaciation direction, thus obscuring these features. According to Alderon's interpretation, four of these faults cut the Rose deposit with interpreted offsets that appear to elevate the SW end of the Rose Central deposit and drop the NE anticline nose. These can be followed in topography and in detailed air-magnetic maps.

The aforementioned interzone stratigraphy and hematite-magnetite zoning of the Rose Central - Rose North zones is apparent on the cross sections. Clearly, core logged as hematite dominant as completed by Alderon's exploration crew correlates well with estimated %hmFe calculated from assays. However, the extent of hematite enrichment in Rose North may be exaggerated by the extent of secondary weathering leading to the development of limonite, goethite and secondary hematite after magnetite. In addition to the prominent hematite-rich layer near the stratigraphic base, there are other layers of hematite-rich OIF throughout the zone alternating with magnetite-rich, lean oxide and SIF and variants, but these are less prominent and difficult to trace. This difficulty in tracing individual iron formation variants from hole to hole is probably explained by the fact that these other layers are relatively thin and therefore the aforementioned second and third order folding has been more effective in shifting them in position and causing them to thicken and thin. The prevalence of down-dip drilling also makes interpretation more difficult.

In the main body of the Rose Central zone, manganese decreases in concentration from stratigraphic bottom towards the stratigraphic top and hematite also decreases in prevalence as magnetite-rich OIF becomes dominant. This same general pattern, perhaps not as obvious, is also present from footwall to hanging wall in the Rose North zone.

#### *Mills Lake Basin – Mills Lake and Mart Lake Deposits*

The Mills Lake Basin is developed south of the Wabush Basin. It is considered to be a separate basin because the amount and distribution of non-oxide facies iron formation is different from the Wabush Basin package at Rose and Wabush Mine.

The oldest lithology in the Mills Lake area is the Denault marble. It forms the core of the open anticline in outcrop west of the Mills deposit. The contact with the overlying Wishart is transitional to sharp. The Wishart is predominantly quartzite with lenses of micaceous schist up to 20 m thick, especially towards the upper contact with the Sokoman Formation. The base of the Sokoman is marked by the discontinuous occurrence of a basal silicate iron formation that ranges from nil to 20 m true thickness that Alderon correlates to the Ruth Formation.

The lower part of the Sokoman is Fe-carbonate-quartz facies IF with scattered zones of disseminated magnetite. The OIF facies forms two coherent lenses traced over 1,400 m on the Mills Lake Deposit and similarly south of Mart Lake, drilled in 2008. In the Mills Lake Deposit, the lower oxide unit is 30-130 m true thickness and the upper one more diffuse and generally less than 25 m thick. In the Mart Zone, the two oxide layers are less than 30 m thick. They are separated by 20 to 50 m of carbonate facies IF. Above the upper oxide lens, more carbonate facies, greater than 50 m thick, cap the exposed stratigraphy. Alderon reports that the carbonate facies units often show zones of Fe-silicates which they interpret as being derived from a decarbonation process during metamorphism leading to replacement textures indicating that, at least in the Mills Lake area, the origin of Fe-silicates is principally metamorphic and not primary. Disseminated magnetite is a common accessory with the Fe-silicates, but isn't economically significant at this low level of replacement.

The lower oxide facies at the Mills Lake Deposit, similar to the Rose Lake zones, has three levels or stratigraphic domains: a lower magnetite dominant domain, a specular hematite with rhodonite domain, and an upper magnetite domain. The two magnetite dominant domains show different amounts of manganese in magnetite-OIF with the upper portion being low in manganese and the lower one having moderate manganese enrichment. In the Mart Zone, a similar pattern is apparent, but the two magnetite-dominant OIF domains are more widely separated stratigraphically, are generally thinner, have lower Fe oxide grade and the hematite member is less well developed.

The Mills Lake Basin outcrop is controlled by an ENE-trending asymmetrical open syncline overturned from the SSE with a steeper north limb and shallow-dipping (18°E) east-facing limb. The fold plunges moderately to the ENE. The Mills Lake Basin is fault-bounded. The northern limit of the basin is the Elfie Lake Thrust Fault pushed from the SSE where it rides over the Wabush Basin package. The east limit is an (interpreted) thrust fault from the east that pushes Denault marble over the Sokoman Formation. The SSE fault appears to be the older of the two. Based on Rivers' mapping and field observations by Alderon staff, it includes the Mont-Wright deposit and several smaller iron deposits west of Fermont. The details of the basin dimensions are unknown.

#### *Mineralization by Rock Type and Specific Gravity*

WGM completed studies on the average composition of rock types derived from drill core sample assays for all the deposits. The estimates of %Fe in the form of hematite (%hmFe) have been made by WGM using two different methods depending on the type of assay and testwork data available. For all cases, the distribution of Fe<sup>++</sup> and Fe<sup>+++</sup> to magnetite was done assuming the iron in magnetite is 33.3% Fe<sup>++</sup> and 66.6% Fe<sup>+++</sup>. The estimation method also assumes all iron in silicates, carbonates, and sulphides is Fe<sup>++</sup>, and there are no other iron oxide species present in mineralization other than hematite and magnetite. This latter assumption is generally believed to be true only for the Rose Central and Mills Lake deposits. This assumption is not completely true for the Rose North zone where extensive deep weathering has resulted in abundant limonite, goethite and hematite development after magnetite. This weathering is particularly present in 2011 to 2012 drillholes that tested the mineralization mostly close to surface in Rose North. This development of limonite and goethite exaggerates the calculated %hmFe values, affects density of mineralization and also reduces recoverable Fe. It may also, in association with the Rose Lake drainage system, contribute to hydrological issues that may be concerns for potential pit development. A "Limonite Zone" was also one of the defined domains for the Rose North Mineral Resource estimate and all mineralization that fell within this domain was classified as Inferred.

TFe was determined by XRF for most Head or Crude samples, and for most samples, FeO was by titration and magFe were determined by Satmagan. Hematitic Fe, where Satmagan and FeO\_H assays are available, was estimated by subtracting the iron in magnetite (determined from Satmagan) and the iron

from the FeO analysis, in excess of what can be attributed to the iron in the magnetite, from %TFe, and then restating this excess iron as hematite, as shown below:

$$\%hmFe = \%TFe - (Fe^{+++} \text{ (computed from Satmagan)} + Fe^{++} \text{ (computed from FeO)})$$

In practice, %otherFe was computed as the first step in the calculation and %hmFe = %TFe - (%magFe+%otherFe), where %otherFe is assumed to represent the Fe in sulphides, carbonates and/or silicates, is the iron represented by Fe<sup>++</sup> from FeO\_H that is not in magnetite.

$$\%otherFe = Fe^{++} \text{ total (from FeO)} - Fe^{++} \text{ (from Satmagan)}$$

Where Fe<sup>++</sup> from magnetite exceeds Fe<sup>++</sup> from %FeO\_H, negative values accrue. These negative values are often small, less than 2% and represent minor but reasonably acceptable assay inaccuracy in either FeO\_H or Satmagan results. Small negative values can also accrue for %hmFe where %TFe is smaller than magnetic Fe plus otherFe. For both cases, these small negative values are replaced with zero in WGM's process of completing the calculations. Where the negative values are greater than 2%, possible error for %TFe Head, Satmagan determinations or FeO\_H are indicated and there are some samples in this category.

Not all samples of OIF containing significant hematite were assayed for FeO\_H and for these samples %otherFe cannot be estimated from Head FeO assays and Satmagan. However, the samples that did not have FeO\_H often had Davis Tube tests completed. Where Davis Tube tests were completed, these Davis Tube Tails ("DTT") were generally assayed for FeO and from these results %otherFe can be estimated.

Where Head FeO was not determined and Davis Tube weight recoveries for Davis Tube Tails were available and Davis Tube Tails had been assayed for FeO, then %hmFe was estimated as follows:

$$\begin{aligned} \%hmFe &= \%TFe - (\text{magFe}_{\text{Sat}} + \%otherFe_{\text{fromDT}}), \\ \text{Where: } \%otherFe_{\text{fromDT}} &= \%Fe^{++} \\ &\text{(from FeO on DTT)} * \%DTTR / 100 \\ \text{and } \%DTTR \text{ (Davis Tube Tail Recovery)} &= (\text{Davis Tube Feed wt} - \text{wt}_{\text{DTC}}) * 100 / \text{Davis} \\ &\text{Tube Feed wt} \end{aligned}$$

For some drill core OIF samples, %hmFe cannot be calculated because the necessary assay data is not available. Most of these samples were logged as low in hematite, i.e., magnetite-rich OIF or SIF, and the requisite assays to allow for the calculation of %hmFe were not completed because hematite contents were very low and not significant. Many samples of carbonate and silicate IF were also not assayed completely because they were judged as containing insignificant magnetite or hematite.

For OIF, the sums of %hmFe and %magFe generally approach %TFe. The difference between the sum of %hmFe and %magFe and %TFe for OIF samples is attributed to minor amounts of iron in silicates and/or carbonates, i.e., "otherFe", or also due to the assays for individual iron components (%TFe, %FeO\_H or magFe from Satmagan) not being absolutely accurate. The estimates for %hmFe generally appear to be accurate ±2%-3%. For silicate and carbonate IF lithologies, the sum of %hmFe and %magFe is often significantly less than %TFe. The "missing iron" is probably mostly in grunerite, which on the Property is a common iron silicate in IF and/or iron carbonates. Not much of the "otherFe" is likely in sulphides because sulphur levels in this mineralization are generally low.

The results of WGM's analyses of the same assays by lithological code show that logging is generally in agreement with rock composition. There are a small percentage of samples that from the assay data appear to be misclassified in terms of lithology code. This misclassification may be due to errors in

logging or sample sequencing, i.e., sample mix-up problems in the field or in the lab, or could have resulted from acceptable logging misclassification. Acceptable misclassification by lithology code can occur due to samples containing more than one rock type. This can occur and be acceptable because of the minimum requisite sample length constraints.

Samples logged and coded as magnetite-rich are indicated by assay results to contain more magnetic Fe than samples logged as hematite-rich or carbonate and silicate IF. Samples coded as hematite-rich contain more hematitic Fe. At both Rose and Mills, hematite-rich samples contain higher levels of manganese. This can be observed particularly in the groups coded as HIF and HSIF, respectively Hematite Iron Formation and Hematite-Silicate Iron Formation. Carbonate IF samples are generally higher in CaO. Mafic intrusive rocks (HBG-GN regrouped to AMP) contain higher levels of TiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and Mg than IF. Quartz schists, which generally represent Wishart Formation, are high in SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub>, as are Menihok Formation samples. Denault Formation samples are high in CaO and MgO as this rock is marble or dolomitic marble. There are however, some anomalies probably resulting from mis-logging. Dolomitic samples can be mis-logged as quartzite. Some intervals or samples logged as mafic dikes (HBG-GN) contain high levels of hematite Fe. Samples or units logged as “Lean” iron formation with a Leading “L” in Alderon’s lithology nomenclature, often have assays with significant oxide-iron grade. Similarly, samples coded as SIF variants often have more oxide Fe than “otherFe” and these oxide Fe grades may be sufficient to be considered as ore.

Davis Tube tests were completed on 2010 and 2011 drilling program samples using pulverization to 80% passing 70 microns neglecting any liberation studies or relevance to any iron ore processing flow sheets. Most of the tests were completed on Rose Central samples. Davis Tube magnetic concentrates were generally assayed for major elements by XRF. For some samples, Davis Tube Tails were analyzed for FeO. For a proportion of these samples, particularly hematite-rich samples, no XRF analysis on products was possible because the magnetic concentrate produced was too small or non-existent.

For drillholes that had both Satmagan determinations of %magFe and Davis Tube tests, (these samples are mostly OIF, but also include carbonate and silicate IF and even amphibolite gneiss), the results show that both methods for measuring %magFe produce very similar results with no significant bias. There are a few samples that correlate poorly. WGM communicated this list of suspected sample assays to Alderon. Alderon has completed some check assaying of the most obvious samples but many of these samples selected could not be relocated by SGS Lakefield. Some re-assays have also been completed on samples selected by WGM for checking the balance of Fe<sup>++</sup> from FeO\_H, versus Fe<sup>++</sup> from Satmagan and %hmFe and some assay errors were located and corrected, but more undoubtedly exist and could be found and corrected with more aggressive check assaying.

Results for the Davis Tube tests results show the expected high iron recoveries were achieved for magnetite-rich samples and lower recoveries for hematite-rich samples. Clearly, sample pulverization, 80% passing 70 microns, has resulted in a high degree of magnetite liberation. The liberation assay and mineralogical characteristics of the Davis Tube concentrates (because of the fine grinding) may however be misleading compared to the actual recoveries in an operating mine setting with a commercial processing plant. Iron concentrations in magnetic concentrates from magnetite-rich rocks are generally high, averaging close to 70% and ranging from 64% to 72%. Silica values for magnetite-rich lithologies range from 0.4 to 8% but generally average approximately 2%. Manganese in magnetic concentrates is weakly to moderately correlated with manganese in Head samples, but patterns are irregular.

For its 2010 program, Alderon completed bulk density determination on 175, 0.1 m length half split core samples for the purposes of calibrating the downhole density probe data. The samples tested spanned a number of rock types. The bulk densities were determined at SGS Lakefield using the weigh-in-water/ weigh-in-air method. These 0.1 m samples represent the upper 0.1 m intervals of routine assay samples

that are generally 3 m to 4 m long. There are no XRF WR assays for these specific 0.1 m samples as only the routine sample intervals, of which the 0.1 m samples were a part, were assayed. The bulk densities for these 0.1 m samples correlate poorly with %TFe from these longer intervals, which is not unexpected.

Alderon also completed SG determinations on the rejects from 33 routine samples at SGS Lakefield using the gas comparison pycnometer method and these were plotted against XRF WR %TFe. The results show that SG by pycnometer results correlate strongly with %TFe. They also illustrate that probe determined density averaged over the same sample intervals similarly correlate strongly with both %TFe from assay and with pycnometer determined density.

WGM's experience is that there is invariably a strong positive correlation between SG and/or density and %TFe assays for fresh unweathered/un-leached OIF. This occurs because OIF generally has a very simple mineralogy consisting predominantly of hematite and/or magnetite and quartz. Because the iron oxide component is much denser than the quartz and the OIF mineralogy is simple, the Fe concentration of a sample provides an excellent measure of the amount of magnetite and/or hematite present in the sample and hence the density of the sample. Invariably, the relationship between %TFe and SG is much the same from one deposit to the next. Pycnometer determined SG on pulps is not the ideal method for proving the SG to %TFe relationship because any porosity in samples could lead to misleading results. However, where bulk density and pulp density or SG have been determined on fresh unweathered OIF samples, WGM has found that results will be very comparable.

WGM also assessed the gas comparison pycnometer SG results for the 26 samples it collected from Alderon and Altius' drill core during site visits in 2009 and 2010 and also compared the DGI's density results from downhole probe averaged over the same Tos and Froms as the WGM sample intervals. Pycnometer SG and %TFe correlated well and the best fit relationship line is similar to Alderon's 33 SG pycnometer results and similar to that for other iron deposits WGM has reviewed. However, the probe densities do not correlate well with either the pycnometer SG or iron assays. WGM believes the discrepancy between the relationships may be due to poor correlation between sample Tos and Froms from sampling, logging, the core meterage blocks and the probe depth indexing.

From a more detailed review of the density data available for the Project, WGM recommended further determinations of SG to be completed at SGS Lakefield. This recommended testwork completed has confirmed that the probe densities are not very accurate and at least for fresh, unweathered iron formation, sample density is best predicted from Head %TFe. The probe densities would potentially be of more value for Rose North-type weathered mineralization, but for most of the holes testing Rose North mineralization, no probing was completed because of the fragile nature of these drillholes and the fear of losing the probe down the hole.

For the Mineral Resource estimate, Alderon has chosen for its modelling to use the relationship between probe density and %TFe rather than individual probe density values or probe density values aggregated over sample intervals. This decision was made because the probe density versus %TFe models are a little more conservative than the models using the pycnometer SG values. WGM agrees this is acceptable but wants to emphasize that for Rose North weathered mineralization, the distribution of weathering is complex and the relationship between rock density and iron grade and mineralogy is also complex. The density/SG models applied are generally correct only for a portion of that mineralization that is unweathered.

## ***Drilling***

### *Historic Drilling*

In 1957, IOCC remapped an area of 86.2 km<sup>2</sup> to the west of Duley Lake on a scale of 1" = 1,000 ft and test drilled shallow holes throughout the area through overburden cover to determine areas underlain by iron formation. Dip needle surveying served as a guide for determining the locations of iron formation in drift-covered areas.

272 holes aggregating a total of 7,985 m (26,200 ft) were drilled during IOCC's 1957 program. Approximately 66 of these holes were located on the Property. It was reported that there were no new deposits found as a result of the drilling, however, definite limits were established for the iron formation outcrops found during previous geological mapping.

In 1979, one diamond drill hole was drilled by LM&E near the north end of Elfie Lake. The hole (No. 57-1) was drilled vertically to a depth of 28 m and did not encounter oxide iron formation. In 1983, LM&E collared a 51 m deep (168 ft) diamond drill hole 137 m north of Elfie Lake (DDH No. 57-83-1). The drillhole encountered iron formation from 17 m to a depth of 51 m. Of this, however, only 2 m was oxide facies. Core recovery was very poor, (20%).

#### *Altius 2008 Drilling Program*

Altius' 2008 drilling program consisted of 25 holes totaling 6,046 m testing the Mills Lake, Mart Lake and Rose Lake iron occurrences. Drilling was carried out between June and October by Lantech Drilling Services of Dieppe, New Brunswick, using a Marooka mounted JKS300 drill rig. A second, larger drill rig was added to the program in September, to help complete the program before freeze-up. The second rig was a skid mounted LDS1000 towed by a Caterpillar D6H dozer. Both drills were equipped for drilling BTW sized core. Drilling took place on a two-shift per day basis, 20 hours per day, and seven days per week. The remaining four hours were used up with travel to and from the drill site and shift change.

#### *Alderon 2010 Drilling Program*

The 2010 drill program consisted of a total of eighty-two (82) drillholes aggregating 26,145 m NQ diamond drilling. The objective of the program was to delineate an Inferred iron oxide Mineral Resource of 400-500 MT on two areas: the Rose Central and Mills Lake deposits. The drilling included testing the Rose North Lake zone, the South West Rose Lake zone and the Elfie Lake/South Rose zone. The 2010 program included: borehole geophysics on many of the 2008 and 2010 holes, detailed 3-D, DGPS surveying of 2008 and 2010 drillhole collars, and logging and sampling of drill core including the relogging of 2008 drillholes.

Landrill International Ltd. ("**Landrill**") based in Notre-Dame-du-Nord, QC, was the Drill Contractor for the entire campaign. Throughout the campaign, between three (3) and five (5) diamond drill rigs were operating. Some rigs were brought in for special purposes, like a heli-supported drill for several holes on Rose North and a track-mounted drill to access an area with a restricted access permit. A total of eighty-two (82) holes were collared, but only seventy-two (72) holes were drilled to the desired depths, with the remaining holes being lost during casing or before reaching their target depth because of broken casing, detached rods, bad ground, etc. Several Rose drillholes also tested the Rose North zone at depth, allowing for a preliminary evaluation.

The drill campaign consisted of three continuous, and at times, simultaneous phases of exploration:

- The drilling began on the north-east extent of the Rose Central Lake trend (L22E) and progressed south-west along the established 200 m spaced northwest-southeast oriented gridlines to Section

L8E. Each section was drilled and interpreted with the interpretation extrapolated and integrated into previous sections.

- Towards the middle of the program, drilling expanded to test the Rose North and South-West Rose zones, also following 200 m spaced lines. This expansion was done by increasing the number of drills on the Property to allow focus to continue on the Rose Central Zone. The Rose North and South-West Rose zones were difficult to test due to the topography, thick overburden and swampy terrain.
- The last phase of exploration focused on the Mills Lake deposit and utilized two drills (one heli-supported, the other self-propelled track driven) over eight weeks.

Drilling on the South-West Rose zone was limited to two cross sections. Drilling was difficult due to a combination of thick overburden (37-65 m vertical depth) with deep saprolitic weathering. Core recovery ranged from adequate to very poor. The weathering decreased at depths below 170 vertical meters, but most holes did not achieve that depth. Drilling on this target was suspended due to poor production.

Drilling on the Rose North Zone was limited to two sites due to accessibility. The terrain overlying this target is swampy lowland surrounding a shallow lake. Several holes testing the Rose Central Deposit were extended to test the deeper portions of this North Zone and indicate this zone requires additional drilling and may significantly contribute to the overall Rose Lake tonnage. This target is best tested during a winter program when the area is frozen and more readily accessible.

Core recovery was generally very good throughout the drilling focused on the Rose and Mills Lake deposits and is not a factor of the Mineral Resource estimate. Core recovery is often poor for the drilling on the Rose North zone due to intensive weathering along fault systems. The South-West Rose zone is not part of the present Mineral Resource estimate.

#### *Alderon 2011 Winter Drilling Program*

The program began in early February and was completed in the middle of April. Total drilling aggregated 4,625 m in twenty-nine (29) drillholes, including several holes that were lost and had to be re-drilled. All drilling except for one hole was done on the Rose North deposit. This one hole, K-11-117-336 m was completed on the Rose Central deposit and was for the purpose of collecting a sample for metallurgical testwork. It was a twin of K-10-42. Landdrill was again the drilling contractor.

Core recovery continued to be poor for the Winter 2011 near-surface drilling on the Rose North Zone due to intensive weathering along fault systems. The poor core recovery is a factor influencing categorization of the Rose Mineral Resources, particularly in the Limonite zone.

#### *Alderon Summer 2011 - 2012 Drilling Program*

The summer 2011-2012 program started in June 2011 and continued through to the end of April 2012. The holes were drilled throughout the Rose Lake area and a number of holes were also completed on the Mills Lake deposit. Total exploration drilling aggregated to one hundred (100) exploration drillholes aggregating 29,668 m. An additional forty-six (46) geotechnical holes under Stantec's management, including several abandoned drillholes were drilled for pit slope design and general site planning purposes. Four (4) additional holes of the KXN-series were drilled from the north end of Mills Lake north towards the northern boundary of the Kami Property for condemnation purposes.

The purpose of this most recent drilling program was to advance the project to feasibility stage by upgrading the classification of Mineral Resources and to provide more information for mine planning and



metallurgical testwork. Drilling was done by both Cabo Drilling Corp. out of its Montreal office (Mills Lake deposit) and Major Drilling International Inc., based in Sudbury, ON (Rose deposit & KXN holes).

WGM understands that core recoveries for the Rose North zone were better for the summer 2011–2012 program than for the winter 2011 and 2010 programs. Elsewhere, core recoveries were excellent, as was typically the case.

Geotechnical boreholes were completed as part of the Overburden Pit-Slope design program. Other drillholes were part of the Site-Wide Geotechnical Feasibility Study to provide a general overview of the site. Both components were managed by Stantec. The drilling was completed by Lantech and all of the geotechnical drillholes were vertical. This stage of the site-wide geotechnical investigation was completed in the fall of 2011 and covered five broad areas based on the following infrastructure groupings: crusher area, access road area, process plant area, rail loop and tailings impoundment.

Additional stages of field investigations in support of detailed design are ongoing. Preliminary field data gathered during these investigations has been utilized in support of the Feasibility Study for other project tasks. These tasks included the Tailings and Waste Rock Management feasibility level design and the site location optimization and foundation design for the crusher and process plant information. These Stantec holes penetrated five (5) m into bedrock. These rock cores were logged by Alderon's exploration staff following normal protocols providing geological mapping information in areas of the Property with very little outcrop exposure.

Condemnation KXN-series holes were drilled from the north end of Mills Lake north, towards the northern boundary of the Kami Property. These holes were aligned west with  $-50^{\circ}$  to  $-60^{\circ}$  inclination.

KXN-01 and KXN-02 were drilled to test modest magnetic anomalies underlying the proposed civil works for the Kami mine development (condemnation drilling). Both encountered low-grade magnetite-rich mineralization coincident with the anomaly in the Sokoman Formation. Oxidized faults caused the termination of the holes before completely crossing the iron formation. The units were interpreted as dipping sub-vertically and the drillhole traces crossed the projected magnetic anomalies. KXN-03 and KXN-04 continued north of the first two along the same trend that was detailed by airborne magnetic geophysics. KXN-04 was lost in the fault zone. The interpretation was a tight fold aligned north-south with a probable steep dip to the east. Both holes collared in Denault marble then passed into strongly iron-oxidized faults. Neither gave a sufficient test of the potential width of the Sokoman Formation stratigraphy.

#### *Drillhole Collar Surveying*

Drillhole collars for the 2008 program were spotted prior to drilling by chaining in the locations from the closest gridline picket and drilling azimuths were established by lining up the drill by sight on the cut gridlines. For subsequent programs, similar practice was maintained but for areas where no cut lines were available, the drills were lined up using handheld GPS. Drill inclinations or drillhole collar dips for all programs were established using an inclinometer on the drill head.

Once a drillhole was finished, the Drill Geologist placed a fluorescent orange picket or painted post next to the collar labelled with the collar information on an aluminum tag. Generally, casing was left in the ground where holes were successful in reaching bedrock. The X, Y and Z coordinates for these collar markers were surveyed using handheld GPS.

Formal precision surveying of the 2008 program drillhole collar locations was not completed until the end of the 2010 drilling program. At the end of the 2010 drilling campaign, the X, Y and Z coordinates of all

the new drillholes and the 2008 drillholes were precisely DGPS surveyed using dual frequency receivers in Real-Time Kinematic mode by the land surveying firm N.E. Parrott Surveys Limited (“**Parrott**”) of Labrador City, NL, and tied into the federal geodesic benchmark. Most of the 2008 and 2010 collars were identified and surveyed during the first (October 23<sup>rd</sup> to 27<sup>th</sup>) or second (December 5<sup>th</sup>) surveying campaign. Two collars, K-08-05 and K-10-43 could not be located.

At the end of the 2011 winter program, a crew from Parrott again arrived on the Property and surveyed the 2011 winter collars for position and azimuth. Collars for four of the drillholes (K-11-103, 105, 109 and 111) could not be located and were not surveyed by Parrott. Their locations are defined by setup coordinates. The drillhole dips in the database are currently those measured at drillhole setup.

At the end of the summer 2011-2012 program, collars for 94 of the summer 2011-2012 drillholes plus forty-six (46) of the collars from earlier programs were surveyed by Allnorth. The seven (7) summer 2011-2012 collars not surveyed were not surveyed because they could not be accurately located in the field. Of these forty-six (46) previous program collars, all but one had been previously surveyed by Parrot. Allnorth and Parrot results are in excellent agreement.

#### *Downhole Attitude Surveying*

Downhole attitude surveys using Flexit or Reflex EZ-Shot instruments were performed routinely during drilling in 2008 at intervals of 50 m downhole. Azimuth, inclination and magnetic field data were recorded by the driller in a survey book kept at the drill. A copy of the page is taken from the book, placed in a plastic zip lock bag and placed in the core box and the test was recorded by the geologist. These instruments use a magnetic compass for azimuth, so the azimuth readings from Alderon’s property are of no value because of the strong ambient magnetic environment, but the drillhole inclinations are of value and are retained in Alderon’s database.

Towards the end of Alderon’s 2010 program, the gyro surveying of completed drillholes was started using a north-seeking gyroscope instrument. This gyro surveying was done as a part of the borehole geophysics program conducted by DGI. The surveys were done immediately after the termination of the drillhole while the drill rig was still on site. The downhole attitude surveys were performed with the rods inside the borehole to prevent the borehole from collapsing, thus minimizing risk to the equipment. The 2010 gyro surveying program included returning to 2008 program drillholes for gyro surveying where possible. However, for these 2008 drillholes, only casing shots were completed to eliminate the risk of open-hole logging.

During this 2010 surveying, it was detected that the azimuth information produced by the gyro did not match the planned azimuths of the boreholes. Parrott was hired by DGI to provide corroboration to either the planned or measured azimuths of the boreholes, and Parrott, during its December 5th visit, surveyed the azimuths of twenty-four (24) drillholes. These results were received in early November 2010. The Parrott azimuths for twenty (20) of the twenty-four (24) drillholes correlated most closely with the planned azimuths. For four drillholes, (K-10-60, K-10-25, K-10-96 and K-10-94A), the planned azimuths departed from the Parrott azimuths by more than 5 degrees. As a result, DGI recommended that the gyro instrument be immediately removed from the field for problem diagnosis at the manufacturer’s facility.

A sensor was replaced and extensive calibration checks were performed at the manufacturer’s facility with DGI’s Vice President of Operations in attendance. The calibration checks demonstrated a high degree of repeatability and accuracy for the instrument. Once tests were completed to the satisfaction of the manufacturer and DGI, the gyro was returned to the Kami Project.

A thorough review of all calibration data, QA/QC tests, and repeat field measurements compared to the Parrott collar surveys and planned drill azimuths, indicated that the gyro information should be treated as relative. That is, prior to having repairs completed by the manufacturer, the instrument measured the correct relative change in azimuth downhole, but not the correct absolute azimuth. This is the same method as used for normal gyro data. The relative accuracy of the instrument throughout the duration of the Project is supported by the manufacturer.

Alderon elected to use the planned azimuths as the collar azimuths of all of the 2008 and 2010 drillholes and adjust the DGI gyro downhole azimuths to the planned collar azimuths. These corrections were also applied to the OTV structure data to compute orientations for the picked structures. No downhole geophysical surveys were conducted as a part of the 2011 winter drill program.

DGI continued to provide advanced geophysical and gyro downhole surveying for Alderon for its summer 2011-2012 drilling program. Survey parameters remained as they are described for the 2010 program. DGI, in addition to completing gyro surveys on the summer 2011-2012 program drillholes, also completed casing shots for a number of earlier drillholes where azimuth information was poorer quality due to instrument breakdown during the 2010 program.

The results are a survey file where collar locations have been completed on different occasions by different contractors using several different methods. Alderon subsequently processed the various generations of data to arrive at a best set of coordinates and downhole attitude survey results.

#### *Geophysical Downhole Surveying*

DGI, from 2010 through the 2011 summer-2012 drilling programs, employed a multi-parameter digital logging system designed by Mount Sopris Instrument Co. and along with gyroscopic downhole drillhole attitude surveying included, natural gamma, poly electric, magnetic susceptibility, calliper, and Optical Televiwer (“OTV”) instrumentation. This surveying was attempted on most drillholes but complete surveying was not possible for all drillholes. In particular, Rose North drillholes, because of bad ground conditions, were not generally surveyed.

#### *WGM Comments on Altius and Alderon Drilling*

WGM is satisfied that Altius’ 2008 and Alderon’s drilling programs were generally well run but documentation and reporting should be improved considerably. In 2008, drillhole collars were surveyed using handheld GPS. Fortunately, casings were left in the ground so the collars could be resurveyed at a later date. As part of the 2010 program, Alderon resurveyed all of Altius’ collars using DGPS, except for two that could not be located.

In 2008, downhole surveying was done using a Flexit instrument. This instrument determines azimuths based on a magnetic compass. Altius ignored azimuth readings from the instrument and utilized only the inclination information from the survey. WGM agrees that this was acceptable practice. Alderon attempted gyro surveys of the collars of many of these holes as part of the 2010 program, however, it was later concluded that the gyro azimuths were not accurate. During the summer 2011-2012 program, Allnorth and DGI completed positional and downhole attitude surveys, or at least casing shots for many of these drillholes to generate more accurate information, and replaced previous information in the database with the new results where available.

Some holes still remain without downhole or collar azimuth surveys because these holes could not be found or re-entered. For some drillholes, collar azimuths by different contractors and methods do not match well and for these cases, Alderon has generally elected to go with collar azimuths that are

invariably propagated down the holes based on surveyed or non-surveyed azimuths closest to planned azimuths. WGM believes that these missing survey data will have minimal effect on the Mineral Resources.

Drillhole orientation relative to rock structure varies from nearly perpendicular to dip to almost down dip, and the rocks and mineralization are folded. Consequently, the relationship between true widths and drillhole intersection length also varies considerably from hole to hole, or even within a hole.

### ***Sampling Preparation, Analysis and Security***

#### *Field Sampling and Preparation*

##### 2008 Drill Core Handling and Logging

Core was removed from the core tube by the driller's helper at the drill and placed into core trays labelled with hole and box number. Once the tray was filled, (approximately 4 to 4.5 m per box), it was secured at both ends, labelled and set aside. Core was picked up at the drill site by Altius Personnel each day. Core was transported from the drill site to a truck road using all-terrain vehicles and a trailer. Core was then transferred to an Altius truck and transported directly to Altius' secure core facility in Labrador City. A geologist was always on site at the core facility to receive the core deliveries. Core boxes were then checked for proper labelling and correct positioning of tags. The end of box interval was measured and marked on the end of each tray with an orange china marker. Box numbers, intervals and Hole ID were recorded on a spreadsheet and on aluminum tags, which were subsequently stapled to the tray ends for proper cataloguing. All core was photographed, both wet and dry, in groups of four trays by a geotechnician or geologist.

Rock quality designation ("**RQD**"), specific gravity and magnetic susceptibility measurements were completed for each drillhole and recorded on spreadsheets. A measurement of specific gravity was obtained from each lithological unit in each drillhole by selecting short pieces of whole or split core and weighing each in air and in water. Magnetic susceptibility was measured using a magnetic susceptibility KT-9 Kappameter (distributed by Exploranium G.S. Limited) by taking one measurement every meter as an approximation of magnetic susceptibility.

A geologist logs the core and records the data on logging sheets. All geological and geotechnical information was recorded digitally at the end of each day.

After core logging and sampling were completed, core trays containing the reference half or one-quarter split core and the archive sections of whole core were stacked on timber and rebar core racks at the Labrador City core facility.

##### 2008 Sampling Method and Approach

Sample intervals were determined on a geological basis, as selected by the drill geologist during logging and marked out on the drill core with a china marker during descriptive logging. All rock estimated to contain abundant iron oxide was sampled. In addition, two three (3) m samples on either side of all "ore grade" iron formation were taken, where possible, to bracket all "ore grade" iron formation sequences. Core was first aligned in a consistent foliation direction. Iron formation was sampled systematically at 5 m sample intervals where possible, except where lithological contacts are less than five (5) m.

Three-part sample tickets with unique sequential numbers were used to number and label samples for assaying. One tag contains information about the sample (such as date, drillhole ID, interval and

description) and is kept in the sample log book. A second tag is stapled into the core box at the beginning of the sample interval. The third tag is stapled into the plastic poly bags containing that sample for assaying. Sample numbers and intervals were entered into a digital spreadsheet.

Core was sawn in half using a rock saw at the Altius core facility by an Altius geotechnician. One half of the core comprising the sample is placed into the labelled sample bags and stapled closed immediately after the sample is inserted. The remaining half of the split core is returned to the core tray and inserted in its original order and orientation and retained for future reference. Where duplicate samples were required, quarter samples were taken after being sawn in half again. Each sample is then secured within plastic pails labelled with the sample number. Lids were secured on the pails and the pails were then taped closed for extra security. The buckets were placed onto pallets where they were subsequently shrink-wrapped and also secured with plastic straps for loading onto transport trucks for shipment to SGS Lakefield.

### Alderon 2010 – 2012 Drill Core Handling and Logging

Alderon managed the drilling and core logging for the Project from June, 2010 through May 2012. The core was brought in twice daily at shift changes to Alderon's core facility located in a building in Labrador City, NL, in order to reduce the possibility of access by the public near the drill staging area southwest of Labrador City. Public access to the core facility was restricted by signage and generally closed doors. Only Alderon or its contractor's employees were allowed to handle core boxes or to visit the logging or sampling areas inside the facility.

After the core was placed in the core trays, the geologists checked the core for meterage blocks and continuity of core pieces. The geotechnical logging was done by measuring the core for recovery and RQD. This logging was done on a drill run block-to-block basis, generally at nominal three meter intervals. Core recovery and rock quality data were measured for all holes. Drill core recovery was close to 100% with virtually every 3 m run. The RQD was generally higher than 92%. Lower values were observed and measured for the first 3 to 5 m of some holes where the core is slightly broken and occasionally slightly weathered. Near faults and shears RQD dropped somewhat but was rarely below 65%. This mainly occurs in the schistose stratigraphic hanging wall Menihek Formation rather than in the iron formation. Additional geotechnical data for fractures, joints, and shears was collected starting in August, following the procedures described by Stantec for pit shell design parameters. All data were entered in the AcQuire database on site.

The core was logged for lithology, structure and mineralization, with data entered directly into laptop computers using MS Access forms developed by Alderon geomatics staff. In summer 2012, the MS Access database was migrated to the AcQuire system using the previous logging parameters. The geology of the iron formation was captured using a facies approach with the relative proportions of iron oxides, as well as the major constituent gangue components of the iron formation using a Fe-oxides–Quartz–Fe-silicates–Fe-carbonates quaternary diagram developed by Alderon personnel. Other formations were logged based on descriptions and lithological variations. Drillhole locations, sample tables, and geotechnical tables were originally created in MS Access, then later migrated into AcQuire and are able to be merged with the geological tables at will.

Prior to sample cutting, the core was photographed wet and dry. Generally, each photo includes five core boxes. A small white dry erase board with a label is placed at the top of each photo and provides the drillhole number, box numbers and From-To intervals in meters for the group of trays. The core box was labelled with an aluminum tag containing the drillhole number, box number and From-To in meters stapled on the left (starting) end. Library samples approximately 0.1 m long of whole core were commonly taken from most drillholes to represent each lithological unit intersected. Once the core

logging and the sampling mark-up was completed, the boxes were stacked in core racks inside the core facility. After sampling, the core trays containing the remaining half core and the un-split parts of the drillholes were stored in sequence on steel core racks in a locked semi-heated warehouse located in the Wabush Industrial Park. The warehouse contains the entire core from Altius' 2008 and Alderon's 2010–winter 2011 drilling campaigns. The exterior roofed core racks contain the core post-April 2011 to the end of the drilling program in May 2012.

### Alderon 2010 – 2012 Sampling Method & Approach

The Alderon sampling approach was similar to the previous Altius exploration programs, with most samples taken to start and stop at the meterage blocks, at 3.0 m intervals, with variation in sample limits adaptable to changes in lithology and mineralization. Samples were therefore generally 3.0 m long and minimum sample length was set at 1.0 m. Zones of unusual gangue like Mn mineralization or abnormally high carbonate were treated as separate lithologies for sampling.

The bracket or shoulder sampling of all "ore grade" mineralization by low grade or waste material was promoted. The protocol developed for the program also stated that silicate and silicate iron formation intervals in the zones of oxide iron formation should generally all be sampled unless exceeding 20 m in intersection length. In the abnormal circumstance where core lengths for these waste intervals were greater than 20 m, then only the low/nil grade waste intervals marginal to OIF were to be sampled as bracket samples.

In-field Quality Control materials consisting of Blanks, Certified Reference Standards and quarter core Duplicates were inserted into the sample stream with a routine sequential sample number at a frequency of one per ten routine samples. The Duplicates were located in the sample number sequence within nine samples of the location of its corresponding "Original". The Duplicates accordingly, do not necessarily directly follow their corresponding Original.

Similar to the 2008 practice, the 2010–2012 procedures entailed the use of three tag sample books. Geologists were encouraged to try and use continuous sequences of sample numbers. The geologists were instructed to mark the Quality Control ("QC") sample identifiers in the sample books prior to starting any sampling. The sample intervals and sample identifiers are marked by the geologist onto the core with an arrow, an indelible pen or wax marker. The sample limits and sample identifiers are also marked on the core tray.

The book-retained sample tags are marked with the sampling date, drillhole number, the From and To of the sample interval and the sample type (sawn half core, Blank, Duplicate or Standard) and if it is a Standard, then the identity of the Standard is also recorded. The first detachable ticket recording the From and To of the sample was stapled into the core tray at the start of the sample interval. Quality Control sample tags were also stapled into the core tray at the proper location. Quarter core Duplicates were flagged with flagging tape to alert the core cutters.

The core cutters saw the samples coaxially, perpendicular to the foliation/banding orientation, as indicated by the markings, and then placed both halves of the core back into the core tray in original order. The sampling technicians completed the sampling procedure, which involves bagging the samples.

The second detachable sample tags are placed in the plastic sample bags; these tags do not record sample location. As an extra precaution against damage, the sample number on these tags was covered with a small piece of clear packing tape. The sample identifiers were also marked with indelible marker on the sample bags. The bags are then closed with a cable tie or stapled and placed in numerical order in the

sampling area to facilitate shipping. The samplers inserted the samples designated as Field Blanks before shipping.

Samples are checked and loaded into pails or barrels and strapped onto wood pallets for shipping. In early 2012, at the request of SGS Lakefield, samples were put in wooden crates built on the pallets in order to reduce lifting injuries at the receiving laboratory. This protocol was followed through the remainder of the program. Pails, barrels, and crate-pallets were individually labelled with the laboratory address and the samples in each shipping container are recorded. The pallets were picked up at the core facility with a forklift and loaded into a closed van and carried by TST Transport to SGS Lakefield via Baie-Comeau, Québec and Montréal.

#### WGM Comments on Sampling for 2008 through 2012 Drilling Programs

WGM examined sections of Altius' 2008 drill core during its October 2009 site visit and Alderon's 2010 drill core during its July and November 2010 site visits and found the core for both campaigns to be in good order. The drill logs have also been reviewed and WGM agrees they are comprehensive and are generally of excellent quality. Core descriptions in the logs were found to match the drill core. During WGM's site visits, sample tickets in the trays were checked and confirmed that they were located as reported in the drill logs. Drill core after sampling was also in good order. WGM did not make a site visit during the winter 2011 program and has not viewed the recent drill core or 2011 through 2012 sampling and logging.

A drill core sampling approach using 1.0 m to 5.0 m long samples respecting lithological contacts is acceptable practice. Few of the winter 2011 drillholes completely penetrated and tested the entire Rose North zone and core recovery was less than optimum for parts of several of these drillholes. The 2012 drilling on the Rose North deposit was more effective. This sparse drilling and less than optimum recovery is a factor in the Mineral Resource estimate categorization of mineralization in Rose North. WGM agrees that the Library samples do not materially impact assay reliability and/or accuracy.

#### *Laboratory Sample Preparation and Assaying*

SGS Lakefield at its Lakefield, Ontario facility was the Primary assay lab. SGS Lakefield is an accredited laboratory meeting the requirements of ISO 9001 and ISO 17025. SGS Lakefield is independent of both Altius and Alderon. All in-lab sample preparation for both Altius and Alderon was performed by SGS Lakefield at its Lakefield facility.

#### Altius 2008 Sample Preparation and Assaying

All of Altius' drill core samples were crushed to 9 mesh (2 mm) and 500 g of riffle split sample was pulverized to 200 mesh (75 µm) and subject to a standard routine analysis including whole rock analysis ("WR") by lithium metaborate fusion XRF, FeO by H<sub>2</sub>SO<sub>4</sub>/HF acid digest-potassium dichromate titration providing a measure of total Fe<sup>++</sup>, and magnetic Fe and Fe<sub>3</sub>O<sub>4</sub> by Satmagan. Neither the Satmagan nor the FeO determinations were completed on all in-field QA/QC materials. A group of 14 samples were analyzed for S by LECO, with sample selection based on visual observation of sulphide in the drill core. A total of 676 samples including in-field QC materials were sent for assay.

#### Alderon 2010-2012 Sample Preparation and Assaying

SGS Lakefield remained the primary laboratory for Alderon's 2010–2012 exploration programs. Sample preparation for assaying included crushing the samples to 75% passing 2 mm; a 250 g (approximate)

subsample was then riffled out and pulverized in a ring-and-puck pulverizer to 80% passing 200 mesh. Standard SGS Lakefield QA/QC procedures applied. These included crushing and pulverizing screen tests at 50 sample intervals. Davis Tube tests were also performed on selected samples. The material for the Davis Tube tests was riffled out directly from the pulverized Head samples and therefore the grind was not necessarily optimized to reflect potential mine processing plant specifications or optimum liberation requirements.

Alderon's 2010 to 2012 drill core sample assay protocol was similar to the Altius 2008 protocol with WR analysis for major oxides by lithium metaborate fusion XRF requested for all samples and magnetic Fe or Fe<sub>3</sub>O<sub>4</sub> determined by Satmagan. In 2010, however, FeO was not determined on all Heads. For a proportion of 2010 samples, FeO was determined on Heads by H<sub>2</sub>SO<sub>4</sub>/HF acid digest-potassium dichromate titration, as previously done. Generally, where FeO on 2010 Heads was not completed, Davis Tube tests were performed. Sample selection criteria for 2010 samples for Davis Tube testwork included magnetite by Satmagan greater than 5%, or hematite visually observed by the core logging geologists. Where Davis Tube tests were completed, Davis Tube magnetic concentrates were generally analyzed by XRF for WR major elements. During the first half of the 2010 program, FeO was also determined in Davis Tube Tails. Alderon made this switch in methodology because it believed Davis Tube Tails were being overwashed. For its winter 2011 program, Davis Tube tests were completed on all samples containing appreciable magnetite, but no determinations of FeO on Davis Tube Tails (FeO DTT) were performed. For the summer 2011–2012 programs, FeO was determined on all Head samples, but again no FeO determinations on Davis Tube Tails were completed.

In addition to the "routine" assaying, 175, 0.1 m 2010 samples of half split core were sent to SGS Lakefield for bulk density determination by the weighing-in-water/weighing-in-air method. The purpose of this work was to provide rock density for different rock types and types of mineralization to calibrate DGI's downhole density probe. These samples were taken from the upper 0.1 m long intervals of routine assay sample intervals, each generally 3 m to 4 m long. After SGS Lakefield completed the bulk density tests, these core pieces were returned to the field so they could be placed back into the original core trays. In addition to the bulk density testwork, 33 sample pulps had SG determined by the gas comparison pycnometer method.

In 2010, Alderon also cut 58 new samples from the 2008 drill core that had not been previously sampled and assayed. A total of 5,501 routine samples and field-inserted QA/QC materials had Head Assays by XRF completed.

For the 2011 winter program, a total of 947 samples including in-field QC materials were sent for Head assaying to SGS Lakefield. No Secondary Laboratory assaying was done but re-assays of a selection of previous samples was completed.

For the summer 2011 to 2012 programs, 6,287 routine core samples, plus field-inserted QA/QC samples were assayed for WR-XRF, Satmagan and FeO on Heads. In addition, 3,221 samples had Davis Tube tests completed. Davis Tube concentrates were analyzed by WR-XRF. FeO was not determined on Davis Tube products.

### *Sampling and Assaying QA/QC*

#### 2008 through 2012 QA/QC

For Altius' 2008 drilling program and for Alderon's 2010 through 2012 programs, the in-field QA/QC program conducted during initial core sampling involved insertion of Blanks, Duplicates and Standards into the sample stream going to SGS Lakefield. SGS Lakefield also conducted its own in-lab internal



QA/QC program. Samples and analysis for both these programs are summarized in the tables shown previously. Alderon's 2011 program additionally included a Secondary or Referee Check Assay component, which involved the assay of a selection of pulps at Inspectorate Laboratory, located in Vancouver; B.C. Inspectorate holds a number of international accreditations including ISO 17025. Another Check assay program was also underway as of late 2012 at AcmeLabs, Vancouver. Acme Labs is also accredited under ISO 9001:2000 and ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories. Both Inspectorate and AcmeLabs are independent of Alderon.

In the field, both Altius for the 2008 program and Alderon for the later programs alternately inserted Standard, Blanks and Duplicate samples every 10th routine sample. The material used for Blanks was a relatively pure quartzite and was obtained from a quarry outside of Labrador City. Duplicate samples were collected by quarter sawing the predetermined sample intervals and using ¼ core for the Duplicate sample, ¼ for the regular samples, and the remaining half core was returned to the core tray for reference. The Certified Standard Reference materials used were CANMET's TBD-1 and SCH-1; CANMET's FER-4 was used when the TBD-1 material was exhausted in the latter half of the 2008 program. This material was pre-packaged in envelopes and, as required, a sachet was placed in a regular sample bag and given a routine sequential project sample number. The Standards were not assayed consistently for all relevant analytes during all programs. Certified and provisional values for iron and selected other elements for these three Standards are listed in Table 2.

**TABLE 2: CERTIFIED STANDARD REFERENCE MATERIALS USED FOR THE IN-FIELD QA/QC PROGRAMS - ALTIUS 2008 AND ALDERON 2010**

Standard ID	Material	Certified Values					
		%Fe	%Fe O	%SiO 2	%Mn	%P	%S
SCH-1	Schefferville Hematite IF	60.73	NA	8.087	0.777	0.054	0.007
TDB-1	Saskatchewan -Diabase	10.4	NA	50.2	0.1577	0.08	0.03
FER-4	Sherman Mine Ontario – cherty magnetite IF	27.96	15.54	50.07	0.147	0.057	0.11

In general, the Standards and Blanks performed well as indicated by the clustering of results when plotted and the concentration averages, which are close to the Certified Reference values summarized in the previous tables. There is however, some scattering of results, particularly for determinations of magFe for both Standards and Blanks and there are several samples that obviously were misidentified that in WGM's opinion should have been followed-up to identify the issue and re-assay as required. One Blank returned 27.7% TFe and also was high in magFe and FeO. It is probably FER-4, rather than a Blank. If the issue cannot be resolved in the field by reviewing archived core and sample books, then re-assaying of this and adjacent samples is required.

An analysis of Duplicate ¼ drill core samples for drilling programs 2008 through 2012 was conducted by WGM. Generally, Duplicate and Original results are strongly correlated. A few outliers can be identified that represent errors made in the field or in the lab, but generally, the results indicate that assays are precise. In WGM's opinion, checking and resolution of possible errors should be completed.

As aforementioned, SGS Lakefield is an accredited laboratory and operates its own internal QA/QC program. Its internal QA/QC for the 2008 through April 2012 programs were similar and included screen tests for crushing and pulverizing, Preparation Duplicates (Replicates), Preparation Blanks, Analytical Duplicates, and Blanks and Standards. These Quality Control analyses were completed both on Heads and Davis Tube products.

Preparation Duplicates or Replicates are second pulps made by splitting off a second portion from a coarse reject. SGS Lakefield prepared and assayed Preparation Duplicates and Preparation Blanks at a rate of one every 50 to 70 routine samples. Analytical Duplicates, which involved a new fusion and disc, were prepared and assayed at a frequency of one sample every 20 to 25 routine samples.

WGM has not performed a comprehensive review of the results from SGS Lakefield's internal QA/QC program. Twenty-nine different Standards were used by SGS Lakefield during the drilling programs to monitor assays received for Fe in Heads. These Standards were sourced from a number of different providers and some, in fact, are Standards SGS Lakefield themselves have developed. All are not certified for Fe and different Standards were used for different analytes.

To monitor determinations of magFe by Satmagan, SGS Lakefield uses a set of Standards that are set mixtures of magnetite and quartz. However before this summer 2011 through 2012 programs, analytical results for these Satmagan Standards were either not posted on SGS Lakefield's certificates or these Standards were not used.

The results indicate that the Certified Reference Standards performed well for the 2008 through 2012 programs. The averages for the Standards assayed at SGS Lakefield through a range of analytes are very close to the Certified Reference values. Further analysis shows that most assays are closely clustered along Constant Value Lines, but there are however occasionally, assays that indicate either a Standard was misidentified in the field or mixed-up in the lab. These types of irregularities are not "material" because they are infrequent, but nevertheless, scrutinizing the data for these issues and taking action to resolve these issues results in higher quality data and should always be done.

#### Supplemental QA/QC

In August 2012, WGM completed a brief review of assay and QA/QC results for Alderon's summer 2011 through 2012 drilling campaign. MagFe results for Satmagan and Davis Tube were compared where determinations for a sample were done by both methods, checked for magFe exceeding TFe and for negative values less than -2%, for calculated hmFe, and otherFe for all samples in the dataset. WGM brought to Alderon's attention instances of samples suspected of having assay issues. WGM also warned that SGS's tests were not very comprehensive and recommended further Check assaying be completed. WGM further recommended that a selection of 200 samples have SG determinations completed at SGS Lakefield. The samples for SG determinations were selected to represent intervals that had the highest and lowest downhole DGI probe densities.

All of the samples selected by Alderon could not be located for re-assaying. In total, 276 samples were re-assayed at SGS Lakefield for WR-XRF, Satmagan and FeO. SG was determined on 270 samples by gas comparison pycnometer.

The new assay values were substituted into the project database by Alderon. The new Check assays confirmed some of the original Davis Tube magFe values, while for other cases confirmed the original Satmagan values were correct. All of the negative calculated hmFe values were eliminated in the re-assays. For some of the samples, the negative otherFe values were eliminated, but for most of the samples selected for Check assaying, because of this type of issue, the small negative otherFe values were maintained. This result indicates that using a value of -2%, otherFe as threshold for selecting questionable samples may be too severe.

A plot of magFe from DT versus magFe from Satmagan shows that there still remain a number of samples where magFe from the two methods does not agree well. Some of these data points will be the samples that were previously identified but could not be located for re-assaying, but many are other

samples. Since not all samples had DT tests completed, more rather than less discrepancies are in fact present and for thorough checking, adjacent samples to the suspect sample, as well as the suspect samples, require Check assaying.

Two hundred and eighty-seven (287) pulps from eight different Alderon drillholes representing different lithology and mineralization were forwarded to Inspectorate Labs, Vancouver, in January 2011.

Analysis for WR by XRF, S, FeO by potassium dichromate titration and Satmagan were completed. Initially, the FeO analysis was completed using a HCL-H<sub>2</sub>SO<sub>4</sub> digestion. Subsequently, a selection of samples was reanalyzed using a HF-H<sub>2</sub>SO<sub>4</sub> digestion. The HF - H<sub>2</sub>SO<sub>4</sub> digestion is similar to SGS Lakefield's digestion and is required in order to break down silicates so near total Fe can be measured.

The WR Check assaying results indicate that SGS Lakefield's assays of TFe, SiO<sub>2</sub> and MnO are reliable and unbiased. The FeO results from Inspectorate are strongly positively correlated with original SGS Lakefield results, but are biased slightly lower. The Satmagan determinations completed at Inspectorate are also highly correlated with original SGS Lakefield results but are systematically biased slightly higher. If Inspectorate's Satmagan and FeO results are more accurate than SGS Lakefield's, it would mean that estimates of %magFe for the Mineral Resource estimate are perhaps slightly low. Assuming Inspectorate's FeO and Satmagan are more correct than SGS Lakefield's, then the estimated %hmFe probably would not change much because Inspectorate's results are both higher in magnetic Fe and lower in FeO.

The samples at Inspectorate were also assayed for S and only a few samples from the Kami Project have been previously assayed for S. The new S results confirm that mineralization is generally low in S but there are occasional intervals with S at levels of 1% to 3%. WGM recommends that Alderon check these samples against drill logs, and, if required, against archived drill core to confirm if possible, the presence of sulphides in these sample intervals.

At the time of the Kami Report, Alderon was in the process of completing another Secondary Laboratory or Reference Check assaying program. Alderon selected 106 samples from 2011 and 2012 drillholes previously prepared and assayed at SGS Lakefield. Of these, SGS Lakefield managed to find 88. SGS Lakefield prepared 1-kg riffle-split cuts from homogenised coarse rejects and these samples were forwarded to AcmeLabs, Vancouver. Alderon requested that each be analysed by WR-XRF, Satmagan and FeO (AcmeLabs codes: 4X30, SAT and G806) similar to original SGS Lakefield assaying.

AcmeLabs' preparation protocol R200-250 was applied. Each sample was homogenised; 250 g was riffle split out and pulverized to 85% passing 200 mesh (75 microns). The crusher and pulverizer were cleaned by brush and compressed air between routine samples. Granite/Quartz wash scours equipment after high-grade samples, between changes in rock colour and at end of each file. Granite/Quartz is crushed and pulverized as first sample in sequence and carried through to analysis. The determination of FeO was done by a similar extraction as used at SGS Lakefield-H<sub>2</sub>SO<sub>4</sub>-HF. Davis Tube tests were also completed using a subsample from the pulp prepared for the Head analysis.

The AcmeLab results for the TFe, magFe, FeO and MnO all on Heads, against original assays completed by SGS Lakefield show high degrees of correlation between the two labs with no apparent bias, although the plot for MnO shows a number of scattered results. The indications are that the assays are generally accurate.

*WGM's Comments on 2008 through 2012 Assaying*

Alderon's 2010 and 2011 programs included credible sampling, assaying and QA/QC components that helped to assure quality exploration data. Its programs included the relogging of Altius' 2008 core and the re-assaying of a selection of Altius' samples. QA/QC protocols for both Altius' and Alderon's programs included in-field insertion of Standards, Duplicates and Certified Reference Standards. In addition, Alderon supplemented its 2010 and 2011 through 2012 regular assaying with Secondary Laboratory Check assaying. Alderon maintained active monitoring of field-QA/QC results as they were received. A tracking table was used to track QA/QC issues.

Some errors and inconsistencies in logging, sampling and assaying are identifiable from results and WGM strongly believes Alderon should have applied a much more rigorous approach towards defining assay/sampling issues and re-assaying suspect samples during the assay program. WGM also, during its check of Alderon's Project database, identified some certificates of analysis not included in the database but understands this issue has now been rectified. There remain a significant number of assay/sample irregularities or sample/assay errors in the Project database that are unresolved. Despite the aforementioned issues, WGM has not identified any material errors that delegitimize logging, sampling and/or assaying results and believes program results are of sufficient quality to support the Mineral Resource estimate.

### ***Mineral Resource and Mineral Reserve Estimates***

#### ***Mineral Resource Estimate Statement***

Following confirmation and infill drilling campaigns in 2011 and 2012, Alderon prepared updated Mineral Resource estimates for the Rose deposit and Mills Lake deposit. WGM was retained by Alderon to audit this in-house estimate. Mineral Resource estimates for Rose Central, Rose North and Mills Lake were previously completed in 2011. The estimates for Rose Central and Rose North are reported above zero (0.0 m) elevation level (about 575 m from surface) based on BBA's new economic pit outline.

A summary of the Mineral Resources disclosed pursuant to NI 43-101 is provided in Table 3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. The effective date of this Mineral Resource estimate is December 17, 2012.

**TABLE 3: CATEGORIZED MINERAL RESOURCE ESTIMATE FOR  
THE KAMI IRON ORE PROJECT (CUT-OFF OF 15% TFE)**

<b>Zone</b>	<b>Category</b>	<b>Tonnes (Million)</b>	<b>Density</b>	<b>TFe%</b>	<b>magFe%</b>	<b>hmFe%</b>	<b>Mn%</b>
Rose Central	Measured	249.9	3.46	29.4	17.6	8.1	1.60
	Indicated	294.5	3.44	28.5	17.7	5.9	1.28
	Total M&I	544.4	3.45	28.9	17.7	6.9	1.43
	Inferred	160.7	3.45	28.9	16.9	7.1	1.44
Rose North	Measured	236.3	3.48	30.3	13.0	14.7	0.87
	Indicated	312.5	3.49	30.5	11.8	17.1	0.96
	Total M&I	548.8	3.49	30.4	12.3	16.1	0.92
	Inferred	287.1	3.42	29.8	12.5	15.5	0.76
Mills Lake	Measured	50.7	3.58	30.5	21.5	7.0	0.97
	Indicated	130.6	3.55	29.5	20.9	3.9	0.80
	Total M&I	181.3	3.56	29.8	21.1	4.8	0.85
	Inferred	74.8	3.55	29.3	20.3	2.7	0.67



The Mineral Resource estimate for the Kami Project was completed in Gemcom™ using block sizes of 15 m x 15 m x 14 m for Rose Central and Rose North and 5 m x 20 m x 5 m for Mills Lake and is based on results from 209 diamond drillholes at Rose Central and Rose North (170 holes) and Mills Lake (39 holes) zones totaling 62,247 m. These holes were drilled within the iron mineralization for approximately 2,000 m of strike length and a range of 200 to 400 m of width for Rose Central and Rose North. The holes were drilled on section lines that were spaced 100 m apart for both deposits in the main area of mineralization. The drillholes were variably spaced with variable dips leading to a separation of mineralized intersections anywhere from less than 50 m to more than 200 m apart for the near-surface mineralization (down to a vertical depth of about 200 m). For the geological modelling, 3-D bounding boxes defining the maximum extents of the Rose and Mills Lake deposit areas were created. The boxes extended approximately 200 m along strike from the outermost drillholes in each area. Mineralized boundaries extended up to a maximum of about 400 m on the ends of the zones and at depth where there was no/little drillhole information, but only if the interpretation was supported by drillhole intersections on adjacent cross sections or by solid geological inference.

For the Mills Lake deposit, three separate zones were interpreted and wireframed based on drillhole data on vertical sections: a basal magnetite zone; a hematitic interlayer within the magnetite zone; and an upper magnetite zone. Rose North and Rose Central zones were each divided into three metallurgical/mineralogical domains; NR-1, NR-2 and NR-3 and RC-1, RC 2 and RC-3, respectively. The zoning of the Rose deposit was based on recent metallurgical/mineralogical testing of the mineralization plus logging and results in the assay database. The Rose deposit is also influenced by three major listric faults which relocate some of the mineralized zones at depths of up to 100 m. Alteration products in the form of limonite and goethite are dominant features in the Rose North deposit and for this most recent Study, a 3-D solid was created incorporating this alteration and was the “Limonite Zone”. This wireframe was used to overprint the other wireframes in the geological model and re-code the blocks to differentiate them for categorization purposes for the Mineral Resource estimate.

In order to carry out the Mineral Resource grade interpolation, a set of equal length composites of 3 m was generated from the raw drillhole intervals, as the original assay intervals were different lengths and required normalization to a consistent length; 3 m is also the average length of the raw assay intervals for the zones. The statistical distribution of the %TFe samples showed good normal distributions in all zones and it was determined that capping was not required for the Rose Central, Rose North and Mills Lake deposits.

For the current Mineral Resource estimates, Alderon used a DGI probe for each hole that has been drilled since 2011 and recorded major physical properties, including density. This method of measuring density proved to be slightly different than WGM’s method but came up with a very similar relationship to WGM’s, i.e., SG by pycnometer results correlate strongly with %TFe on samples. Since there was an insignificant difference between the WGM method and the Alderon method, a best fit correlation line based on DGI data to obtain the density of each block in the model was used:  $\%TFe \times 0.0223 + 2.8103$ . Using this variable density model, a 30% TFe gives a SG of approximately 3.48. Alteration products such as limonite/goethite and secondary manganese hydroxides have developed from the oxide iron and manganese minerals; however, the extent of these secondary iron hydroxides is currently not well understood, particularly at depth. This leads to some uncertainty regarding the determination of density for the Mineral Resource tonnage estimate, particularly in the Limonite Zone. To overcome this uncertainty in grade and density of the altered mineralization in Rose North, all densities within this zone were assigned a SG of 3.0. The secondary iron and manganese hydroxides will also have some impact on potential iron recovery and this requires further evaluation and testwork.

Alderon used an ID2 interpolation method for each of the domains using the 3 m composites and a three-step search ellipsoid approach was used based on results of variography of %TFeHead grade. These three ranges were established for the interpolated domains in all the deposits and were also used as a guide to

Mineral Resource categorization, along with the generation of a Distance Model (distance from actual data point in the drillhole to the block centroid). This three-step approach was used in order to inform all the blocks in the block model with grade, however, the classification of the Mineral Resources was also based on drillhole density (or drilling pattern), geological knowledge and zone interpretation. WGM worked extensively with Alderon on this categorization. Other elements interpolated into the grade block model were %Mn, %SiO<sub>2</sub>, %magFe and %hmFe (calculated). The results of the interpolation approximated the average grade of the all the composites used for the estimate.

Since the drilling density was lower in the deeper parts of the deposits, the drillhole spacing was taken into consideration when classifying the Mineral Resources and these areas were given a lower confidence category, as aforementioned. Even though the wireframe continued to a maximum depth of -106 m (approximately 700 m vertically below surface and extending 100 m past the deepest drilling), at this time, no Mineral Resources were defined/considered below 0 m elevation for Rose North and Rose Central. The Mills Lake wireframes extended to 180 m elevation or about 400 m below surface. The Distance Model was used for the final categorization of the Mineral Resources; blocks within the 3-D wireframes that had a distance of 100 m or less were classified as Measured, 100 m to 150 m as Indicated and greater than 150 m as Inferred. Inferred Mineral Resources are interpolated out to a maximum of about 400 m for Rose Central and 300 m for Rose North and Mills Lake on the ends/edges and at depth.

There were some exceptions to the general resource categorization methods, where a combination of the Distance Model and the search ellipsoid pass were intentionally not used for category definition, especially in the Rose North and Rose Central zones. The main case was that all altered mineralization in Rose North logged as limonitic and falling within the defined Limonite Zone was tagged as Inferred. This altered material is considered as “sub-ore” at this stage, until further metallurgical tests are conducted confirming their economic viability. Also, a basal manganese-rich zone identified in the hematite-rich ore (NR-1) in Rose North was categorized as Inferred.

#### *Mineral Reserve Estimate Statement*

The FS block model for the Rose deposit, as prepared by Alderon and audited by WGM, was provided to BBA on June 26, 2012. The model covers the Rose deposit, which is divided into a Rose Central (RC) region and a North Rose (NR) region. It should be noted that the Mills Lake deposit was not part of the FS.

The variables contained in the FS block model include block coordinate location, iron formation (total iron TFe, magnetite, and hematite) and other elements such as manganese (Mn) and silica (SiO<sub>2</sub>). The model also contains rock type classifications in consideration of ore processing differences between the various ore types within the Rose deposit. These ore types are designated as RC-1, RC-2 and RC-3 and NR-1, NR-2 and NR-3. Each ore type has an associated description of its geology and mineralogy. The rock types are also classified as Measured, Indicated or Inferred.

Pit optimization was carried out for the Alderon FS using the true pit optimizer Lerchs-Grossman 3-D (“**LG 3-D**”) algorithm in MineSight. The LG 3-D algorithm is based on the graph theory and calculates the net value of each block in the model. With defined pit optimization parameters, including concentrate selling price, mining, processing and other Indirect Costs, Fe recovery for each ore type (as determined by metallurgical testwork), pit slopes (as recommended by Stantec based on geotechnical pit slope study) and imposed constraints, the pit optimizer searches for the pit shell with the highest undiscounted cash flow. For the FS, only the Mineral Resources classified as either Measured or Indicated can be counted towards the economics of the pit optimization run. The approach taken for pit optimization was to first perform LG 3-D pit runs using variable concentrate selling prices ranging from \$10/t to \$110/t of concentrate in \$5/t increments. Then the Net Present Value (“**NPV**”) of each of the pit shells was calculated at a discount rate



of 8% to identify the optimal pit based on the discounted NPV and strip ratio. Based on this analysis, the chosen pit optimization for the FS was the pit having a selling price of \$100/t of concentrate.

The milling cut-off grade (“**COG**”) used for the FS to classify material as Mineral Resource or waste is 15% TFe. Total Measured and Indicated Mineral Resource tonnage and Head %TFe show a very low sensitivity to cut-off %TFe grade variation between 7% and 17.5% TFe. This COG is in line with other similar iron ore projects in the region and with historical data. A higher mill COG grade will contribute to optimizing the NPV for the Project.

The optimized pit shell at 15% COG was then used to develop the engineered pit where operational and design parameters such as ramp grades, surface constraints, bench angles and other ramp details were incorporated. Once the engineered pit design was completed, the Mineral Reserve was derived. The Mineral Reserves for the engineered pit design are based on the parameters described previously. According to CIM guidelines for the FS, all material classified as Proven and Probable shall be considered in-pit reserve. The reserves were calculated for the Rose deposit at a cut-off grade of 15% TFe, 0% waste dilution and 100% ore recovery. Table 4 presents a summary of Mineral Reserves and stripping. As indicated, total Mineral Reserves are in the order of 668.5 Mt, with an average grade of 29.5 % TFe. The total stripping is estimated at 1,106.5 Mt, which includes 121.1 Mt of overburden, and 28.7 Mt of Inferred material. This results in a stripping ratio of 1.66. The effective date of the Mineral Reserve estimate is December 17, 2012. The Mineral Reserves presented in Table 4 are included in the Mineral Resource estimate set out in Table 3

**TABLE 4: ALDERON FEASIBILITY STUDY MINERAL RESERVES**

<b>Alderon Feasibility Study Mineral Reserve Kami Project- Rose Deposit (Cut-Off Grade=15% TFe)</b>						
<b>Material</b>	<b>Mt</b>	<b>TFe%</b>	<b>WREC%</b>	<b>MTFE</b>	<b>MAG%</b>	<b>MN</b>
Proven	431.7	29.7	35.5	15.5	21.4	1.24
Probable	236.8	29.2	34.1	14.9	20.5	1.1
<b>Total</b>	<b>668.5</b>	<b>29.5</b>	<b>35</b>	<b>15.3</b>	<b>21.1</b>	<b>1.19</b>
Inferred	28.7					
Waste Rock	956.7					
OB	121.1					
Total Stripping	1,106.50					
SR	1.66					

In addition to the risks disclosed elsewhere in this AIF, see “ – Project Risks” below for the identification of risks that could materially affect the estimate of mineral resources and mineral reserves.

***Mining Operations***

*Mining Methods*

A mine plan based on continuous processing operations over 365 days per year, seven days per week and 24 hours per day was developed to support mining operations for the Kami Project. The mine life was estimated at 30 years. Ore requirements were determined based on processing plant production capacity and are in the order of 22.9 Mt/y. Mining phases, including initial overburden and waste pre-stripping

requirements and an annual mining schedule were developed. The mining method selected for the Project is based on conventional drill, blast, load and haul. Annual mining equipment fleet requirements were developed based on equipment performance parameters and average hauling distances based on pit design and configuration and location on the site plan for the crusher and waste piles. The selected primary mining equipment fleet includes Komatsu 930E-4SE haul trucks, CAT 6060FSE shovels and P&H 320XPC drills. The BBA Mining Group estimated initial and sustaining capital costs required to support the mining operation as well as annual mining operating costs based on mining operations assumed to be carried out by Alderon using its own equipment and workforce with the exception of blasting explosives services which are assumed to be contracted out.

### *Mineral Processing and Metallurgical Testwork*

The FS is based on a completed metallurgical test program aimed at improving and confirming the process flowsheet developed during the PEA Study. Results from the testwork were used to determine process performance parameters such as ore throughput, Fe and weight recoveries, final concentrate grade (including key elements such as Fe, SiO<sub>2</sub>, Mn) and particle size. The key process performance parameters were used as the basis for establishing ore requirements from the mine, sizing of equipment and ultimately to estimate project capital and operating costs, which in turn were used for performing the economical and financial evaluation of the Project. Testwork was performed on samples from the Rose Central and the Rose North components of the Rose deposit. The Mills Lake deposit was not part of the FS testwork or process development. Recommendations were made regarding supplemental confirmatory testwork for final plant design.

FS testwork consisted of the following:

- Ore mineralogical analysis for the three Rose North deposit ore types;
- Grinding and ore grindability assessment test program;
- Gravity beneficiation performance assessment test program;
- Magnetic separation test program; and
- Solid/Liquid separation testwork.

Mineralogical analysis provided important information to help in the understanding of the mineralogical and metallurgical differences between the ore types found in the Rose deposit. It also highlighted some differences between Rose Central and Rose North, specifically the presence of manganese (Mn) in oxide form in Rose North, which was not present in Rose Central. Mn-oxides generally report to the gravity concentrate in higher proportion than Mn silicates and carbonates. Furthermore, mineralogical analysis indicates that all three Rose North ore types have a finer Fe liberation size than the corresponding Rose Central ore types. Consistent with geological observations, the Rose North deposit exhibits much more weathering than does the Rose Central deposit.

Beneficiation testwork consisting of Wilfley Table (“WT”) tests, performed on samples from the three ore types from Rose Central and the three ore types from Rose North, provided data permitting the development of grade/recovery curves for each ore type. Using this testwork data and normalizing results to a SiO<sub>2</sub> target of 4.3% as well as adjusting for Head grade and scaling factors, it was possible to reasonably estimate the metallurgical performance for a spiral gravity circuit.

A series of low intensity magnetic separation (“LIMS”) tests and Davis Tube (“DT”) were conducted on WT tailings from various samples from several ore types in the Rose deposit. The results of this testwork allowed for the assessment of metallurgical performance of the cobbing step of the magnetic separation circuit. It was observed that the cobber concentrate contains a notable quantity of very fine magnetite

dispersed in relatively coarse SiO<sub>2</sub> particles (peppered silica). During the course of the testwork, strategies for rejecting these particles were investigated.

Following the cobbing step, the cobber concentrate needs regrinding to an appropriate particle size to assure adequate liberation in order to achieve the targeted SiO<sub>2</sub> grade. Testwork was performed and results indicated that a P80 of 45 µm and a P100 of 75 µm would provide the required liberation to achieve the targeted SiO<sub>2</sub> grade.

With the testwork results, metallurgical performance parameters were estimated for each ore type. Taking into consideration the life-of-mine (“**LOM**”) proportions of each ore type within the Rose deposit, as derived from the mine plan developed in the FS, it was then possible to derive the LOM metallurgical performance parameters used in this Study as the basis of design for the process flowsheet and for process and plant design.

For the FS, SPI testing complemented by IGS simulations was used for estimating the specific energy required for primary Autogenous (“**AG**”) mill grinding to the required particle size as well as for estimating AG mill throughput. Tests were conducted on about 120 samples from the six ore types within the Rose deposit. The average ore specific energy for AG mill grinding, based on the LOM ore type proportions, was estimated to be 4.33 kWh/t. When converted to AG mill throughput, this equates to an average of 2,877 t/h.

The results from the beneficiation and grinding testwork were used to establish the plant throughput and concentrate production rates used in the Feasibility Study Financial Analysis for each year of operation based on the ore type proportions derived from the mine plan.

#### *Recovery Methods and Processing Plant Design*

The metallurgical testwork for the Rose deposit performed during the FS allowed for the validation, optimization and more detailed development of the process and plant design. General Arrangement drawings, equipment sizing, lists, and a process design criteria were developed and used for generating quantities for materials such as concrete and structural steel. In turn, this information was used in the development of the project capital and operating cost estimates. Table 5 shows the nominal annual and hourly production rates as well as the operating and metallurgical performance parameters used to determine these rates.

**TABLE 5: NOMINAL OPERATING VALUES PROJECTED FROM TESTWORK RESULTS**

Mt/y	Nominal Operating Parameters	
	Annual Operating Throughput (Average LOM) t/h	Nominal Hourly Throughput
<b>Throughput (Fresh Feed)</b>	<b>22.9</b>	<b>2,877</b>
<b>Concentrate Production</b>	<b>8</b>	<b>1,011</b>
<i>Spiral Concentrate</i>	<i>6.5</i>	<i>819</i>
<i>Mag Plant Concentrate</i>	<i>1.5</i>	<i>182</i>
<b>Tailings Generated</b>	<b>14.9</b>	<b>1,866</b>
<i>Coarse Tailings</i>	<i>10</i>	<i>1,252</i>
<i>Fine Tailings</i>	<i>4.9</i>	<i>614</i>
Concentrate Wt Rec %	35.10%	
Fe Rec %	77.70%	
Plant Utilization %	91.00%	
Head Grade %Fe	29.50%	
Concentrate Grade %Fe	65.20%	
Concentrate Grade %SiO <sub>2</sub>	4.30%	

The process flowsheet and resulting plant design consists of the major processing areas as described below:

- ROM ore from the open pit or stockpile is hauled to the crusher area where a gyratory crusher reduces the ore to -250 mm (10”) in size.
- Crushed ore is conveyed by overland conveyor to the crushed ore stockpile.
- Crushed ore is reclaimed using apron feeders discharging onto a conveyor belt in a reclaim tunnel.
- The crushed ore reclaim conveyor feeds the AG mill which performs the primary grinding step in the process. The AG mill is in closed circuit with a two-stage screening circuit.
- Product from the AG grinding and screening circuit is fed to the three-stage spiral circuit for gravity concentration producing a tail and a final gravity concentrate which is filtered and conveyed to the concentrate load-out area.
- Tailings from the spirals are cobbled using LIMS. The non-magnetic tailings are dewatered and disposed of to the Tailings Management Facility (“TMF”). The magnetic concentrate is subjected to a regrinding step in a ball mill required to grind the cobber concentrate to the required liberation particle size.

- The reground product is subjected to a multi-stage LIMS cleaning and finishing circuit ending with a screening step to remove coarse silica. The mag plant concentrate is filtered and conveyed with the gravity concentrate to the load-out area.
- The final product consists of a combined gravity and mag plant concentrate having a chemical analysis and particle size distribution considered to be appropriate for sintering applications.
- Fine tailings from the mag plant are dewatered using a thickener and are subsequently pumped to the TMF.

### *Project Infrastructure*

During the course of the FS, the Kami site plot plan and site infrastructure initially developed during the PEA Study has been defined in much more detail. The open-pit footprint now includes both Rose Central and Rose North. Geotechnical and topographical data as well as environmental considerations have been used to optimize location of the major site infrastructure. Furthermore, Nalcor has advised that they will provide power with a 315 kV transmission line right to the Kami main substation. The main features of the Kami site infrastructure are as follows:

- The Kami Rail Line including the rail line connecting to QNS&L, the rail loop and on-site service tracks. Routing of the rail line has been optimized based on topography.
- The access road to the Property consisting of a new road, bypassing the Town of Wabush and connecting to Highway 500.
- The on-site road work leading from the Property limit to the concentrator and to the crusher and mine services area.
- The mine roads designed specifically for mine haul trucks and other mining equipment connecting the pit to the crusher, waste rock areas and to the mine services area.
- The mine services area consisting of the truck wash bay, mine garage, workshop, warehouse, employee facilities, diesel fuel tank farm and fueling station, etc.
- The waste rock and overburden stockpiles.
- The primary crusher building.
- The overland conveyors and crushed ore stockpile.
- The ore processing plant (concentrator) and ancillary facilities.
- The concentrate load-out system including concentrate conveyors.
- Parking areas for employees, light vehicles and heavy mining vehicles.
- The raw water pumphouse to be located south-east of Long Lake.
- The Nalcor power transmission line and main electrical substation.
- The Tailings Management Facility and water reclamation and effluent treatment systems.

A temporary construction camp and construction worker facilities will be built off-site, south of the Town of Wabush.

Alderon will build a facility in Pointe-Noire, Québec for receiving, unloading, stockpiling and reclaiming concentrate for ship loading. The Pointe-Noire Terminal facility is situated along the south side of the existing Pointe-Noire Road and was identified by the Port of Sept-Îles as a potential multi-user storage facility to support their new multi-user dock. The configuration generally consists of a new railcar unloading loop track, a single car rotary dumper, a concentrate storage yard with stacker/reclaimer and interconnecting conveyor systems, leading to the Port of Sept-Îles shiploaders.

### *Market Studies and Contracts*

The market study commissioned by Alderon during the course of the PEA Study was carried into the FS. The focus of Alderon has been to sell its product to the Asian market, specifically China. For the FS, the medium and long-term commodity price forecast to be used in the Project Financial Analysis was performed by BBA based on various public and private market studies by reputable analysts and iron ore producers, opinions of industry experts as well as other sources. Following its review, BBA arrived at a medium (Year 2015 to 2020) and long-term (beyond Year 2020) price of \$115/t and \$110/t, respectively, based on Platts Index benchmark of 62% Fe iron ore concentrate landed at China's port.

As part of a strategic partnership with Hebei, Hebei has entered into an off-take agreement. As part of this agreement, upon the commencement of commercial production, Hebei is obligated to purchase 60% of the actual annual production from the Property, up to a maximum of 4.8 Mt of the first 8.0 Mt of iron ore concentrate produced annually at the Property. The price paid by Hebei will be based on the monthly average price per DMT for iron ore sinter feed fines quoted by Platts Iron Ore Index (including additional quoted premium for iron content greater than 62%), less a discount equal to 5% of such quoted price. Hebei will also have the option to purchase additional tonnage at a price equal to the Platts Price, without any such discount.

On July 13, 2012, Alderon signed an agreement with the Sept-Îles Port Authority to ship a nominal 8 Mt of iron ore annually via the new multi-user deep water dock facility that the Port is constructing. Based on its reserved annual capacity, Alderon was required to make a buy-in payment. The Port Agreement includes a base fee schedule regarding wharfage and equipment fees for iron ore loading for Alderon's shipping operations.

Alderon initiated preliminary tariff negotiations with QNS&L and CFA in April 2012. Alderon's Base Case for the FS is to use these two rail operators to transport its iron ore concentrate from the Kami Project to the Port of Sept-Îles. Tariffs are expected to be within industry norms. No agreement has been concluded to date.

Nalcor has established a formal process in advance of Nalcor or Newfoundland and Labrador Hydro being able to supply power to an industrial customer in Labrador. The technical process involves three stages: Stage I – Pre-Project Phase; Stage II – Concept Selection; and Stage III – Front End Engineering Design. Alderon and Nalcor have completed Stages I and II of the process. In its Press Release dated December 13, 2012, Alderon announced that it has entered into an agreement with Nalcor to commence Stage III of the process, which is scheduled for completion in April 2013. Alderon funded all of the costs associated with Stage II and will also fund all Stage III costs. Commercial discussions will commence during Stage III of the process and once commercial terms are agreed, a formal Power Purchase Agreement will be signed by Alderon and Nalcor, subject to environmental and regulatory approvals. For an update on this matter that occurred subsequent to the date of the Kami Report see "Item 5 - General Development of the Business – Year Ended April 30, 2014" or Alderon's press release dated [February 25, 2014](#).

### *Environment*

The overall Project is subject to environmental assessment provisions of the Newfoundland and Labrador *Environmental Protection Act* and the *Canadian Environmental Assessment Act*. The requirements for each of these processes are well understood. The Environmental Impact Statement that is required pursuant to the Acts has been submitted to both levels of government as a step in the ongoing process. A schedule for the environmental assessment of the Project has been developed. Environmental studies have been conducted and reports have been or are being prepared. Permitting requirements are also well defined and have been considered in the project plan. The Federal and Provincial Environmental Assessment process was

concluded subsequent to the date of the Kami Report. See “Item 5 - General Development of the Business – Year Ended April 30, 2014” or Alderon’s press releases dated [January 10, 2014](#) and [February 19, 2014](#).

A tailings management strategy has been defined and a feasibility level design for the TMF has been developed. A siting study was undertaken and an appropriate area has been determined and located on the site plan taking into account environmental considerations and constraints. The tailings pond within the TMF has been sized to allow for treatment prior to recycling to the mill or discharge to a treatment plant/polishing pond prior to final release to the environment, meeting all regulatory requirements. An overburden and waste rock stockpile feasibility level design has been developed and locations are defined on the site plan. The areas identified do not contain any significant mineralization and make use of the natural topography. Discharges from the stockpiles will be routed to a series of sedimentation ponds to ensure adequate treatment to meet required regulatory requirements prior to release to the environment.

A Rehabilitation and Closure Plan, as required under the Newfoundland and Labrador *Mining Act*, will be prepared for the Project. The Plan will describe measures planned to restore the Property as close as reasonably possible to its former use or condition or to an alternate use or condition that is considered appropriate and acceptable by the Department of Natural Resources. The Plan will outline measures to be taken for progressive rehabilitation, closure rehabilitation and post-closure monitoring and treatment.

Following release from the Environmental Assessment process, the Project will require a number of approvals, permits and authorizations prior to project initiation. In addition, throughout project construction and operation, compliance with terms and conditions of approval, various standards contained in federal and provincial legislation, regulations and guidelines, will be required. Preliminary lists of permits, approvals and authorizations that may be required for the Project are presented in Table 6.1, Table 6.2, and Table 6.3. As presented in Table 6.4, permits and authorizations will also be required from affected municipalities. There can be no assurance that the permits listed in Tables 6.1, 6.2, 6.3 and 6.4 will be obtainable.

**TABLE 6.1: POTENTIAL PERMITS, APPROVALS, AND AUTHORIZATIONS - NEWFOUNDLAND AND LABRADOR; MINE AND ASSOCIATED INFRASTRUCTURE, INCLUDING RAIL INFRASTRUCTURE**

<b>Permit, Approval or Authorization Activity</b>	<b>Issuing Agency</b>
Release from Environment Assessment Process	DOEC – Environmental Assessment Division
Permit to Occupy Crown Land	DOEC – Crown Lands Division
Permit to Construct a Non-Domestic Well	DOEC – Water Resources Management Division
Water Resources Real-Time Monitoring	
Development Activity in a Protected Public Water Supply Area	
Certificate of Environmental Approval to Alter a Body of Water	
Culvert Installation	
Fording	
Bridge	
Pipe Crossing/water intake	
Stream Modification or Diversion	
Other works within 15 m of a body of water (rail	

infrastructure, site drainage, dewater pits, settling ponds)	
Water Use Licence	
Permit to Construct a Potable Water System (Water/Wastewater System)	
Certificate of Approval for Construction and Operation (Industrial Processing Works)	DOEC – Pollution Prevention Division
Certificate of Approval for Generators	
Approval of MMER Emergency Response Plan	
Approval of Waste Management Plan	
Approval of Environmental Contingency Plan (Emergency Spill Response)	
Approval of Environmental Protection Plan	
Permit to Control Nuisance Animals	
Pesticide Operators Licence	DOEC – Pesticides Control Section
Blasters Safety Certificate	Service NL –Government Service Centre (GSC)
Approval for Storage & Handling Gasoline and Associated Products	
Temporary Fuel Cache	
Fuel Tank Registration	
Approval for Used Oil Storage Tank System (Oil/Water Separator)	
Fire, Life and Safety Program – Long Form	
Building Accessibility Registration	
Certificate of Approval for a Waste Management System	
Certificate of Approval for a Sewage/Septic System	
Application to Develop Land for Septic	
Approval of Development Plan, Rehabilitation and Closure Plan, and Financial Assurance	Department of Natural Resources (DNR) – Mineral Lands Division
Mining Lease	
Surface Rights Lease	
Quarry Development Permit	
Mill Licence	
Operating Permit to Carry out an Industrial Operation During Forest Fire Season on Crown Land	DNR – Forest Resources
Permit to Cut Crown Timber	
Permit to Burn	
Approval to Construct and Operate a Railway in Newfoundland and Labrador	Department of Transportation and Works (DTW)



**TABLE 6.2 : POTENTIAL PERMITS, APPROVAL AND AUTHORIZATIONS –  
QUÉBEC; TERMINAL SITE**

<b>Permit, Approval or Authorization Activity</b>	<b>Issuing Agency</b>
Certificate of Authorization (Section 22 of the Environment Quality Act)	MDDEFP – Regional Office
Certificate of Authorization (Section 48 of the Environment Quality Act)	MDDEFP – Regional Office
Authorization under Section 128.7 of An Act Respecting the Conservation and Development of Wildlife	MRNF – Regional Office

**TABLE 6.3: POTENTIAL PERMITS, APPROVAL AND AUTHORIZATIONS - FEDERAL**

<b>Permit, Approval or Authorization Activity</b>	<b>Issuing Agency</b>
Authorization for Harmful Alteration, Disruption or Destruction HADD) of Fish Habitat	Fisheries and Oceans Canada (DFO)
Approval to interfere with navigation	Transport Canada
Licence to Store, Manufacture or Handle Explosives (Magazine Licence)	Natural Resources Canada
Approval to construct a railway	Canadian Transportation Agency

**TABLE 6.4: POTENTIAL PERMITS, APPROVAL AND AUTHORIZATIONS– MUNICIPAL**

<b>Permit, Approval or Authorization Activity</b>	<b>Issuing Agency</b>
Building Permit	Town of Labrador City
Development Permit	
Excavation Permit	
Fence Permit	
Occupancy – Commercial Permit	
Open Air Burning Permit	
Signage Permit	
Building Permit	Town of Wabush
Development Permit	
Excavation Permit	
Fence Permit	
Occupancy – Commercial Permit	
Open Air Burning Permit	
Signage Permit	City of Sept-Îles
Building Permit	
Authorization to Divert Pointe-Noire Road	
Authorization for Aqueduct Connection	

*Capital Costs*

The Kami Iron Ore Project scope covered in this Study is based on the construction of a greenfield facility having a nominal annual production capacity of 8 Mt of concentrate. Table 7 presents a summary of total estimated initial capital cost for the Project, including Indirect Costs and Contingency.

**TABLE 7: TOTAL ESTIMATED INITIAL CAPITAL COSTS (\$M)**

<b>Estimated Initial Capital Costs</b>	
Mining (Pre-Stripping)	\$52.7
Concentrator and Kami Site Infrastructure	\$953.6
Kami Site Rail Line	\$80.7
Pointe-Noire Terminal	\$185.9
<b>TOTAL</b>	<b>\$1,272.9</b>

The total initial capital cost, including Indirect Costs and contingency was estimated to be \$1,272.9M. This Capital Cost Estimate is expressed in constant Q4-2012 Canadian Dollars, with an exchange rate at par with the U.S. Dollar. This preceding estimate table does not include the following items:

- Mining equipment and railcars with an estimated value of \$176.9 M, which will be leased. As such, annual lease payments over the life of the lease are included in operating costs.
- Rehabilitation and closure costs required to be disbursed prior to production startup, which were estimated by Stantec to be \$48.1M.
- The “Concentrator and Kami Site Infrastructure” costs include \$47.4M for TMF dams and water management.
- Sustaining capital (capital expenses incurred from Year 1 of production to the end of mine life) estimated at \$642.4M, which includes items such as mine equipment fleet additions and replacements, facilities additions and improvements and costs related to phasing of TMF and tailings pumping (totalling \$72.2M).

*Operating Costs*

Table 8 presents a summary of total estimated average, LOM operating costs presented in Canadian Dollars/t of dry concentrate produced.

**TABLE 8: TOTAL ESTIMATED AVERAGE LOM OPERATING COST (\$/T DRY CONCENTRATE)**

<b>Estimated Average LOM Operating Costs</b>	
Mining	\$17.11
Concentrator	\$6.51
General Kami Site	\$0.34

General Administration	\$1.50
Environmental and Tailings Management	\$0.52
Rail Transportation	\$13.33
Port Facilities	\$2.86
<b>TOTAL</b>	<b>\$42.17</b>

The total estimated operating costs are \$42.17/t of dry concentrate produced. Operating costs include the estimated cost of leased equipment (equipment cost plus interest) over the life of the lease. Royalties and working capital are not included in the Operating Cost Estimate presented but are treated separately in the Financial Analysis.

### *Economic Analysis*

The economic evaluation of the Kami Iron Ore Project was performed using a discounted cash flow model based on Capital and Operating Cost Estimates developed in the Feasibility Study for a plant and infrastructure designed for the production an average of 8.0 Mt/y over the LOM. The Financial Analysis was performed with the following assumptions:

- LOM and operations are estimated to span over a period of approximately 30 years.

The price of Kami concentrate at 65.2% Fe, loaded in ship (FOB) at Port of Sept-Îles is \$107/t for the first five years of production and \$102/t thereafter.

- As of the date of the Kami Report, commercial production startup was scheduled to begin in late Q4-2015. The first full year of production would therefore be 2016 and it is assumed that this is a ramp-up year with concentrate production at 85% of nominal LOM production. Normal production is assumed thereafter.
- All of the concentrate is sold in the same year of production.
- All cost and sales estimates are in constant Q4-2012 dollars (no escalation or inflation factor has been taken into account).
- The Financial Analysis includes \$20.7M in working capital, which is required to meet expenses after startup of operations and before revenue becomes available. This is equivalent to approximately 30 days of Year 1 operating expenses.
- All project-related payments, disbursements and irrevocable letters of credit incurred prior to the effective date of the Kami Report are considered as sunk costs and are not considered in this Financial Analysis. Disbursements projected for after the effective date of the Kami Report but before the start of construction are considered to take place in pre-production Year 2 (PP 2) however, it is expected that certain disbursements will be incurred prior to this year.
- A 3% gross sales royalty is payable to Altius.
- An off-take sales fee is payable to the finder engaged to identify Hebei to Alderon and to assist with the conclusion of the transaction with Hebei. This fee will be calculated as 0.5% of the proceeds

received from material sold to Hebei for a period of ten years subsequent to the initial sale of material to Hebei. Subsequent to the date of the Kami Report the finder’s fee agreement was terminated and a settlement was reached with the finder that removed this fee from future sales to Hebei. However, as the fee was in place at the time of the Kami Report, it remains included in the economic analysis.

U.S. Dollar is considered at par with Canadian Dollar.

This Financial Analysis was performed by BBA on a pre-tax basis. Alderon Management provided the after-tax economic evaluation of the Kami Project, which was prepared with the assistance of an external tax consultant. Table 9 presents the results of the Financial Analysis with NPV calculated at various discounting rates. The Base Case NPV was assumed at a discount rate of 8%.

**TABLE 9: PRE-TAX FINANCIAL ANALYSIS RESULTS**

IRR= 29.3%	NPV (M\$)	Payback (yrs)
Discount Rate		
0%	\$11,545M	3.1
5%	\$5,030M	3.5
8%	\$3,244M	3.8
10%	\$2,461M	4.0

The Project is subject to three levels of taxation, including federal income tax, provincial income tax and provincial mining taxes:

- Income tax is payable to the Federal Government of Canada pursuant to the *Income Tax Act* (Canada). The applicable federal income tax rate is 15% of taxable income.
- Income tax is payable to the Government of Newfoundland and Labrador under the *Income Tax Act, 2000* (Newfoundland and Labrador). The applicable provincial income tax rate in Newfoundland and Labrador is 14% of taxable income.
- The *Revenue Administration Act* (Newfoundland and Labrador) imposes the following taxes on operators of mines in Newfoundland and Labrador:
  - a 15% tax on taxable income;
  - a 20% tax on amounts taxable, which are calculated as 20% of the net income”, if positive, minus amounts paid to a person who receives royalties subject to the mineral rights tax; and
  - a 20% mineral rights tax.

On an after tax basis, the IRR was estimated to be 23.1%, the NPV at 8% discount rate is \$1,858 M and corresponding payback is 4.5 years.

A sensitivity analysis was also performed to show the project sensitivity to a +/- 15% variation in initial capital cost, annual operating costs, in commodity price and in concentrate production rate considering a variation in Fe recovery rate. This sensitivity range is in line with the accuracy of the cost estimates developed in the FS. The sensitivity analysis was done on the pre-tax Financial Analysis results. Results of this analysis are shown in Table 10.

**TABLE 10: SENSITIVITY ANALYSIS (PRE-TAX)**

	Base Case	Initial CAPEX		Selling Price		OPEX		Production (Reduced Wt. Rec)	
		15%	-15%	15%	-15%	15%	-15%	15%	-15%
		\$1,464M	\$1,082M	\$123-\$117/t	\$91-\$87/t	\$48.50/t	\$35.85/t	9.2 Mt/y	6.8 Mt/y
IRR	29.30%	26.00%	33.50%	36.40%	21.80%	26.20%	32.30%	35.50%	22.80%
	NPV	NPV	NPV	NPV	NPV	NPV	NPV	NPV	NPV
0%	\$11,545M	\$11,354M	\$11,736M	\$15,002M	\$8,089M	\$10,060M	\$13,031M	\$14,550M	\$8,540M
5%	\$5,030M	\$4,845M	\$5,214M	\$6,746M	\$3,313M	\$4,297M	\$5,763M	\$6,524M	\$3,535M
8%	\$3,244M	\$3,063M	\$3,425M	\$4,475M	\$2,013M	\$2,721M	\$3,766M	\$4,317M	\$2,171M
10%	\$2,461M	\$2,282M	\$2,640M	\$3,477M	\$1,445M	\$2,031M	\$2,890M	\$3,346M	\$1,575M
<b>Please note that this Financial Analysis is before tax.</b>									

*Project Risks*

A number of potential project risks have been identified during the course of the FS that can materially affect project execution and project economics. The main risks are as follows:

- Nalcor may not be able to supply power to the site in time for startup of operations, mitigated by Alderon maintaining engagement at the highest levels of government.
- Assumed pit slopes in bedrock too optimistic, leading to reduced Mineral Reserves and/or higher stripping ratios, mitigated by more drilling and engineering analysis prior to final design.
- Mine operation may not be able to adequately segregate hard ore for stockpiling and blending as well as to supply adequate feedstock with required blending of the various ore types to assure expected concentrator throughput, mitigated by optimizing the mine plan by performing infill drilling and ore hardness testing, by using experienced personnel and by increasing ore stockpiling.
- The nature and the complexity of the ore body does not allow for collection of a representative bulk sample for pilot testwork. Also, the relatively small sample size for FS metallurgical testwork and for determining ore hardness poses a risk of the samples not being sufficiently representative of the ore body to properly validate throughput through the AG mill and Fe and weight recovery. This risk cannot be adequately mitigated and is considered as an accepted risk.

Based on the information available and the degree of development of the Project as of the effective date of the Kami Report, BBA is of the opinion that the Project is technically and financially sufficiently robust to warrant proceeding to the next phase of project development.

*Project Development and Recommendations*

*Project Development Schedule*

A Project Execution Plan and a detailed Project Execution Schedule were developed as part of the FS. The key project milestones are indicated in Table 11.

TABLE 11: KEY PROJECT MILESTONES

Major Milestones	Date
Start Feasibility Study	Aug-2011
Interim Engineering & Planning Services Agreement	Aug-2012
Start Detailed Engineering	Nov-2012
NI 43-101 Feasibility Effective Date	Dec-2012
AG Mill PO Award	Jun-2013
Minister's Decision (EA Release)	Sep-2013
Permit to Start Construction Available	Nov-2013
Start Construction	Nov-2013
First Concrete	Apr-2014
First Structural Steel at Concentrator	Jul-2014
Construction Completed	Aug-2015
Power Availability (NL)	Sep-2015
POV Completed	Sep-2015
Full Handover to Operations	Nov-2015

The Project Execution Schedule developed in this Study and described herein covers the period from the start of the FS to the end of commissioning. The major assumptions driving key milestones in the preliminary Project Execution Schedule are as follows:

- The FS is completed effective December 2012.
- The environmental assessment process began with project registration initiated with the submission of the project description in October 2011. Based on the expected duration of the various regulatory proceedings, it is expected that the permits, which will allow construction, will be issued in November 2013. No site work is anticipated prior to this date. Environmental assessment process, expected to last 24 months, is on the project execution critical path.
- Construction is set to start in November 2013, as soon as the permit is issued and is based on a construction schedule of 24 months including POV (Pre-Operational Verifications) and plant handover to operations. This is consistent with similar projects recently executed. It is assumed that the temporary camp facility for construction workers to be located off-site will be built and ready to receive personnel in a timely fashion.

To support the construction schedule, EPCM activities need to be executed as follows:

- EPCM services contractor was selected in August 2012. An Interim Engineering and Planning Services Agreement has been entered into with the contractor and the full EPCM Agreement is currently under negotiation.
- Procurement activities are based on delivery of long lead items such as the grinding mills, spirals and concentrate stacker/reclaimer at the port terminal. In budgetary quotes received during the FS, the longest lead times are in the order of 18 months. Some mining equipment may have longer lead

times depending on the Supplier, and it is recommended that the EPCM contractor investigate this early in their mandate.

### *Recommendations*

BBA recommends that Alderon proceeds with the next phase of project development consisting of final design and Detailed Engineering, as indicated by the project schedule set out in Table 11.

The testwork program undertaken during the Feasibility Study relied on composite drill core samples as it was not possible to obtain a representative bulk sample for pilot testing. Sample selection and testing methodology allowed for a reasonably representative estimation of metallurgical performance of the Rose deposit ore and for project development at a FS level. As the Project moves into final design and Detailed Engineering, BBA recommends that additional confirmatory testwork be done with existing drill core samples in order to further increase the degree of confidence around metallurgical performance of the Rose deposit ore. The recommended testwork is as follows.

### Grinding

The SPI test and IGS analysis has been determined to provide the most suitable method for this ore type to estimate ore specific grinding energy and throughput of the selected AG mill. For the FS, the throughput estimate was based on approximately 20 tests per ore type. It is recommended that at least another 20 tests per ore type be performed for final design to achieve better statistical analysis from the dataset.

### Gravity

Based on the relatively poor results obtained on the RN-1 sample, which was likely due to the sample not being representative of the ore type, it is warranted that the Wilfley Table test be repeated on a new RN-1 composite sample. Another series of Wilfley Table tests for each ore type should also be performed. As an alternative, gravity testwork could be performed at a pilot scale using spirals. Various blends of ore types, aligned to the mine plan, should be considered for the next test phase. Also, more detailed testwork should be performed to improve understanding of Mn deportment to concentrate in the gravity circuit.

### Magnetic Plant

It is recommended that the tails from the FS Wilfley Table variability tests should be used to perform cobbing LIMS tests followed by regrind and cleaning tests in order to validate the optimal regrind particle size to achieve the targeted SiO<sub>2</sub> level. This should be done on a continuous, pilot plant scale. Also, the effect of lower LIMS magnetic intensity at the different stages of the mag plant circuit should be evaluated in order to optimize process performance. It is also recommended that analysis of the Rose North mag plant concentrate be performed in order to quantify Mn in magnetite for the three Rose North ore types.

### Filtration and Settling

It is recommended that additional filtration testwork be performed with different suppliers for both gravity and mag plant concentrate. It is also recommended that tailings settling tests and tailings rheology tests with the final tailings coming from the aforementioned mag plant testwork be performed.

BBA recommends that, for final design, design capacities for all process areas and equipment be updated to conform to final FS operating values determined with the most recent testwork results as well as with results from recommended testwork previously discussed.

The mine plan developed during the FS provides a reasonably representative basis for projected mining operations at this level of study. BBA recommends the following additional mining engineering work to be undertaken for final design:

- Collect more geotechnical data and develop pit slope design parameters in more detail.
- Develop a more detailed hydrology and hydrogeology model to better define mine dewatering requirements in more detail.
- Collect hardness data and potentially integrate this information into the geological block model for use in mine planning.
- Further optimize mining phases and develop mine schedule in more detail (quarterly for first three years).

No further exploration or engineering studies are planned. The next project development phase consists of Detailed Engineering, which has started in November 2012 and will subsequently lead to the construction phase. The recommended testwork is considered to be part of the Detailed Engineering phase therefore costs associated with executing this work, as is the case with all project development costs incurred after the effective date of this Report, are included within the project capital costs.



**Schedule “B”**  
**Genesee Royalty**

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**ITEM 7.2: *Genesee Royalty***

Certain of the information below has been excerpted or derived from the Sherritt AIF and the Genesee Report. Keith Wilson, P. Eng., of Norwest, has reviewed and approved the scientific and technical information in this section on the Genesee Mine. Readers should consult the Sherritt AIF and the Genesee Report to obtain further particulars regarding the Genesee Mine. The Sherritt AIF and the Genesee Report are available for review under Sherritt’s profile on SEDAR at [www.sedar.com](http://www.sedar.com).

*Property Description and Location*

The Genesee Mine is located in west central Alberta, approximately 70 km southwest of Edmonton, Alberta, and consists of leased and freehold lands totaling approximately 21,038 ha. It falls within Townships 50 and 51, Range 3, west of the 5th Meridian and Township 50, Range 2, west of the 5th Meridian.

The Genesee Mine is operated under the ERCB Mine permit No. C-99-8.

Alberta Environmental Protection and Enhancement Act (“EPEA”) Approval No. 10404-02-00 as amended regulates the development, operation and reclamation of the mine and any disturbances directly related to the Genesee Mine. The approval expires on September 12, 2014. All operating licenses and approvals are granted with the capability to renew every ten years upon reapplication.

Of the 7,381 ha of land within the mine permit area, 650 ha are privately held. The remaining area is controlled by EPCOR.

The Genesee Mine area of mutual interest consists of 21,038 ha in which 1,359 ha are Crown coal mineral leases, 7,568 ha are held by PMRL, 5,656 ha are held by EPCOR, and another 1,464 ha are owned or controlled by others in the mine area. A total of 2,985 ha comprise the area controlled by a joint venture between PMRL and EPCOR. The remaining 2,006 ha are located in the northern most portion of the area of mutual interest, an area containing no mineable coal. PMRL has exclusive right to mine the coal within the Genesee Mine, supplying run-of-mine coal to EPCOR generating stations.

For a description of the royalties associated with the Genesee Mine, see “Description of the Royalty Portfolio”.

*Accessibility, Climate, Local Resources, Infrastructure and Physiography*

The Genesee Mine is accessible southwest of Edmonton, Alberta via Highway Nos. 16 and 770. The City of Edmonton is located 70 km to the northeast. The main east-west line of Canadian National Railway passes 25 km to the north en-route to, and from, west coast port facilities.

The average annual daily temperature of the area is 3.4°C, with an average summer maximum of 21.8°C and a winter minimum of –15.9°C. Winds from the west and northwest predominate with average speeds of 9.3 to 11.9 km/hr. The average annual precipitation is 536 mm of which 410 mm is recorded as direct rainfall. The average annual snowfall is 133.9 cm.

The principal resources of the area are agriculture and some oil and gas production. The local terrain is gently to moderately rolling farmland, light boreal forest and wetlands. The North Saskatchewan River flows from west to east immediately north of the property. Surface elevations vary from approximately 730 m to 840 m above mean sea level.

The Genesee Mine does not typically experience constraints regarding power or water supply needed for operations due to the availability of such infrastructure in close proximity to the mine. The Genesee Mine does not require tailings ponds, refuse areas or leach pads as the coal produced is not refined before use. Ample space is available for storage or processing, where needed.

### *History*

EPCOR acquired the major mineral leases for Genesee Mine following encouraging drill tests in the 1950's. Subsequent drilling investigations were carried out in the 1960's and 1970's, resulting in production of an exploration report by R.S. Taylor in 1977. EPCOR and Fording formed a joint venture in 1980 and conducted a burn test of a bulk sample from the property in September and October of that same year. Fording developed significant exploration and feasibility reports in 1983 and 1987 after further drilling was completed. A 400 MW thermal power unit was eventually brought on line in 1989. A second 400 MW unit was commissioned in 1994 and a 450 MW unit was commissioned on March 1, 2005.

The Genesee Mine has been in operation since 1989. Luscar, (a 50-50 general partnership between Sherritt and OTPPB, with coal holdings held by Luscar Coal Ltd. and Luscar Ltd.), acquired its holdings in Genesee Mine from Fording in 2003 and PMRL commenced mining operations in that same year. PMRL and Capital Power each own a 50% interest in the equipment and facilities, as well as the surface rights at Genesee Mine.

### *Geological Setting*

The Genesee Mine is located within the Plains Region of Alberta, a principal physiographic region of the province.

Coal seams at the Genesee Mine are Sub-bituminous B in rank and are found in the uppermost Cretaceous Scollard Formation Ardley Coal Zone. The Scollard Formation represents predominantly fluvial environments and unconformably overlies the Upper Cretaceous Battle Formation and underlies the Tertiary Paskapoo Formation. The Ardley unit locally consists of coal seams interbedded with bentonitic and carbonaceous shales and clay beds with associated sandstones and siltstones. The Ardley includes three major coal successions regionally across west central Alberta. These include the lowermost, or Lower Ardley A unit, the overlying Lower Ardley B, and the uppermost, Upper Ardley. The zone of commercial interest at the Genesee Mine is the Lower Ardley B. The Upper Ardley has been removed by post-Cretaceous erosion and the Lower Ardley A is not economically mineable at the Genesee Mine.

The strata are relatively flat-lying and structurally undisturbed although some glacial faulting has been noted along the north-facing subcrop edge of the formation.

### *Mineralization*

The sub-bituminous coal at Genesee lies within the Lower Ardley B Coal Zone of the Upper Cretaceous Scollard Formation. Four seams are present and are designated, in ascending stratigraphic order, as the Lower Main, Upper Main, Hanging Wall and High seams. The average thicknesses are 1.80 m, 2.74 m, <0.60 m, and 0.74 m respectively. Three of the four local coal seams are commercially exploitable and demonstrate consistent stratigraphic continuity with thicknesses ranging from 0.5 m to 4.0 m. The Hanging Wall Seam is excluded from reserves estimates because it is not normally of mineable thickness. The High

Seam is similarly of insufficient mining thickness in some areas of the Genesee Mine. A number of rider seams and splits are present throughout the Genesee Mine which are included for mining if of sufficient thickness and within close stratigraphic proximity to mineable coal intervals. Major interburden thicknesses vary from 0.18 m to 15.5 m.

### *Exploration*

A large number of exploration holes have been drilled on the Genesee Mine property since the 1950's. Major drilling programs in the 1970's and 1980's largely defined the extent and quality of the reserves. The final spacing of exploration drilling by 1987 was generally less than 800 m and core holes were spaced approximately 800 m to 1,600 m, or less. Geophysical log suites for each hole typically included caliper, resistivity, natural gamma ray, and density runs. Drilling programs conducted almost annually since the late 1980's have continued to more closely define the stratigraphy and quality of the deposit.

### *Drilling*

To year end 2004, data from approximately 3,800 drill holes and surveyed data locations were available. Approximately 2,710 of these holes provided coal seam data and 2,200 provided glacial till data. The most recent addition to the drill hole database, and subsequent geological model, have been 85 auger holes used to better define the till/rock contact as well as 39 core and or geophysically logged holes used to interpret coal seams. All 124 holes were drilled in four programs throughout 2004.

Drill holes have been surveyed for collar data which includes the "x", "y" and "z" coordinates of the surface location of the hole. Further, the drill hole data, including geophysical logs, geologists' core/cuttings descriptions, sample intervals (core) and drillers' logs, have been compiled and transcribed into a digital database containing the "from", "to" and "thickness" of lithologic units per drill hole, including coal and till, coal seam identification as well as analytical results from sampled coal core.

Drill hole core descriptions, geophysical logs and coal quality data are used to characterize and interpret the stratigraphy in the mine area, particularly with respect to the economic coal seams, partings and interburden intervals.

As of December 31, 2013, the Genesee Mine drill hole database contained data from approximately 2,248 drill holes.

### *Sampling Method and Approach*

Both cores and drill cuttings samples were retrieved to provide subsamples for testing and subsequent composite samples for selective analyses. As of 1987 there were approximately 140 core holes located on the property and a significantly greater number have been drilled since that reporting. Following core examination work in the field, sub-samples were sealed and forwarded to the laboratory for analysis. Composite samples were blended at the laboratory for further analysis.

### *Sample Preparation, Analyses and Security*

Samples are collected from drill core and submitted for analysis using methods that are standard for the coal industry. The specific process used at Genesee Mine is described below:

1. Core from the drill hole is logged (i.e., measured and described) using standard geological terms to document various attributes including lithology, color, hardness and grain size.

2. Each core hole is subject to a down-hole geophysical logging program. The logging program produces a geophysical log suite consisting of caliper, density (gamma-gamma), natural gamma and resistivity trace. The geophysical logs are used to identify rock types, including coal intersected in the hole.
3. Coal intervals are collected in a split tube core barrel that is opened and logged at the drill site by a geologist. The geologist's core log consists of the measured thickness and description of the coal, inter-seam partings, adjacent roof and floor rock, and details of any sample intervals removed for analysis.
4. Recovered core is measured to determine an overall recovery (reported in percent) by comparing the recovered core length with the coring run length recorded by the driller. Recovered core is measured and compared to the coal interval thickness determined from the geophysical log suite.
5. Recovered coal intervals are sampled using the following criteria:
  - i. The minimum thickness for a coal sample is 30 to 50 cm.
  - ii. All non-carbonaceous partings >15 cm are not sampled.
  - iii. In-seam partings, to a maximum thickness of 15 cm, will be included in a coal sample, where the thickness of the adjacent coal beds above and below the parting are both a minimum of 35 cm in thickness.
6. Collected samples are cleaned of any mud contamination and placed in individual plastic bags. The bags are labelled on the outside with both the core hole and sample number and sealed with plastic tape to prevent excessive moisture loss. The sample bags are placed together in a collection bag for the core hole before being placed in palletized containers and shipped to an independent lab for analysis.

Individual ply samples were analysed for moisture contents, relative density, and proximate analyses (including heating value). Composite (full seam) samples were also analysed for these same parameters as well as ultimate analyses, chemical analyses of the ash, fusibility temperatures, and Hardgrove Grindability Indices.

Samples from the initial exploration period were delivered for processing to Cyclone Laboratories in Edmonton, Alberta and Loring Laboratories in Calgary, Alberta. Presently, samples from test drilling programs are transported to an accredited independent laboratory (third-party) for preparation and analyzed for moisture content, sulphur content, ash content, and heat value. A chain of custody form is completed on site by the geologist that gives sufficient information to identify the samples and describes the analyses required. The receiving third-party laboratory enters the information provided in the chain of custody form into their own laboratory information management system producing unique sample identification numbers for the preparation and analytical stages. The laboratory is responsible for tracking all samples once received from the mine site, and samples are stored in a secure location to prevent tampering.

The geological data collected during these test drilling programs is used to model coal seams and predict coal quality using geological modeling software. In addition, samples are collected during mining operations to further enhance understanding and prediction of coal quality. In-pit samples are routinely collected from active coal faces or from the plant feed and analyzed at the utility customer's laboratory for sulphur, ash, heat value and moisture. This data is used to help optimize the quality of the coal being delivered to the utility customer.

#### *Data Verification*

PMRL provided Genesee Mine data to Norwest in digital format for validation and subsequent use in geological modeling and reserve estimation work. Norwest also reviewed a randomly chosen series of test

holes throughout the mine area for data quality and file content. The assessment included in the Genesee Report was based entirely on a review of the Southfield database where mine development is concentrated for the foreseeable future.

PMRL’s digital geological data are stored in an Oracle database and comprise drill hole collar coordinates, lithology, coal seam intercepts, and coal quality information. At the time of the Genesee Report, PMRL used MineSight to interpret and model the geologic data at the Genesee Mine. All digital data in PMRL’s Oracle database and MineSight were exported and provided to Norwest in ASCII format.

In the process of creating new geological models for the Genesee Mine, Norwest first reviewed, verified, and completed any necessary edits of the PMRL data files before creating a new database in Microsoft Access. The geological database created by Norwest included over 3,800 drill holes.

The data and/or interpretations are a reasonable representation of the geology of the Genesee Mine, based on the exploration and development drill hole data.

*Mineral Reserve Estimates*

When calculating the estimated mineral reserves, only coal intended for mining within each of the pits was included. Three major coal seams, which include the High Seam, Upper Main and Upper Main 1 are mined within the Genesee Mine. Four rider seams High Seam-1, Upper Main-A, Upper Main-B and Upper Main, are recoverable to 0.15 m when found in close proximity to noted major seams.

The following table summarizes coal reserves of PMRL in the Genesee Mine based on PMRL’s share of coal reserves as of December 31, 2013.

<b>Proven Reserves (Mt)</b>	<b>Probable Reserves (Mt)</b>	<b>Sulphur Content<sup>(1)</sup> (%)</b>	<b>Ash Content<sup>(2)</sup> (%)</b>	<b>Heating Value<sup>(2)</sup> (kj/kg)</b>
240.6	37.9	0.23	14.5	19,400

Notes

- (1) Estimated sulphur content by weight, as received basis, based on field averages.
- (2) Average in-situ coal quality, as received basis.

Coal reserves and resources are classified in accordance with the CIM Definitions Standards on Mineral Resources and Mineral Reserves, and the Geological Survey of Canada publication Paper 88-21 “*A Standardized Coal Resource/Reserve Reporting System for Canada*”, J.D. Hughes, L. Klatzel-Mudry and D.J. Nikol, 1989.

*Mining Operations*

The Genesee Mine supplies sub-bituminous coal to the Genesee generating station, which is owned and operated by EPCOR, under a joint venture agreement with PMRL. The Genesee Mine is a conventional dragline surface mining operation, with a production capacity of up to 5.6 Mt per year.

Genesee Mine produced 5.2 Mt of coal in 2013. Based on this production, Genesee Mine’s estimated reserve life is 54 years.

Mining Method

The Genesee Mine is a typical prairie-type mine-mouth dragline operation. Draglines strip the overburden to expose the coal seam which is then lifted onto the operating bench. An electrical powered cable shovel loads the coal into haulers for transportation to the truck dump. Pits are reclaimed using tracked dozers to recontour the dragline spoil piles prior to the spreading of subsoil and topsoil.

### Processing

In east central Alberta, the near-surface coals of the Ardley Formation are most commonly ranked as Sub-bituminous B and are best suited as a fuel for a “mine-mouth” power station (i.e., the generating station is located in close proximity to the mine). There are no coal processing and/or preparation facilities — the coal is delivered directly to the power plant from the pit(s).

Sub-bituminous B is a lower rank, consolidated, black coal that produces between 22,100 and 24,400 kilojoules per kilogram (kj/kg) on a moist, mineral-matter-free basis when burned. The coal has high moisture content and is bright to dull in lustre, medium hard and often has a blocky texture. The Genesee coals yield approximately 22,500 kj/kg on a moist, mineral-matter-free basis upon testing.

### Production Forecast

Historically, production at the Genesee Mine has been steady, driven by demand for coal at the Genesee generating station. The 2005 commissioning of the G-3 generating unit has increased coal demand from historical levels, however future production levels can be expected to remain stable. Since the generating station relies on its coal supply from the Genesee Mine, the forecast annual production and total coal production have been estimated with a high level of confidence.

The two draglines are capable of producing approximately 5.5 Mt per year of coal. Waste volumes are expected to increase in the future due to gradually increasing topography and pre-stripping for the draglines will be required.

### Markets

The Genesee Mine is the exclusive source of Sub-bituminous B coal for the production of electricity at the Genesee generating station.

### Contracts

The Genesee generating station is owned and managed by EPCOR. Coal is supplied to the generating station by the joint venture operated by PMRL under a long term agreement. The terms of this contract are confidential.

### Environmental Conditions

The Genesee operations achieved environmental certification under the ISO 9001 and 14001 quality and environmental management standards in 2001.

### Payback Period

The Genesee Mine has been in operation since 1989 and underwent a change in ownership in 2003. The mining operations are ongoing and hence a discussion regarding the payback period is not applicable.

### Taxes, Capital and Operating Cost Estimates

The Genesee Mine is an on-going joint venture operation with significant operating history. Annual budget plans, as well as long range mine plans are developed on a regular basis. These plans forecast mine waste volumes and coal tonnage as well as project operating and capital mine expenditures on an annual basis. The plans are based on historical and projected equipment operating productivities and costs and are reviewed regularly to ensure that the projected equipment and labour operating hours and associated costs are valid.

All aspects of the mining process are included in the operating plans, including waste mining, coaling operations and reclamation activities. Indirect costs, such as taxes, royalties, administration and overhead where applicable are also detailed on an annual basis. Capital expenditures for development of new mining areas and equipment acquisitions and replacements are developed and a schedule of the spending is prepared.

### Mine Life

Based on projected forecast burns, the three generating units at the Genesee generating station require a total of approximately 5.5 Mt of coal annually from the Genesee Mine. Assuming forecast coal demand remains consistent with historical levels, the total coal supply from the Genesee Mine for the ten year operating mine plan is approximately 50 Mt.

### *Exploration and Development*

PMRL maintains a geological model of coal reserves and resources at Genesee Mine. Drilling activities are generally only necessary in advance of new mining area development, where tighter drill hole spacing is required to determine accurate near-term mine plans that will reflect the variations in coal seam quality and any geological anomalies that may exist. In 2013, continued its test drilling programs at Genesee Mine as part of its mine planning and development processes.

**Schedule “C”**  
**Sheerness Royalty**

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**ITEM 7.3: *Sheerness Royalty***

*Sheerness Royalty*

Certain of the information below has been excerpted or derived from the Sherritt AIF and the Sheerness Report. Keith Wilson, P. Eng., of Norwest, has reviewed and approved the scientific and technical information in this section on the Sheerness Mine. Readers should consult the Sherritt AIF and the Sheerness Report to obtain further particulars regarding the Sheerness Mine. The Sherritt AIF and the Sheerness Report are available for review under Sherritt’s profile on SEDAR at [www.sedar.com](http://www.sedar.com).

*Project Description and Location*

The Sheerness Mine is located in south central Alberta, approximately 160 km northeast of Calgary, Alberta. The Sheerness Mine is located in Townships 28 and 29, Ranges 12 and 13, west of the Fourth Meridian. Population centres in the immediate vicinity of the Sheerness Mine include the towns of Hanna, 25 km to the north, and Brooks, 130 km to the south.

The Sheerness Mine is owned by PMRL and operated under the EUB Mine permit No. C 99-6, which covers an area of approximately 7,000 ha. The Sheerness Mine permit has no expiry date.

The EPEA approval no. 11876-03-00, as amended, regulates the development, operation and reclamation of the mine and any disturbances directly related to the Sheerness Mine. The approval expires on December 15, 2015. All operating licenses and approvals are granted with the capability to renew every five to ten years upon reapplication.

Of the 7,000 ha of land within the Sheerness Mine permit area, there are 3,945 ha of crown coal mineral leases and 3,055 ha of freehold coal. Coal rights are controlled by PMRL, TransAlta and ATCO. PMRL has exclusive right to mine the coal within the Sheerness Mine, supplying run-of mine coal to Sheerness generating station, where it is the sole source of sub-bituminous coal for the production of electricity.

For a description of the royalties associated with the Sheerness Mine, see “Description of the Royalty Portfolio”.

*Accessibility, Climate, Local Resources, Infrastructure and Physiography*

The Sheerness Mine produces sub-bituminous coal; mined coal supplies the adjacent Sheerness generating station. Access to the Sheerness Mine area is bounded by Highway No. 36 (primary highway) on the west. The mine infrastructure includes a network of haulage and service roads, pit power distribution lines, and water management facilities. Coal is transported by truck from the mine to the Sheerness generating station and is held in stockpiles prior to being utilized in the generating units.

The Sheerness Mine area is subject to the semi-arid climate characteristics of the south eastern Alberta prairie. The climate is characterized by relatively short warm summers and long cold winters, with an average annual precipitation of 39 cm, with approximately 11 cm occurring as snowfall. The majority of the precipitation occurs from May through September, which are also the warmest months.



Much of the land presently under pasture was cultivated at some time in the past but was returned to pasture or hay production, due to inadequate moisture and soil quality. Unmanaged rough grazing land also covers portions of the area.

The terrain in the Sheerness Mine area is prairie range and cropland characterized by rolling topography. The land surface consists of an undulating to gently rolling bedrock plain covered with till of varying thickness. This surface pattern is interrupted by two badland areas (eroded bedrock features) and by several small sloughs. Due to the lack of local relief and steep slopes in most of the mine area, erosion potential generated by water is generally very low. Ground surface elevations range from 810 to 860 m above sea level.

The Sheerness Mine area lies within the mixed prairie region of southern Alberta. This is a short-grass vegetation type developed in the driest areas of south eastern Alberta and south western Saskatchewan. Over 80% of the plant cover is composed of grasses and sedges. The mixed prairie region also supports localized habitats of distinct communities, the more common being badlands, saline depressions, and sloughs.

The region is almost completely treeless on upland sites. Climate is the major limiting factor to tree growth, with the combination of low precipitation and high evaporation creating a habitat too dry for tree establishment and survival.

The Sheerness Mine area is located on a topographic high and contains several small natural and manmade sloughs, ponds, and dugouts. With an annual precipitation rate of 39 cm and an evapotranspiration rate of 56 cm, surface water in this poorly draining landscape is in limited supply. In particular, the shallow sloughs and ponds are susceptible to drying up in the summer and the area is susceptible to drought. Regional surface drainage is to the south toward the Red Deer River.

The principal aquifers at the Sheerness Mine are the sandstone bedrock, the coal seams and the bedrock below the coal. The general direction of groundwater flow is primarily east to west with discharge into the Bullpond Creek drainage system. Owing to the presence of bentonite in the mining depths and thick shale and claystone sequences underlying the coal zone, recharge to the aquifers below the coal is limited. Due to the impeded downward movement of groundwater, isolated perched groundwater conditions exist in the more permeable areas of glacial till.

The majority of groundwater wells in the vicinity of the Sheerness Mine are developed in the sandstone above the coal seams. They supply water for domestic and livestock use. Water is generally of the sodium bicarbonate and sodium sulphate type with relatively high total dissolved solids (>1000 mg/l) and high iron concentrations (> 1mg/l).

The Sheerness Mine area lies within the dark brown soil area of Alberta and within 9 km of the brown soil zone to the east. In order to ensure accuracy in the soil handling program, annual soil surveys are made to define specific soil salvage areas, areas replaced, and stockpiled volumes.

The Sheerness Mine does not typically experience constraints regarding power or water supply needed for operations due to the availability of such infrastructure in close proximity to the mine. The Sheerness Mine does not require tailings ponds, refuse areas or leach pads as the coal produced is not refined before use. Ample space is available for storage or processing, where needed.

### *History*

The lands now comprising the area within the Sheerness Mine were assembled by Alberta Power Company Ltd., a predecessor of ATCO, to be the site for a surface coal mine to supply coal to the Sheerness generating station. The first unit of the Sheerness generating station began commercial operation in 1986 and the second unit in 1990.

The Sheerness generating station, co-owned by ATCO and TransAlta Utilities Corporation, was initially supplied with coal from the Montgomery Mine, owned by Manalta. The Montgomery Mine began production in 1986. The Sheerness Mine began production in 1995. Luscar acquired the assets of Manalta in 1998 and in 1999 and merged the two operations into one in 1999, creating the Sheerness Mine.

### *Geological Setting*

The Sheerness Mine area lies within the plains region of Alberta, a principal physiographic region of the province.

Coal seams in the Sheerness Mine are sub-bituminous C in rank and are located within the lowermost strata of the Upper Cretaceous Paskapoo Formation — Scollard member. This geologic formation comprises clastic, fine-grained sediments deposited in deltaic environments. The Horseshoe Canyon Formation conformably overlies the Bearpaw Formation, which consists primarily of coarsening upward cycles of marine sediments. Regionally, these strata lie in the eastern reaches of the Alberta Syncline and dip very gently in a west-southwesterly direction. As a result, the Lower Horseshoe Canyon Formation subcrops to the east of the Sheerness Mine and strata of the underlying Bearpaw Formation become the locally predominant bedrock unit. The coal-bearing strata in the area are directly overlain by till units except along escarpments and areas of high topographic relief.

### *Mineralization*

There are six coal zones identified within the Sheerness Mine coal field. In ascending order these are: Sunnynook, Sheerness zone, Roselynn, Richdale, Taplow and Hanna. Only the seams within Sunnynook and Sheerness zone are considered mineable in the area. The thickness of the two zones varies between 0.3 m and 2.1 m. The Sunnynook and Sheerness coal zones have been further subdivided into five mineable coal seams; L1, L1U, L2, L3 and L4.

The Sheerness Mine coal field is typical of coal deposits in the Lower Horseshoe Canyon Formation of the Alberta Plains. The coal seams are relatively thin, contain numerous partings and show a high degree of variation laterally in both thickness and quality. These characteristics suggest that this deposit should be categorized as Low — Type C. In addition to thickness variability associated with original depositional configuration, the coal-bearing strata occasionally exhibit distortion due to differential compaction that occurred both during and after deposition. Glacial movement and till loading have also contributed to deformation of these coal units, closer to subcrop.

### *Exploration*

The area within the Sheerness Mine permit includes an active mining area delineated by short and long-range mine plans and is not classified as an exploration area. As an operating mine, it has been very

well-drilled; over 2,500 drill holes have been completed on the property. Coal seam characteristics, including thickness, extents and quality are very well understood as a result of the extensive drilling throughout the property. Holes have been drilled on average at less than 400 m spacing outside the active pits.

### *Drilling*

At the time of the Sheerness Report, the drill hole database contained all available drill hole data, comprising a total of 2,728 holes. However, PMRL technical personnel considered some of these holes to be unreliable or incomplete and they are not included in the database used for geological modeling. As a result, within the Sheerness Mine permit area, 2,511 drill holes were used in modeling.

The spacing of these drill holes over the yet-to-be-mined portion of the permit area ranged from 40 m to 400 m and averages 200 m for rotary holes and 400 m for core holes.

Core recoveries average 30% to 35% in weathered coal zones (near subcrop) to 90% in unaltered coal. Improved core recoveries in the weathered coal zones have been attempted using modified Shelby tubes although without much success; coring of this type of material is extremely difficult. PMRL typically undertakes drilling programs ahead of mining. As mining progresses, pit design and layout are based on geological interpretation of drill hole information, quality analyses and pit wall mapping completed by PMRL technical personnel at 50 m intervals.

As of December 31, 2013, the drill hole database at Sheerness Mine contained a total of 3,304 holes.

### *Sampling Method and Approach*

The sampling process starts after the recovered core from the drill hole is logged, measured and described by the geologist using standard geological terms to document various attributes. Generally, the minimum thickness for a coal sample is 30 to 50 cm, and in-seam partings to a maximum thickness of 10 to 15 cm may be included in a coal sample, where the thickness of the adjacent coal beds above and below the parting are both a minimum of twice the parting thickness. Samples are collected from drill cores and from channel and grab sampling programs using methods that are standard within the coal industry and according to current American Society for Testing and Materials standards.

Individual ply sample intervals are selected and each sample taken is cleaned of any contamination and placed in individual plastic bags. The bags are labeled on the outside with both the hole and sample number, and sealed with plastic tape to prevent excessive moisture loss. The sample bags are placed together in a collection bag and prepared for shipment to the laboratory for coal quality analyses.

All of the core samples, collected and submitted for analysis, were handled using methods that are standard for the coal industry. No Norwest staff participated in the sampling of cores from the drill programs. Samples of core from coal seams and adjacent strata are analyzed for quality parameters by PMRL in commercial laboratories as well as at the laboratory at the Sheerness generating station. Sample intervals often include either a portion of a coal seam or the entire seam including interbeds and overlying or underlying rock.

For gross geological modeling purposes, this distribution of analyses has been demonstrated to be adequate. These production level analyses are supplemented and supported by daily analysis of composite samples of delivered coal, completed at the generating station laboratory.

### *Sample Preparation, Analyses and Security*

Samples from test drilling programs are transported to an accredited independent laboratory (third-party) for preparation and analyzed for moisture content, sulphur content, ash content, and heat value. A chain of custody form is completed on site by the geologist that gives sufficient information to identify the samples and describes the analyses required. The receiving third-party laboratory enters the information provided in the chain of custody form into their own laboratory information management system producing unique sample identification numbers for the preparation and analytical stages. The laboratory is responsible for tracking all samples once received from the mine site, and samples are stored in a secure location to prevent tampering.

The geological data collected during these test drilling programs is used to model coal seams and predict coal quality using geological modeling software. In addition, samples are collected during mining operations to further enhance understanding and prediction of coal quality. In-pit samples are routinely collected from active coal faces or from the plant feed and analyzed at the utility customer's laboratory for sulphur, ash, heat value and moisture. This data is used to help optimize the quality of the coal being delivered to the utility customer.

At the time of the Sheerness Report, duplicate samples from the Sheerness Mine were regularly sent to the CANMET Materials Technology Laboratory, and other reputable laboratories located in Alberta for confirmation that the mine and Sheerness generating station analyses procedures and results were reliable. These analyses results were not made available to Norwest. In coal work additional special security methods for the shipping and storage of samples are not commonly employed, as coal is a relatively low value bulk commodity.

#### *Data Verification*

At the time of the Sheerness Report, Sheerness Mine drill hole and quality database contains 2,728 drill holes and includes data acquired following the purchase of Manalta assets by Luscar in 1998. Luscar personnel reviewed all the data and rejected drill holes that did not meet acceptable standards for inclusion in the modeling process. The remaining 1,995 drill holes comprised the Minex database which was used to construct the geological model using Minex software.

Validation of the interpretation and transcription of the raw coal drill hole and analysis data was accomplished through spot checks. Norwest selected sixteen drill holes at random, distributed throughout the permit area, to verify that the coal seam intersections and coal quality data had been accurately represented in the database and model. Raw data, including the original drill hole geophysical logs and, in the case of core holes, the original core descriptions and lab analyses results, were reviewed to ensure that coal thickness determination was consistent with industry standards in interpretation, and the subsequent handling of this data was investigated to ensure data integrity. This validation also included reviewing drill hole survey data and processes through discussions with Luscar representatives to confirm adequacy for reserve estimates. Confirmation of the geological interpretations and their relationship to the raw data was accomplished through the inspection of geological maps and cross-sections.

Norwest has relied wholly on information and data provided by PMRL. Norwest did not conduct fieldwork, other than tour and inspect the operating mine on September 24, 2003; Norwest did not independently drill or geophysically log core holes, nor subject any coal samples to analysis.

#### *Mineral Reserve Estimates*

#### Mineral Reserve Estimates

At the Sheerness Mine, five seams are mined. Although the criteria for determining mineability propose a minimum coal seam thickness of 0.60 m and maximum included rock parting of 0.15 m, Luscar has been

successfully recovering seams to 0.40 m. A comparison between modeled volumes and historical production reports for the years 2000 to 2003 inclusive have confirmed this.

Total aggregate coal thickness in mineable seams, including the “quality adjusted” coal, varies from 0.5 m to 1.9 m within the remaining mineral reserves in the Sheerness Mine area.

The following table summarizes coal reserves of PMRL in the Sheerness Mine as of December 31, 2013.

<b>Proven Reserves (Mt)</b>	<b>Probable Reserves (Mt)</b>	<b>Sulphur Content<sup>(1)</sup> (%)</b>	<b>Ash Content<sup>(2)</sup> (%)</b>	<b>Heating Value<sup>(2)</sup> (kj/kg)</b>
33.4	3.4	0.50	13.9	17,440

Notes

- (1) Estimated sulphur content by weight, as received basis, based on field averages.
- (2) Average in-situ coal quality, as received basis.

Coal reserves and resources are classified in accordance with the CIM Definitions Standards on Mineral Resources and Mineral Reserves, and the Geological Survey of Canada publication Paper 88-21 “*A Standardized Coal Resource/Reserve Reporting System for Canada*”, J.D. Hughes, L. Klatzel-Mudry and D.J. Nikol, 1989.

*Mining Operations*

The Sheerness Mine supplies sub-bituminous coal to the Sheerness generating station under two contracts. The mine is a conventional dragline surface mining operation, with a production capacity of up to approximately 4.0 Mt per year.

The Sheerness Mine produced 3.8 Mt of coal in 2013. Based on 2013 production, and proven and probable mineral reserves of 36.8 Mt as of December 31, 2013, the estimated reserve life of Sheerness Mine is 10 years, which leaves a shortfall of mineral reserves as compared to contractual commitments. PMRL is applying for additional permits to expand the permitted area, thus increasing mineral reserves available to meet its contractual commitments. PMRL and ATCO are also undertaking a joint drilling program to identify additional mining locations to enable PMRL to meet projected requirements.

Mining Method

The Sheerness Mine is a typical prairie-type dragline operation. Draglines strip the overburden to expose the coal seams. A rubber-tired loader excavates the coal, which is then trucked directly to the Sheerness generating station. Pits are reclaimed using tracked dozers to recontour the dragline spoil piles prior to the spreading of subsoil and topsoil.

Processing

At the Sheerness Mine, the coals of the Lower Horseshoe Canyon Formation are ranked sub-bituminous C and are best suited as a fuel for a “mine-mouth” power station (i.e., the generating station is located in close proximity to the Sheerness Mine). There are no coal processing and/or preparation facilities — the coal is delivered directly to the power plant from the pit.

The coal produces between 19,300 and 22,100 kilojoules per kilogram (kj/kg) on a moist, mineral-matter-free basis when burned. It has high moisture content and is susceptible to spontaneous combustion, which can often cause problems in transportation and storage.

#### Production Forecast

The Sheerness Mine is on two contracts with the Sheerness generating station, which consumes 100% of the coal produced by the mine. Based on projected consumption at the time of the Sheerness Report, the two generating units at the station require a total of approximately 3.5 to 4.0 Mt of coal annually from the Sheerness Mine.

#### Markets

The Sheerness Mine is the exclusive source of sub-bituminous coal for the production of electricity at the Sheerness generating station.

#### Contracts

The Sheerness generating station is co-owned by ATCO and TransAlta, and is managed by ATCO. ATCO purchases the coal from PMRL under two supply contracts.

#### Environmental Conditions

The Sheerness Mine follows environmental management, mitigation and reporting practices. Conservation and reclamation activities have been conducted progressively within the mining area.

#### Payback Period

Coal production commenced at Sheerness Mine in 1986 and has been conducted continually since that date. Consequently, a discussion of the payback period is no longer applicable to this operation.

### Taxes, Capital and Operating Cost Estimates

The Sheerness Mine is an on-going operation with a significant operating history. Annual budget plans, as well as long range mine plans are developed on a regular basis. These plans forecast mine waste volumes and coal tonnage as well as project operating and capital mine expenditures on an annual basis. The plans are based on historical and projected equipment operating productivities and costs and are reviewed regularly to ensure that the projected equipment and labour operating hours and associated costs are valid. All aspects of the mining process are included in the operating plans, including waste mining, coaling operations and reclamation activities. Indirect costs, such as taxes, royalties, administration and overhead are also detailed on an annual basis. Capital expenditures for development of new mining areas and equipment acquisitions and replacements are developed and a schedule of the spending is prepared.

### Mine Life

Historically, production at the Sheerness Mine has been very stable, driven by demand for coal at the generating station. Production levels can be expected to remain stable in the future. Since the generating station relies on coal supply from the Sheerness Mine, the forecast annual production and total coal production have been estimated with a high level of confidence.

Based on projected forecast burns, the two generating units at the station require a total of approximately 3.5 to 4.0 Mt of coal annually from the Sheerness Mine. Based on 2013 production, and proven and probable mineral reserves of 36.8 Mt as of December 31, 2013, the estimated reserve life of Sheerness Mine is 10 years.

### *Exploration and Development*

PMRL maintains a geological model of coal reserves and resources at Sheerness Mine. Drilling activities are generally only necessary in advance of new mining area development, where tighter drill hole spacing is required to determine accurate near-term mine plans that will reflect the variations in coal seam quality and any geological anomalies that may exist. In 2014, PMRL will continue its test drilling programs at Sheerness Mine as part of its mine planning and development processes.





## **SCHEDULE "D"**

### **Audit Committee Charter**

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#### **INTRODUCTION**

1. The purpose of the Audit Committee (the "Committee") is to assist the Board of Directors of the Corporation (the "Board") in fulfilling its oversight responsibilities by reviewing the financial information which will be provided to shareholders of the Corporation and others, the systems of corporate financial controls which management and the Board have established and the audit process.
2. The Committee will oversee the Corporation's financial reporting process on behalf of the Board and report the results to the Board.
3. While the Committee has the responsibilities and powers set forth in this mandate, it is not the duty of the Committee to plan or conduct audits or to determine the Corporation's financial statements are complete and accurate and are in accordance with generally accepted accounting principles. Management is responsible for preparing the Corporation's financial statements and the independent auditors are ultimately accountable to the Board and the Committee, as representatives of the Corporation's shareholders.

#### **DEFINITIONS**

4. "Management" refers to the officers of the Corporation, and the other members of the senior management team of the Corporation as may be determined from time-to-time by the Chief Executive Officer and communicated to the Board.
5. "Officers" refer to those employees who are appointed as officers the by the Corporation.

#### **DUTIES AND RESPONSIBILITIES**

6. Financial Reporting
  - a. Review, with management and the independent auditors the financial statements and management discussion and analysis prior to the filing of the Corporation's Annual and Interim Reports.
    - i. Include in this review discussions regarding their judgment on the quality, not just the acceptability, of significant accounting principles, the reasonableness of significant judgments, and the clarity of the disclosures in the financial statements;
    - ii. Discuss the results of the review and any other matters required to be communicated to the Committee by the independent auditors under generally

accepted auditing standards if a review engagement of the interim financial statements is requested by the Committee; and

1. Ensure the Corporation's compliance with legal and regulatory requirements relating to financial disclosure.
  - b. Review any new appointments to senior positions of the Corporation with financial reporting responsibilities;
  - c. Review reports from senior officers of the Corporation outlining any significant changes in financial risks facing the Corporation;
  - d. Review the management letter of the external auditors and the Corporation's responses to suggestions made; and
  - e. Review all financial press releases, earnings guidance and the annual information form.
7. External Audit
  - a. Review the audit plan with the external auditors and discuss the overall scope and plans for the audit, including the adequacy of staffing and compensation;
  - b. Meet separately with the independent auditors, with and without management present, to discuss the results of their examinations and provide sufficient opportunity for the independent auditors to meet privately with the members of the Committee; and
  - c. Annually, review and recommend to the Board the selection of the Corporation's independent auditors, subject to shareholders' approval, and approve the annual fee for the external audit services.
8. Internal Audit
  - a. Annually review the summary report of the internal audit function for the past year; and
  - b. Annually review planned activities and resources of the internal audit function for the coming year.
9. Miscellaneous

Perform any other matters referred to the Committee or delegated to it by the Board.
10. Director Responsibilities and Performance
  - a. Committee Duties

Act honestly and in good faith with a view to the best interests of the Corporation and to exercise the care, diligence and skill that a reasonable prudent person would exercise in comparable circumstances.

- b. Committee Values
  - i. Assist the Corporation to operate in compliance with all corporate policies and codes, and all laws and regulations governing the Corporation; and
  - ii. Maintain strong financial reporting and control processes.
- c. External Auditors
  - i. Ensure that the external auditors are accountable to the Board, as representatives of the shareholders, through the Committee;
  - ii. Recommend the appointment of auditors to the Corporation's shareholders and for the compensation and oversight of the work of the external auditors, including resolution of disagreements between management and the external auditors regarding financial reporting; and
  - iii. Ensure that the external auditors report all material issues or potentially material issues to the Committee.
- d. Reliance on Experts
  - i. Place appropriate reliance in good faith on reports that the financial statements of the Corporation represented to each member of the Committee by an officer of the Corporation or in a written report of the external auditors present fairly the financial position of the Corporation in accordance with Canadian general accepted accounting principles; and on any report of a lawyer, accountant, engineer, appraiser or other person whose profession lends credibility to a statement made by any such person.

#### **IV. OPERATION OF THE COMMITTEE**

##### 11. Reporting

The Committee shall report to the Board.

##### 12. Composition of Committee

The Committee shall consist of not less than three directors, all shall qualify as "independent", as defined in multilateral instrument 52-110 Audit Committees.

##### 13. Appointment of Committee Members

Members of the Committee shall be appointed at a meeting of the Board, typically held immediately after the annual shareholders' meeting, provided that any member may be removed or replaced at any time by the Board and shall in any event cease to be a member of the Committee upon ceasing to be a member of the Board.

##### 14. Vacancies

Where a vacancy occurs at any time in the membership of the Committee, it may be filled by the Board.

15. Chair of the Committee

The Board shall designate the Chair of the Committee. The Chair shall have responsibility for overseeing that the Committee fulfills its mandate and its duties effectively. In the absence of the Chair of the Committee, the members will appoint an acting Chair.

16. Secretary

Unless the Committee otherwise specifies, the secretary of the Corporation will act as secretary of all meetings of the Committee.

17. Committee Meetings

The Committee will meet at least four times annually (or more frequently as circumstances dictate).

Committee meetings may be held in person, by video-conference, by means of telephone or by any combination any of the foregoing.

18. Notice of Meeting

Notice of the time and place of every meeting may be given orally, in writing, by facsimile or by e-mail to each member of the Committee at least 48 hours prior to the time fixed for such meeting.

A member may in any manner waive notice of the meeting. Attendance of a member at the meeting shall constitute waiver of notice of the meeting except where a member attends a meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting was not lawfully called.

19. Quorum

A quorum will be a majority of the members of the Committee present in person, by video-conference, by telephone or by a combination thereof.

20. Attendance at Meetings

The Chief Financial Officer is expected to be available to attend meetings, but a portion of every meeting can be reserved for in camera discussion with the Chief Financial Officer, or any other member of management, being present.

The Committee may by specific invitation have other resource persons in attendance. The Committee shall have the right to determine who shall and who shall not be present at any time during a meeting of the Committee.

21. Meeting Agenda

Committee meeting agendas shall be set by the Chair of the Committee in consultation with Committee members, management if appropriate, and the external auditors if appropriate.

22. Minutes

The Committee shall keep regular minutes of proceedings and shall cause them to be recorded in books kept for that purpose.

23. Outside Advisors

The Committee is empowered to engage and compensate any outside advisors as it deems advisable to permit it to carry out its duties, at the expense of the Corporation.

24. Reporting to the Board

The Committee, through its Chair, will report regularly to the Board, and in any event no less frequently than on a quarterly basis.

**V. OPERATION OF THE COMMITTEE**

The Governance Committee will review these terms of reference at least every two years or, where circumstance warrants, at such shorter interval as is necessary, to determine if further additions, deletions or amendments are required, and make a recommendation to the Board as to their approval.

**VI. HISTORY**

These Terms of Reference were:

- a. Initially adopted by the Board on September 12, 2007
- b. Reviewed and approved by the Board on December 11, 2013