



# POLARIS MATERIALS

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## **ANNUAL INFORMATION FORM**

**FOR THE FISCAL YEAR ENDED DECEMBER 31, 2015**

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**March 1, 2016**

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## PRELIMINARY NOTES

### Date of Information

All information in this Annual Information Form is as of March 1, 2016, unless otherwise indicated.

### Currency

Except where otherwise indicated, all references to currency in this Annual Information Form are to Canadian Dollars (“CAD\$”).

The following table sets forth, for the periods indicated, certain information concerning the number of CAD\$ for which one United States Dollar (“US\$”) could be exchanged based on the quoted rate from the Bank of Canada. No representation is made that the CAD\$ amounts actually represent such US\$ amounts or could have been or could be converted into US\$ at the rate indicated, any other rate or at all. Quotations are based on Bank of Canada noon rate of exchange “nominal rates”, which are neither buying nor selling rates. Rates available from financial institutions will likely differ.

Period	High	Low	Average rate
January 1 – December 31, 2011	US\$1.00 = CAD\$1.063	US\$1.00 = CAD\$0.938	US\$1.00 = CAD\$0.989
January 1 – December 31, 2012	US\$1.00 = CAD\$1.044	US\$1.00 = CAD\$0.964	US\$1.00 = CAD\$1.000
January 1 – December 31, 2013	US\$1.00 = CAD\$1.070	US\$1.00 = CAD\$0.984	US\$1.00 = CAD\$1.030
January 1 – December 31, 2014	US\$1.00 = CAD\$1.166	US\$1.00 = CAD\$1.064	US\$1.00 = CAD\$1.105
January 1 – December 31, 2015	US\$1.00 = CAD\$1.3990	US\$1.00 = CAD\$1.1728	US\$1.00 = CAD\$1.2787

### Conversion Factors

Metric Unit	Imperial Measure	Imperial Measure	Metric Unit
1 hectare	2.471 acres	1 acre	0.4047 hectares
1 metre	3.281 feet	1 foot	0.3048 metres
1 kilometre	0.621 miles	1 mile	1.609 kilometres
1 kilogram	2.205 pounds	1 pound	0.454 kilograms
1 tonne	1.102 short tons	1 short ton	0.907 tonnes

### Forward-Looking Information

Certain statements in this Annual Information Form constitute “forward-looking information” or “forward-looking statements” within the meaning of applicable securities laws. Such forward-looking information or statements include, without limitation, information and statements evaluating the market and general economic conditions and discussing future-oriented costs, expenditures and other financial or operating performances. Often, but not always, forward-looking information or statements can be identified by the use of words such as “plans”, “expects” or “does not expect”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or “does not anticipate”, or “believes” or variations of such words and phrases or words and phrases that state or indicate that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. While the Company (as herein defined) has based these statements or information on its current expectations about future events, the statements or information are not guarantees of the Company’s future performance and are subject to risks, uncertainties, assumptions and other factors which could cause actual results to differ materially from future results expressed or implied by such forward-looking information or statements. Such factors include, amongst others, the effects of general economic conditions, changing foreign exchange rates and actions by government authorities, uncertainties associated with legal proceedings and negotiations, industry supply levels, competitive pricing pressures, mineral resource and reserve estimates and misjudgments in the course of preparing forward-looking information or statements. Please refer to the heading “*Risk Factors*” herein and the risk factors in the Company’s Management’s Discussion and Analysis (“MD&A”) for the year ended December 31, 2015 for a discussion

of these and other factors underlying forward-looking information or statements. In light of these factors, the forward-looking events discussed in this Annual Information Form might not occur. Further, although the Company has attempted to identify factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Subject to applicable law, the Company undertakes no obligation to publicly update or revise any forward-looking information, whether as a result of new information, future events or otherwise. As there can be no assurance that forward-looking information or statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements, readers should not place undue reliance on forward-looking information or statements.

### **Certain Other Information**

This Annual Information Form includes California construction aggregates market and California industry data that has been obtained from third party sources, including industry publications, as well as industry data prepared by management on the basis of its knowledge of and experience in these markets. Third party sources generally state that the information contained therein has been obtained from sources believed to be reliable, but there can be no assurance as to the accuracy or completeness of included information. Although believed to be reliable, none of management of the Company or the Company has independently verified any of the data from third party sources.

## **GLOSSARY OF TERMS**

The following is a glossary of certain terms that may be used in this Annual Information Form:

<b><u>Term</u></b>	<b><u>Definition</u></b>
<b>aggregates</b>	Naturally occurring sand and gravel, or crushed rock, used principally for construction purpose
<b>°C</b>	Degrees Celsius
<b>claims or quarrying claims</b>	The right to explore a property for mineralization, and, if warranted, to develop the property and exploit the minerals
<b>Cretaceous</b>	Sub-division of the Mesozoic Era and refers to a geological period that began approximately 144 million years ago and ended approximately 65 million years ago
<b>Deposits</b>	A descriptive term used to characterize an accumulation of a given material above background level, such as sand, gravel, or, more commonly, metals
<b>fault or faulting</b>	A fracture in the Earth's crust accompanied by a displacement of one side of the fracture with respect to the other and in a direction parallel to the fracture
<b>feasibility study</b>	A comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable modifying factors together with any other relevant operational factors and detailed financial analysis, that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a pre-feasibility study.
<b>ft</b>	Feet
<b>g</b>	Gram
<b>ha</b>	Hectare

**Term****indicated mineral resource****Definition**

That part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and is sufficient to assume geological or grade or quality continuity between points of observation. An indicated mineral resource has a lower level of confidence than that applying to a measured mineral resource and may only be converted to a probable mineral reserve.

**inferred mineral resource**

That part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An inferred mineral resource has a lower level of confidence than that applying to an indicated mineral resource and must not be converted to a mineral reserve. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

**kg**

Kilogram

**km**

Kilometre

**kV**

Kilovolts

**m**

Metre

**masl**

Metres above sea level

**measured mineral resource**

That part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A measured mineral resource has a higher level of confidence than that applying to either an indicated mineral resource or an inferred mineral resource. It may be converted to a proven mineral reserve or to a probable mineral reserve.

**mineral reserve**

A mineral reserve is the economically mineable part of a measured and/or indicated mineral resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at pre-feasibility or feasibility level as appropriate that include application of modifying factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which mineral reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a mineral reserve must be demonstrated by a pre-feasibility study or a feasibility study.

**mineral resource**

A concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, or quality, continuity and other geological characteristics of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

**mm**

Millimeter

<u>Term</u>	<u>Definition</u>
<b>modifying factors</b>	Considerations used to convert mineral resources to mineral reserves. These include, but are not limited to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
<b>NI 43-101</b>	National Instrument 43-101 entitled "Standards of Disclosure for Mineral Projects" issued by the Canadian Securities Administrators
<b>NI 52-110</b>	National Instrument 52-110 entitled "Audit Committees" issued by the Canadian Securities Administrators
<b>probable mineral reserve</b>	A probable mineral reserve is the economically mineable part of an indicated, and in some circumstances, a measured mineral resource. The confidence in the modifying factors applying to a probable mineral reserve is lower than that applying to a proven mineral reserve.
<b>proven mineral reserve</b>	A proven mineral reserve is the economically mineable part of a measured mineral resource. A proven mineral reserve implies a high degree of confidence in the modifying factors.
<b>Qualified Person</b>	An individual as such term is defined in NI 43-101
<b>Tertiary</b>	Sub-division of the Earth's history that started approximately 65 million years ago and ended approximately 2 million years ago
<b>trend</b>	The directional line of a rock bed or formation

This Annual Information Form uses the following units of weight:

<b>Metric tonne ("mt" or "tonne")</b>	2,205 pounds, the unit of weight used in Canada and for international shipping
<b>Short ton ("st" or "ton")</b>	2,000 pounds, the unit of weight commonly used in the United States

## CORPORATE STRUCTURE

### Name, Address and Incorporation

Polaris Materials Corporation (the "Company", "Polaris", or "we") is a public company that was incorporated on May 14, 1999, and is governed by the *Business Corporations Act* (British Columbia). On January 1, 2015, the Company amended the Articles of the Company in order to change its name from Polaris Minerals Corporation to Polaris Materials Corporation.

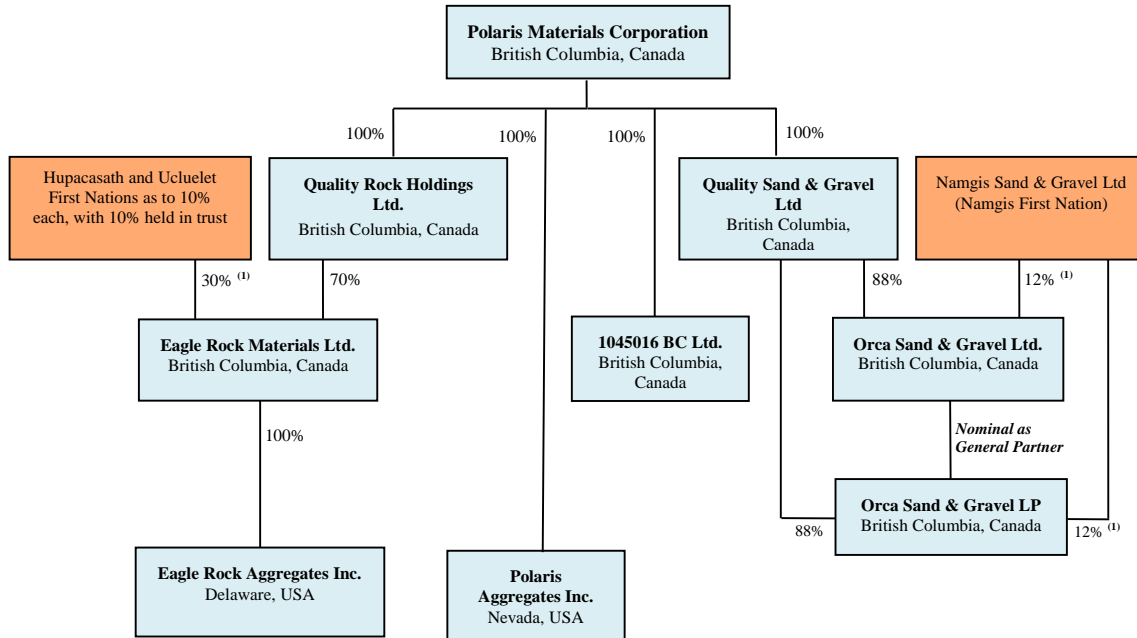
The Company's head office is located at Suite 2740, 1055 West Georgia Street, Vancouver, British Columbia, Canada, V6E 3R5 and its registered and records office is located at Suite 2900, 550 Burrard Street, Vancouver, British Columbia, Canada, V6C 0A3.

Polaris became a public company in January 2006, following an Initial Public Offering (the "IPO") of common shares ("Common Shares") and is listed for trading on the Toronto Stock Exchange ("TSX") under the symbol "PLS".

Polaris maintains a web site at [www.polarismaterials.com](http://www.polarismaterials.com) where copies of statutory filings and news releases can be accessed, together with photographs and descriptions of the Company's operations.

## Intercorporate Relationships

The following chart illustrates the Company's corporate structure, including all subsidiaries, jurisdictions of incorporation, and the percentage of voting securities held in the subsidiaries:



(1) This interest is held indirectly by the Company's First Nation partners.

## GENERAL DEVELOPMENT OF THE BUSINESS

### Company Overview

The Company was formed specifically to search for, and develop, 'greenfield' mineral resources suitable for producing high quality construction aggregates that could be economically shipped into major city markets on the west coast of North America where supply shortages were gradually emerging. The success of this complex strategy required the control of three elements: permitted mineral resources, shipping capacity, and access to port terminals within the target markets where cargos could be received, stored and distributed. The Company operates in a single segment: the development and operation of construction aggregate properties and projects in North America.

Polaris commenced trading in March 2007, through its subsidiaries, when it shipped the first marine exports of sand and gravel aggregates from the East Cluxewe Deposit, the associated process plant and ship loader (together, the "Orca Quarry"), located on the north east coast of Vancouver Island near Port McNeill, British Columbia, Canada. At the end of 2007, in order to facilitate entry into the San Francisco Bay markets, the Company completed construction of its own receiving and distribution terminal facility in the Port of Richmond, California (the "Richmond Terminal"). During January 2013, the Company announced that it was planning to start development of a receiving and distribution terminal on a leased site in the Port of Long Beach in order to facilitate entry into the southern California market and in January 2014, advised that it was ordering the long lead-time items that would be required for construction of the ship berth. In July 2015, the Company made its first delivery to the new terminal as an entry point into the southern California market. The Company is presently supplying the majority of its sand and gravel into California under two long-term sales contracts with customers who have also been granted marketing rights to sell the Orca Quarry products to third parties within agreed territories. Shipments to these customers in San



Francisco Bay commenced in April 2007. In February 2013, the Company also commenced sales under a three year supply agreement to a customer that has its own shipping contract and receiving terminal in the city of San Francisco. In January of 2016, the customer notified the Company that it would continue purchases past the third year anniversary date in February 2016, until December 31, 2016. In November 2007, the Company began selling to a customer in Honolulu, Hawaii. In 2014, such customer was subjected to a change of ownership. Although there were no sales in 2015, the Company continues to discuss future purchasing intentions. In March 2007 the Company commenced supplying aggregates for a customer in Vancouver, BC, under a five-year agreement which was not renewed upon expiry. Occasional sales continue to be made into British Columbia and Alaska although not under contractual arrangements.

The Company's construction aggregate interests consist of an 88% ownership in the Orca Sand & Gravel project (the "Orca Project") and a 70% ownership in the Richmond and Long Beach terminals. The Company also has a 70% ownership in the Eagle Rock Quarry project (the "Eagle Rock Quarry Project"), a large, undeveloped, high quality granite resource located near Port Alberni, also on Vancouver Island. In June 2014, the Company announced that it would pursue a potential opportunity to develop a limestone resource located close to the Orca Project. During 2015 the Company's interest refocused on a hard rock deposit located in close proximity to the Orca Quarry, referred to as the Black Bear Project, and tenure was secured in January 2016. Black Bear represents a bolt-on opportunity that will provide the Company with increased flexibility in product mix while utilizing existing infrastructure for crushing and ship loading. The development of additional aggregate mineral resources, new markets, and associated port terminals remains a priority for the Company which also continues to seek opportunities that could provide a basis for progressing with the Eagle Rock Quarry Project.

#### *Construction Aggregates Overview*

Construction aggregates are granular materials sourced from either naturally occurring sand and gravel deposits or from a variety of quarried rock types including limestone, granite, and volcanic rocks. Natural sand and gravel aggregates are typically preferred for the manufacture of concrete whereas crushed rock is predominantly used for asphalt, road construction and railroad ballast although it is increasingly used in concrete applications as irreplaceable sand and gravel resources deplete. The production of aggregates involves a relatively simple process of surface mining, crushing, sizing and, frequently, washing which requires large volumes of fresh water. Chemicals are not used in the processing of aggregates although minor quantities of a flocculent, or similar agent, may be used in removing sediments from process wash water. Being a natural product, aggregates are non-toxic and benign to the environment.

All forms of concrete and asphalt are comprised mainly of aggregates and are used to build roads, bridges, buildings, sewers, sidewalks and other components of civil infrastructure. Aggregates are also used in their natural state for a wide range of other applications such as rock armour for coastal and river erosion protection, crushed rock and sand in road foundations, sand in mortars, stucco, and golf course bunkers. Their predominance in the composition of concrete and asphalt, and their wide range of applications, make construction aggregates a vital component in urban development and transportation infrastructure. The fundamental driver of demand for aggregates is population and particularly the growth in population.

Aggregates are sold and used relatively close to their source of production, generally within fifty miles. In a number of locations in North America, specific circumstances allow rail transportation or ships and barges to be utilized in order to access more distant sources. Construction aggregates are relatively heavy materials with low intrinsic value and the costs of transportation are frequently one half, or more, of the selling price of the material. Thus, the market in North America is, in reality, a large number of local markets within which competitive and supply forces are quite different. The choice of aggregates used in any market is based upon the location, quality and availability of the aggregate sources together with the cost of transportation to the point of usage.

#### *Aggregate Resource Availability*

Local reserves of construction aggregates in the Company's target markets have been diminishing as operating quarries have become depleted and new resources are increasingly more difficult to permit unless they are located well outside of the market. The rate of depletion has slowed because the market demand for construction aggregates declined between 2007 and 2012, due to the severe economic recession in North America, which

adversely affected the construction industry, particularly in California. Fortunately for the Company, its major market, the San Francisco Bay area, has been experiencing a recovery in demand since the end of 2011, which is still ongoing. As the markets return to growth, increasingly longer and more costly overland haulage will eventually be required to meet supply shortfalls when they arise. This is expected to have the effect of raising the delivered prices of aggregate products in markets such as the San Francisco Bay area, the Los Angeles Basin, and San Diego. In Hawaii, the historic main source of sand for concrete, on the island of Maui, no longer ships aggregate inter-island due to dwindling resources and environmental constraints. This loss of local supply created the opportunity for the Company to ship aggregates into Honolulu in large ocean-going bulk carriers chartered by the customers. Markets closer to the Orca Quarry, such as Vancouver, British Columbia, have also experienced some shortages of construction aggregates and supplies into this market have been made from the Orca Quarry utilizing barges provided by the customer. It is the closure of indigenous aggregate sources within markets that created the opportunity for Polaris to develop its business and although the deep economic recession temporarily alleviated some of the pressures for alternate supply sources, the Company does not believe that the underlying situation has materially changed other than in terms of timing.

### **Sales Arrangements and Strategic Alliance with Cemex**

In September 2007, the Company and CEMEX, Inc. (“Cemex”) entered into a strategic alliance agreement (the “SAA”), which establishes and governs the terms of a long-term relationship (the “Strategic Alliance”) between the parties. Cemex, a Mexican company, is one of the largest international cement and construction materials groups and also one of the largest producers and consumers of aggregates in California. The SAA has a 10-year term, and sets out the exclusivity between the Company and Cemex for the purchase and distribution of marine supplied construction aggregates, sand, gravel and crushed rock on the west coast of the United States, along with terms for new terminal and quarry development related to these products. The SAA includes an option to extend the agreement for additional 10-year terms upon mutual agreement by the Company and Cemex. An alliance committee, comprised of two members from each company, oversees the ongoing operations of the Strategic Alliance. Included in the Strategic Alliance is an expectation that the Company will develop its 70% owned Eagle Rock Quarry Project at a time to be determined by market demand. The parties have agreed to cooperate in the pursuit of markets and terminal capacity for Eagle Rock crushed granite products.

Pursuant to the SAA, the Company, through its subsidiary Eagle Rock Aggregates, Inc., and Cemex, entered into a 20-year supply and distribution agreement for marine transported construction aggregates that provides for Cemex to be the exclusive marketer of the Company’s sand and gravel and for the Company to be the exclusive supplier to Cemex for internal use and for sales to third parties in northern California (excluding the counties of Marin, Sonoma, Mendocino and Napa). The agreement provided for minimum annual tonnages to be supplied and purchased and also a market pricing mechanism which is adjusted annually. During 2009, the minimum tonnages were renegotiated to reflect the deep recession in construction activity. This agreement automatically renews for two 10-year periods or as determined by the life of the Orca Quarry and includes a five-year termination notice provision.

In October 2005, the Company’s subsidiary, Eagle Rock Aggregates, Inc., entered into a 20-year aggregates supply agreement, which commenced in September 2007, (the “ASA”) with Shamrock Materials, Inc. (“Shamrock”), a long-established private company that is a large manufacturer of ready mixed concrete located in the north San Francisco Bay area. The ASA may be further extended by three five-year periods, at the option of Shamrock. The ASA grants Shamrock the exclusive right to market the Company’s sand and gravel within the California counties of Marin, Sonoma, Mendocino and Napa, and grants the Company the exclusive right to provide marine imported sand and gravel to Shamrock within the same territory. The ASA provides for the purchase and supply of minimum annual volumes of sand and gravel from the Orca Quarry for distribution within the defined area. During 2009, to reflect the economic recession, revised volume targets were agreed. Prices for sand and gravel are reviewed on an annual basis and adjusted to accommodate variations in the cost and changes in market prices for similar products within the San Francisco Bay area. The sand and gravel is unloaded directly from ships, while at anchor in the Bay, onto barges provided by Shamrock, or collected from the Richmond Terminal by truck.

In March 2007, the Company entered into a five-year sand and gravel products supply agreement with a ready-mix concrete manufacturer located in Greater Vancouver, British Columbia, the scope of which was also changed in 2009 to reflect the severe recession. This supply agreement was not renewed on expiry in 2012 because the market

requirements and supply-demand balance in the Vancouver area had changed, primarily because of the economic recession. In July 2008, the Company entered into a three-year supply agreement with a third party construction aggregates consumer in Hawaii under which shipments had commenced in January 2008. Supplies to this consumer continued past the expiry of the original agreement in January 2011 until 2014.

In December 2012, the Company entered into a three-year sales agreement, which may be extended by mutual agreement for two additional three-year periods, with Hanson Aggregates Mid-Pacific Inc. (“Hanson”). Sales under this agreement commenced in February 2013 and are made Free-On-Board at Orca Quarry into ships provided by Hanson under their own shipping contract. The aggregates are delivered into Hanson’s Pier 94 terminal in the Port of San Francisco. The Company and Hanson have agreed that purchases would continue past the third year anniversary date in February 2016, until December 31, 2016.

In 2015, California sales represented 99% (2014 – 95%) of the Company’s sales.

### **Shipping Arrangements**

Following extensive research into potential ship ownership, Polaris concluded that the most cost effective strategy for this vital element of its business development was to enter into secure contractual arrangements with CSL International, Inc., (“CSL”) a U.S. based operator of a large fleet of highly efficient self-discharging bulk carriers. Shipments to California were initially made under a 10-year contract of affreightment (“CoA-1”) that commenced on July 18, 2007. This contract incorporated fixed rates per tonne of product, subject to inflation and bunker fuel adjustments, for deliveries to locations in San Francisco Bay, and provided for up to 4.5 million tonnes of annual shipping capacity. Beginning in January 2008, the rates charged under this contract have been adjusted for inflation.

In December 2007, the Company executed a second contract of affreightment with CSL (“CoA-2”), with a term of 15 years, to commence in the fall of 2010. Minimum annual shipments under this contract were 2.25 million tonnes. This additional capacity was primarily secured to facilitate the development of the Eagle Rock Quarry Project, however, it also provided the Company with flexibility to increase shipments from the Orca Quarry should markets and timing dictate.

In March 2009, recognizing the constraints placed upon Polaris’ developing business due to the deep recession, CSL and the Company mutually agreed to a number of changes to the contracts such that the term of CoA-1 was extended by five years and the start date of CoA-2 was deferred until January 2014.

In early 2010, in light of the ongoing and unprecedented decline in the California construction market, it became apparent that the Company was unlikely to meet its contractual shipping commitments for the third contract year ending July 17, 2010 and, as a result, the Company entered into negotiations with CSL to restructure its commitments. These negotiations were concluded in March 2010 with an agreement between the Company and CSL to amend and restate CoA-1 such that it became the sole contract between the parties. The amended and restated contract (“NCoA”) consolidated both earlier contracts into a single document, effective January 1, 2010 with a term of 20 years. The commercial terms for shipping were unaltered and pursuant to NCoA, the Company paid contract restructuring fees which comprised a cash payment upon signing of US\$500,000 and the issuance of US\$6,350,000 in 7.5% senior secured notes. The secured debt would have matured on December 31, 2017, however, on March 2, 2012, the Company repaid this debt, including accrued interest, from the proceeds of a \$15 million debt financing (see “2012 Debt Refinancing”). As a consequence of this early repayment in full, the Company and CSL agreed that for the years 2011 to 2016 the annual dead-freight charge rate would be reduced to 25% of the applicable full freight rate provided the Company achieves certain revised business targets. Commencing on January 1, 2010, NCoA required the Company to ship minimum tonnages per year of 1,543,000 tons escalating to 5,787,000 tons over seven years.

On December 19, 2013, the Company and CSL executed a further amendment to the NCoA which reflected agreed terms under which shared cargos with Hanson could be carried on the same voyage and fixed the annual minimum cargo commitment at 2,979,000 tons per year for the remaining term of the contract. A charterer’s option allows the Company in any given year to increase or decrease the annual commitment by 10% without penalty. Subsequent to the year-end, in January 2016, the Company and CSL agreed in principal to modify the charterer’s option to 15% which will apply in calendar year 2016 and each subsequent year. As per the original contract, failure by the Company to ship its annual cargo commitment results in a dead-freight charge equal to 75% of the freight rate for the

unshipped tons. On August 27, 2013, Polaris and CSL entered into a supplemental CoA under which CSL would provide a smaller vessel dedicated to delivering materials for a one-off contract being supplied through the Port of Redwood City. This contract provided for the delivery of 590,000 metric tonnes, plus or minus 10% at the carriers option, and deliveries commenced in December 2013 with the contract completed on, March 31, 2015. This smaller vessel was required in order to make deliveries into Redwood City that should not require additional barge lightering capacity (see: *"Lightering Vessels"*).

The requirements of customers in Hawaii, Alaska and Vancouver are sold on an "ex-quarry" basis (commonly referred to as "FOB") at the Orca Quarry, by loading ships and barges, provided by the customers. In addition, supplies to Hanson, that commenced in February, 2013, are also made on a FOB basis as that customer has its own contract of affreightment with CSL. The Hanson supply agreement is also for sand and gravel that is delivered into San Francisco.

#### *Lightering Vessels*

A major shipping constraint to supplying northern California is the relatively shallow water of San Francisco Bay, which prevents direct access by fully loaded Panamax-size bulk carriers to most land-based discharge berths. To overcome this constraint, the Company partly discharges and sells products from the fully loaded vessels while anchored in the Bay, a process known as "lightering". Aggregates are discharged into third party barges and then the lightened vessel, which is now higher in the water, proceeds with the remaining products to the shallower ports. Lightering enables the Company to dispatch a fully laden vessel from the Orca Quarry, thus reducing the unit cost compared to the unit cost that would arise from dispatching a partially loaded vessel directly to the shallow terminal.

#### *Fuel Surcharges*

The Company's shipping contract includes the cost of fuels within a certain pricing band referred to as the "free range". For each shipment made CSL charges the Company for the actual fuel price at the time of the voyage in accordance with a formula included in the contract. Although the contract provides equally for a credit to be given, until recently, the actual cost of fuels has been significantly higher than the values within the free range and, therefore, the Company has paid additional fuel surcharges per voyage. The contractual arrangements with the two major California customers originally provided for Polaris to absorb these fuel surcharges during a calendar year and then recover them from the customers through an increase to the sand and gravel selling price in the following year. During 2008, an extreme situation was encountered when the world prices for crude oil rose to record highs over a very short period with a consequent major increase in fuel costs and the surcharges absorbed by the Company. Through mutual agreement between Polaris and its California customers, beginning in the first quarter of 2009, fuel surcharges have been adjusted on a quarterly, rather than annual, basis. This has had the effect of reducing the lag in pricing increases or decreases that result from fuel adjustments.

#### *North American Environmental Control Area*

On August 1, 2012, the USA EPA and Environment Canada established a North American Emission Control Area (the "ECA") of 200 nautical miles around the US and Canadian coasts. Phase I of the ECA was implemented at this time and required all vessels operating within the ECA to use Low Sulphur Fuel Oil (LSFO) containing a maximum limit of 1% sulphur. Phase II of the ECA took effect on January 1, 2015, requiring the allowable sulphur limit to further reduce to 0.1%. The implementation of Phase I of the ECA significantly increased the cost of shipping for the Company from August 1, 2012, however, the increased costs are passed on to customers quarterly in arrears. Unfortunately, the Pacific west coast fuel suppliers appeared to have only very limited quantities of LSFO available at that time and consequently the shipping cost increase was significantly larger than had been anticipated. The fuel costs associated with the implementation of Phase II of the ECA have initially been lower than anticipated because of an unexpected and substantial drop in world oil prices that began in the fourth quarter of 2014. When, and if, world oil prices eventually recover and surpass recent historical highs, fuel surcharges would then rise above the level seen during 2013 and 2014, although no timescale or degree of certainty can be estimated.

The objective of the ECA is to reduce emissions from ships that might be harmful to coastal environments, and is supported by marine cargo shippers including CSL. However, the US EPA directed that the ECA be 200 miles offshore without the benefit of new research which looks to establish that an ECA limit beyond 50 miles provides no further

benefit to coastal environments. This regulation has the potential to adversely impact many freight movements in North America and coastal regions would probably be seriously impacted by the increased air pollution and road congestion that would arise should millions of tons per annum of products, including construction aggregate, be forced to use shore-based truck or rail transportation rather than ships. A Coalition of Short-Sea Shippers, coupled with the Maritime Industrial Transportation Alliance, has been pressing the government agencies for reconsideration and that the ECA be modified to 50 miles for smaller, short-sea, coastal vessels which would include those operated by CSL. The Company supports this approach but to date, no modification to, or relief from, the ECA regulation has been achieved.

## **Port Terminals and Development**

*Existing Terminals.* Opportunities to develop suitable aggregate terminals in the major ports, especially in California, are very limited and represent a crucial element of Polaris' business and have therefore been a priority for development resources.

The Company owns a 70% interest in and operates the Richmond Terminal in northeast San Francisco Bay which receives, stores and distributes Orca Quarry construction aggregate products. The terminal site is held under a 40-year lease with Levin Enterprises Inc. (the "Richmond Terminal Lease"). In addition to the Richmond Terminal, Polaris supplies the Cemex-controlled Redwood City Terminal to serve markets to the south of San Francisco Bay and also serves the Cemex terminal at Pier 92, in the city of San Francisco, by barge. The Company supplies Landing Way Depot, a barge-served terminal utilized by Shamrock, located on the Petaluma River in the north San Francisco Bay area. The Company supplies sand and gravel loaded FOB at the Orca Quarry into vessels provided by Hanson for unloading at its Pier 94 terminal in the Port of San Francisco.

*Terminal Development – Port of Long Beach.* In August 2008, the Company, through its subsidiary, Eagle Rock Aggregates, Inc., and Cemex formed Cemera Long Beach LLC ("Cemera Long Beach"), and purchased a 12.4 acre parcel of freehold land at Pier B in the Port of Long Beach, California (the "Pier B Land") for the initial purpose of developing a sand and gravel terminal. Before development of the Pier B Land commenced, in July 2010, the Company entered into an operating lease with L.G. Everist, Inc. for an existing marine aggregate importing terminal at Berth D-44 in the Port of Long Beach ("Berth D-44"). As the Berth D-44 site could be developed sooner and with significant capital savings over the Pier B Land, Cemera Long Beach commenced marketing the Pier B Land for sale. On November 8, 2010, Cemera Long Beach entered into a purchase and sale agreement with respect to the Pier B Land, however, that sale was not completed as the buyer withdrew for economic reasons. In May 2012, Cemera Long Beach LLC entered into a second purchase and sale agreement for the sale of the Pier B Land which was successfully concluded on November 29, 2012. Net cash receipts to the Company for the sale of the Pier B Land of \$12.4 million were used to reduce outstanding debt by \$5 million and to pay deferred interest (see "Financing – 2012 Debt Refinancing" section below), with the remaining cash used for general working capital purposes. Subsequently, Cemera Long Beach was wound up and the Company developed Berth D-44 terminal by itself. The 8.3 acre, privately owned, Berth D-44 site had operated for many years receiving construction aggregates from barges and storing them in open stockpiles using mobile equipment. The site was already permitted to receive and distribute up to 3 million tons of construction aggregates per year, and is located on a deep water channel close to Interstate 710, which services the greater Los Angeles area. The Company had to seek variations to the existing permit to enable the site to receive Panamax self-discharging vessels, as opposed to the previous barge deliveries. The Department of the Army Record of Determination, as required by the National Environmental Protection Act, was issued in July 2013. In August 2013, upon certification of the Environmental Impact Report, the Port of Long Beach, acting as the lead agency, issued the Harbor Development Permit for this terminal. The Company subsequently applied to the Southern California Air Resources Board for an air operating permit, a major and complex permit for which the standards and rules are continually becoming more rigorous. In January 2014, the Company announced that it had begun to order long lead items required for the mooring of ships at this site and intended to commence the first phase of development to bring the terminal into operation. Certain additional permits, particularly for the marine works, proved to be more extensive and complicated due to the unique method of mooring the Panamax vessels that would be used. The development was finally mechanically completed in February 2015. In July 2015, the Company made its first delivery to the new terminal as an entry point into the southern California market. In February 2016 the Long Beach terminal commenced commercial operations.

*Terminal Developments – Other.* In April 2009, the Company, through its subsidiary, Eagle Rock Aggregates, Inc., and Cemex formed Cemera San Diego LLC (“Cemera San Diego”) with respect to a potential marine import terminal located at the Port of San Diego. On August 4, 2009, Cemera San Diego entered into an exclusive negotiating agreement with the Port of San Diego for the purpose of negotiating an option to lease and develop a sand and gravel terminal located in the Tenth Avenue Marine Terminal. This exclusive negotiating agreement expired on February 28, 2010 following which the Port of San Diego issued a comfort letter and the parties continued to negotiate in good faith regarding the possibility of Cemera San Diego establishing an aggregate receiving terminal within the port. It has become increasingly clear that the Port of San Diego is involved in a long process to determine its future commercial options and that the outcome is uncertain, consequently, in January 2015, Cemera San Diego was dissolved.

Prior to the formation of the Strategic Alliance, the Company was in the process of permitting its own terminal site in the Port of Redwood City. In view of the long term relationship with Cemex, interest in this site was terminated with the Company preferring to jointly expand and develop Cemex’s existing Redwood City Terminal which offers significantly greater benefits in terms of multi-product storage, increased sales potential and cost effectiveness through reduced capital requirements and shared infrastructure. Cemex and Polaris are also anticipating that Eagle Rock Quarry products may eventually be handled at Redwood City, when and if, the quarry is developed, with a view to establishing a construction materials park at this site. The timing of re-development of the Redwood City Terminal will be dependent upon market demand, permitting and the availability of capital.

The Company has also expressed an interest in developing a future terminal at Hueneme in Ventura County, California, and maintains contact with the appropriate port authority. Under the auspices of the Strategic Alliance, the Company has reviewed certain terminal opportunities in the states of Washington and Oregon although further interest will depend upon market forces as certain anticipated changes in supply patterns have been significantly delayed due to the recession.

## **Employees**

As at December 31, 2015, the Company had 58 full time employees. The number of employees had previously peaked at 56 in 2010 before the continuing recession necessitated a reduction of shifts at the Orca Quarry at the year-end. Operating hours at the Orca Quarry are adjusted as necessary to meet increases in demand, a consequence of which is the complicated additional scheduling required to load ships on a 24 x 7 basis, 365 days per year. The quarry has achieved substantial increases in manpower productivity since 2010 which have been reflected in the unit costs of production.

## **Financings**

### *2014 Equity Financing*

On June 9, 2014, the Company completed a bought deal financing led by Dundee Securities Ltd. together with GMP Securities L.P. and Paradigm Capital Inc. (collectively the “2014 Underwriters”). Pursuant to the offering, the Company issued and sold 6,785,000 Common Shares, which included the 2014 Underwriters exercising in full an over-allotment option to purchase an additional 885,000 Common Shares, for \$2.57 per share with gross proceeds to the Company of \$17.4 million. Net proceeds, after the deduction of the 2014 Underwriters’ commission and other fees and expenses, were \$16.3 million. The proceeds are being used to explore a potential opportunity to develop a quarry located in close proximity to its existing Orca Quarry, to pursue further opportunities to develop additional port terminals for the Company’s aggregate products, and for general corporate purposes.

In conjunction with this financing, the Company issued 339,250 common share purchase warrants (the “2014 Warrants”) expiring December 27, 2015 to the 2014 Underwriters. Each 2014 Warrant was exercisable into one Common Share at a cost of \$2.57 per share. All of the 2014 Warrants expired unexercised.

### *2013 Equity Financing*

On June 25, 2013, the Company completed a bought deal financing led by Dundee Securities Ltd. together with GMP Securities L.P. (collectively the “2013 Underwriters”). Pursuant to the offering, the Company issued and sold 13,225,000 Common Shares, which includes the 2013 Underwriters exercising in full the over-allotment option to purchase an additional 1,725,000 Common Shares for \$1.31 per share with gross proceeds to the Company of \$17.3 million. Net proceeds, after the deduction of the 2013 Underwriters’ commission and other fees and expenses, were \$16.3 million of which the Company used \$8.65 million to repay all outstanding debt pursuant to the New Notes (refer to: 2012 Debt Refinancing below) together with the accrued interest thereon. The proceeds were also used to pursue entry into the Southern California market through the development of the Berth D-44 site in the Port of Long Beach, and for general corporate purposes.

In conjunction with this financing, the Company issued 661,250 common share purchase warrants (the “2013 Warrants”) expiring June 25, 2015 to the 2013 Underwriters. Each 2013 Warrant was exercisable into one Common Share at a cost of \$1.31. On November 14, 2013, 425,687 2013 Warrants were exercised with gross proceeds to the Company of \$557,650; on March 7, 2014, 53,125 2013 Warrants were exercised for gross proceeds of \$69,594; and on March 7, 2014, the remaining 182,438 2013 Warrants were exercised for gross proceeds of \$238,994.

### *2012 Debt Refinancing*

On March 2, 2012 the Company issued \$15 million of Senior Secured Notes (the “New Notes”) that were due December 31, 2016 pursuant to the terms of a senior secured notes purchase agreement dated March 1, 2012 (the “New Notes Purchase Agreement”). The New Notes, which were senior secured obligations of the Company bearing interest at 12%, were redeemable by the Company at any time without penalty. In addition to the New Notes, the Company issued warrants (the “2012 Warrants”) exercisable into 13.2 million Common Shares at the following exercise prices: \$0.44 per share until December 31, 2012, \$0.50 up to December 31, 2013, \$0.55 up to December 31, 2014, \$0.60 up to December 31, 2015 and at \$0.65 per share up to December 31, 2016. The net proceeds from the issue of the New Notes were used to repay all existing indebtedness of the Company, including interest, under a US\$6.35 million credit facility with the Company’s exclusive shipper and a \$5.0 million bridge loan secured in November 2010 with the balance of the proceeds used for general working capital purposes.

In June, 2012, the Company reached an agreement with the holders of the New Notes to defer the interest payment due on June 30, 2012 (the “Deferred Interest Payment”) until the earlier of the completion of the sale of the Pier B Land and December 31, 2012. In consideration for the deferral, the Company agreed to pay the holders of the New Notes a monetary fee of \$89,100 through the issuance of an aggregate of 148,500 Common Shares, based on the closing price of the Common Shares of \$0.60 on June 28, 2012.

Upon the sale of the Pier B Land (see preceding “Terminal Developments” section), the Company was obliged to make the Deferred Interest Payment and use the proceeds from the sale for an early repayment of \$5 million of the New Notes, at par value, thus reducing the outstanding debt to \$10 million at November 30, 2012. In June 2013, all outstanding principal and accrued interest, together with a 30 day interest payment in lieu of notice, was repaid from the proceeds of the 2013 Equity Financing.

### *2012 Warrant Exercise*

In December, 2012, the holders of the 13.2 million 2012 Warrants agreed to exercise the 2012 Warrants early and in full on or before December 31, 2012, pursuant to which the Company received additional cash funds of \$5.8 million by the year end. These funds were used to repay a further \$1.9 million of the New Notes, at par value, thus reducing the Company’s outstanding debt to \$8.1 million at December 31, 2012. The remaining cash balance of \$3.9 million was retained for general working capital purposes.

## THE COMPANY'S MARKETS

The Company currently supplies the majority of the sand and gravel from the Orca Quarry to contracted customers located in California. It has also supplied Hawaii, but not under contract, with occasional sales also being made into British Columbia and Alaska. These products are used exclusively for the production of concrete for building and construction purposes. The sand and gravel is high quality which makes it ideal for use in applications requiring high strength concrete, a key feature in major structures being designed for high earthquake seismic risk areas, particularly the greater San Francisco area.

In 2015, 3.02 million tons of sand and gravel were shipped from the Orca Quarry, of which virtually all was supplied to California.

### Market Analysis

Beginning in 2001, the Company retained David A. Holmes, R. Geo. of Holmes Reserves LLC in Colorado, USA ("Holmes") to prepare studies of targeted California markets. Holmes is a "Qualified Person" as defined under NI 43-101 and is a registered geologist in the states of California, Oregon and Washington. The studies focused on the supply and demand balance in those markets targeted by the Company and identified aggregate production sources, key consumers, and price trends. In November 2008, the Company received an updated report from Holmes (the "2008 Market Report") following certain revisions to reflect the deep and continuing recession in demand for aggregates being experienced at that time. This independent market research and analysis has been used as a basis for determining the Company's market development strategy. Subsequent to 2008, the Company has been directly involved in the markets for its products through the exclusive marketing agreements with Cemex and Shamrock in Northern California and through its own direct sales efforts in Southern California. Frequent management meetings with these exclusive agents provide 'on the ground' market intelligence which is now considered more appropriate than third party input in a period when the industry has had to deal with considerable annual changes brought about by the unprecedented recession that began in 2008. In 2015 the Company took further steps to enhance its direct marketing knowledge through the appointment of a Manager of Sales and Customer Service for its operations.

A brief description of each of the served markets is as follows:

#### *California*

California has been facing increasing supply shortages of construction aggregates in certain markets, a situation that diminished significantly due to the recession in construction activity which began in 2007 and continued to diminish until the low point which was during the period from 2010 to 2012. California continues to represent the most important target market for the Company's construction aggregate products with sales under-pinned by the Company's long-term sales and marketing agreements.

Despite the abundance of sand and gravel available in the past, California's permitted sand and gravel resource base continues to decline and the proportion of crushed rock used in concrete manufacture is rising. Sand and gravel are the dominant materials used in California for which the concrete industry retains a strong preference, particularly for natural concrete sand. Since commencing sales in 2007, the Company has exported high quality sand and gravel from its Orca Quarry to northern California, helping to meet the need for these materials in that market. In early 2014, the Company began to develop the terminal site in the Port of Long Beach to facilitate an entry into the southern California market. The Company believes that, in the fullness of time, the Eagle Rock Quarry Project has the potential to be a significant source of quality crushed granite aggregates for use in asphalt and to complement the sand-rich Orca Quarry deposit for use in concrete. During 2015, the Company commenced investigation of a resource located close to the existing Orca Quarry, which could potentially provide a source of the coarse aggregates required to supplement the sand-rich Orca deposit.

Following the peak year of 2005, the demand for construction aggregates in California experienced a significant and unprecedented decline driven initially by the collapse of private house building (the 'subprime mortgage' impact) and subsequently by the general economic recession and difficult credit markets. In 2005, the production of construction aggregates, being the combination of sand, gravel and crushed rock, was approximately 240 million tons in California (*Source: USGS Mineral Industry Surveys*). This number did not include aggregate consumed from



imported sources; however, on a statewide basis, imports represented less than 1%. Based on the USGS data, in 2010 the production of construction aggregates had fallen to 117 million tons, a reduction of 51% from the 2005 peak market. In 2012 the production showed only a marginal increase to 124 million tons, based on revised USGS statistics. This unprecedented decline prevented the Company from achieving the growth anticipated at the time of its IPO. However, the statistics appear to support the Company's view that the San Francisco area market has outpaced the State of California as a whole in terms of a recovery in demand. The Company believes that it has significantly increased its share of the greater San Francisco area market.

The 2008 Market Report, which re-examined the previous supply and demand relationships, among other findings, concluded that:

- The major ready-mix/asphalt suppliers and aggregate producers are hunkering down into a low-activity state and are confident that they can collectively weather the economic storm and emerge into a more regulated, moderate growth economy during the recovery in California expected to occur in 2010 to 2012.
- The relentless high population growth and rapidly depleting available reserves will continue to give the regional aggregate industry a strong economic future, in spite of housing industry economic cyclicality.
- Several study areas, such as western San Diego County, are on the verge of becoming so aggregate deficient that operations will remain in an aggregate shortfall despite the recession economy.
- The Company's supply strategy of import shipping of sand and gravel, and ultimately crushed rock, from British Columbia into California ports, remains sound as regional aggregate demand will again face wide shortfalls immediately after the current recessionary cycle.

In 2009, the *American Recovery and Reinvestment Act*, directed massive stimulus funds to increased public sector spending on infrastructure projects. However, there was no immediate net impact on the California market from the stimulus funds for two prime reasons: firstly the funds failed to replace significantly lower private housing and commercial developments; and secondly, California declared its intention to use a significant part of the stimulus funds for major projects that would increase the capacity of the State's infrastructure. Such projects required a relatively long lead time for permitting, design and planning and it was only towards the second half of 2011 that the Company's customers reported a significant increase in new infrastructure projects. California's 2013 budget not only maintained, but further increased, spending levels for infrastructure projects contributing to increasing employment levels and consequently higher tax revenues. At this same time, private commercial development also began to pick up, especially in the market area to the south of San Francisco Bay, largely the result of spending led by the very successful high-tech companies based in the 'silicon valley' corridor. The combination of these two market sector increases, which were specific to the San Francisco Bay area rather than representative of a nationwide, or statewide, trend, coupled with additional third party sales, was the reason for the Company's sales volumes increasing year on year by 35% in 2011, by 30% in 2012, by 50% in 2013 and by 4% in 2014 compared with 2013. The markets supplied by Shamrock in the north Bay area have a much greater component of private investment, particularly housing, and as such have not experienced significant increases compared with the San Francisco area as a whole.

The demand for construction aggregate is significantly higher per dollar of expenditure in infrastructure projects, which frequently demand a higher quality specification which Orca Quarry products comfortably meet. This ratio is referred to within the industry as "aggregate intensity" with studies suggesting that the aggregate intensity in infrastructure projects is seven times greater than that in private housing per dollar spent.

Political discourse in the US has been focused on the need to create jobs and infrastructure investment continues to be recognized as a major component in job creation, which is a principal driver of economic recovery. On June 29, 2012, Congress passed a Surface and Transportation Reauthorization Bill ("MAP-21") to fund the nation's roads, bridges and mass transit systems until the end of 2014. However, the looming insolvency of the Highway Trust Fund compelled Congress to act and on July 31, 2014, a short term patch was authorized that provided \$11.7 billion to finance the Highway Trust Fund and extended MAP-21 until May 2015. Approval of a longer term infrastructure bill is viewed as an essential measure to provide financing certainty for these projects which are invariably longer term, often many years in duration. Accordingly, it was viewed as positive by the construction industry when in December 2015 a \$307 billion, five-year highway and infrastructure bill, the Fixing America's Surface Transportation (FAST) Act

of 2015, was signed into law by President Barack Obama, which includes over \$200 billion in Federal Aid Highway Program spending.

Measures were promulgated in the US in 2012 that were intended to accelerate the recovery of the private housing sector and it became clear that a recovery in private housing was underway during 2013, although new starts were well below what might be considered the 'normalized level' as measured prior to the collapse of the subprime-mortgage driven bubble. This recovery continued during 2014 and 2015 on a general basis but with significant regional variances reflecting local economic situations.

#### *Hawaii*

The Hawaiian Islands consumed approximately 11 million tons of construction aggregate in 2007, the last year for which the USGS reported the statistics. It is understood that consumption fell to approximately 7.7 million tons in 2010, although there is no longer any independent verification. Prior to 2015, the Company supplied materials used in the Honolulu area market on the island of Oahu, where demand appeared to be increasing since 2013. The near term demand looks to be driven by infrastructure projects, particularly the Honolulu Light Railroad project and military facilities spending. An increased military presence in Hawaii, with an associated higher level of investment in facilities, appears to now be the priority as the envisaged realignment of forces from Okinawa, Japan, to Guam is delayed.

#### *Vancouver, British Columbia*

There are no independent statistics that report demand for construction aggregate in this market, however, the Vancouver market has not been a significant outlet for the Company's products in the recent past. One factor that might change the Company's involvement in British Columbia is the large number of LNG terminal projects that are under consideration along the central and northern coastlines. While only a small number could be expected to be constructed, they represent large projects some of which are believed to be only accessible from the water.

### **Target Markets**

The Company continues to pursue its objective to acquire and develop new terminals situated along the western seaboard of the United States. As part of the Strategic Alliance with Cemex, a joint cooperation and development agreement commits both companies to locate, negotiate and propose new marine terminals in California, Oregon and Washington State, with each party having the option to participate on a 50:50 basis in agreed new terminals. However, due to capital constraints, Cemex advised the Company in 2011 that it would be unable to participate in the development of the proposed Port of Long Beach Terminal in California, leaving the Company free to progress independently.

#### *Los Angeles*

With a population of approximately 18 million, the Los Angeles urban area is second only to New York in population in the United States and, as such, represents a substantial market for aggregate consumption. However, the recession and consequent deep decline in the demand for construction aggregate in southern California extended the remaining life of the existing quarries within the Los Angeles Basin area and selling prices have remained relatively low. The Company's terminal is well situated to supply marine imported aggregates into the Port of Long Beach where the market demand is now being positively influenced by ambitious infrastructure developments. Development of the leased Berth D-44 site commenced in 2014, following a protracted period required to obtain numerous construction permits and, following commissioning in July 2015 with the first ship unloading, commercial sales commenced during the first quarter of 2016. Market penetration will initially be slow as the Company focuses on the designers and specifiers of materials to recognize the significant structural benefits offered by the high quality Orca Quarry aggregates leading to their specified inclusion in major construction projects being planned.

#### *San Diego*

Based on projections from the California Geologic Survey, an 83 percent shortfall in the region's supply of aggregate material (800 million tons) could be expected through 2055, with immediate deficits of around 7 million tons per

annum. Included in the possible solutions to this significant supply deficit problem is the combination of the development of new quarrying sources, the continuation of long-hauled road deliveries and the importation of two million tons per annum by ship and one million tons per annum by rail.

Polaris, through a jointly owned subsidiary, Cemera San Diego, LLC, had registered an interest in the Port of San Diego in respect of the potential to develop a new aggregate storage and distribution terminal within the Tenth Avenue Marine Terminal, which would offer a contributing source to meet the identified supply deficits. It has now become increasingly clear that the port is involved in a lengthy process to determine the vision for the future use of its lands and certain entities are pressing for alternate uses that would see the end of marine-based activities. In recognition of the complex issues and uncertainty of outcome, the Company expects to simply maintain a low-key relationship and as a consequence, Cemera San Diego, LLC, was dissolved in January 2015.

#### *Other Markets*

Elsewhere in California, the Company and its Strategic Alliance partner, Cemex, have focused attention on possible terminal developments at Port Hueneme in Oxnard County, north of Los Angeles, and in Sacramento in northern California. Consideration has also been given to the possibility of developing marine aggregate terminals in the States of Washington and Oregon, where local aggregate shortages in urban coastal markets are anticipated to create importation opportunities for sand and gravel. Despite the recovery in construction demand, the impact of the recent economic recession has made the timing for any of these potential terminal opportunities impossible to predict.

## **COMPETITIVE CONSIDERATIONS**

### **Overview**

The construction aggregates industry is characterized by the delivery of large volumes of materials which have a relatively low intrinsic value and for which the cost of transportation frequently represents more than half of the final cost to the purchaser. Accordingly, transportation, handling and distribution costs play a major role in assessing the viability of a new quarry.

Although the markets for aggregates are generally regarded as being relatively local to the sources of production, this is not always the case. Delivery by road is the dominant mode for the distribution of aggregates and in many locations there are simply no alternatives. However, viable options do exist in situations where the infrastructure is in place to accommodate alternative methods of transportation, specifically the existence of ports, or railroads, conveniently located within the markets to be served. In these situations, the aggregate source must also be situated on navigable deep waters or adjacent to an appropriate rail line or other commercial waterway. When these alternatives for distribution are available, the physical location of the aggregate source has less significance. Shipping, barging and rail all offer much lower haulage costs on a per ton-mile basis than trucks, the lowest and most cost effective being large self-discharging ships, which are used by Polaris.

Environmental considerations have gained increasing prevalence, especially in California, with new buildings seeking Leadership in Energy and Environmental Design certification (LEED) which is administered by the US Green Building Council. A key component of LEED is the concept of using regional materials in order to minimize the emissions from transportation. In July 2012, the Green Council amended the Regional Materials rule to reflect the much lower emissions per ton mile when using ships or railroads. When using ships, the actual distance travelled is divided by 15 (for rail this factor is 3) in order to compute the effective distance which must be less than 500 miles for maximum green credits. On this basis, the Orca Quarry is considered to be less than 70 miles from San Francisco and less than 100 miles from Los Angeles therefore qualifying as a regional supply source with maximum green credits.

### **New Quarries**

The ongoing depletion of construction aggregate quarries in California will require the quarrying industry to invest significantly in geological evaluation, permitting, and quarry development if the industry is simply to maintain historic levels of indigenous production even before considering the expected increases in demand created by continuing population growth and infrastructure maintenance. However, there are a number of significant barriers

to developing new resources into active quarries. Some barriers particularly prevalent in the current landscape are: issues of environmental protection; acceptability of the development to local communities; and impacts to local road networks from product shipments that utilize large numbers of trucks. In addition, issues of resource quality and quantity, climate, and the availability of fresh water, labour, infrastructure, and power, may also influence whether or not a proposed operation is capable of being viably developed. The costs of identifying and securing the resources, obtaining permits, and the magnitude of capital required for development are substantial and success usually takes many years. The combination of these factors, and the scarcity of the opportunities for such developments, means that the barriers to entry are high and the costs can run to tens of millions of dollars. There is no certainty of success. See “Risk Factors”.

### **Competitive Modes of Transport**

There are three modes of transportation for aggregate: road, rail, or water. The viability of each transport system is determined by a number of factors, including the location of the resource, the availability of adequate road or rail systems, and the proximity of suitably deep, navigable, waters or commercial waterways.

In the case of rail and waterborne movements, receiving terminals are required, either within or near the market area, to serve as distribution points to customers. These terminals must have access to a good road system for final delivery.

Therefore, transportation decisions are site specific. Basic factors which influence decision making are as follows:

*Road* — The cost per ton-mile of road transportation for construction aggregate is significantly higher than by rail or water and as the cost of diesel fuel increases, road transport becomes less competitive on a ton-mile basis. As highways become increasingly congested, the cost per ton-mile increases reflecting the longer time taken to complete a delivery. The effect of these transport logistics is to establish a zone around each source of supply within which that source is more competitive than alternatives. Generally, a supplier located near its customer base can expect to enjoy a competitive advantage over a more remote supplier. Road transportation is the predominant mode of aggregate delivery, especially outside of the targeted coastal markets.

*Rail* — The movement of construction aggregate by rail in the United States is well established in many regions, particularly the east coast and south eastern regions. The Company believes that the growth in container traffic, particularly from Asia, and the increasing demand for coal and grain exports, has largely absorbed existing rolling stock and line capacity primarily in coastal city locations. The large container ports on the west coast, Oakland, Long Beach and Los Angeles, make extensive use of the rail system for distribution.

Rail operators have, over time, closed many tracks, especially in rural areas. Gaining access from a new resource to a rail service, and permitting land within the major market areas for a rail receiving terminal development, are very difficult. The cost of transporting aggregate by unit trains may depend on whether or not the rail cars must be switched between one rail operator and another. Switching costs between lines can add significantly to the cost of any particular movement and, therefore, a further constraint on a rail dependent development may be the need to find resources and terminals connected by a single operator. Rail policies that favour passenger traffic, rather than freight, together with timing limitations on rail freight movements may negatively affect the transport of aggregates by rail.

There is a relatively small number of existing rail reception depots for construction aggregates in California. Existing depots are located to the south of the San Francisco Bay area and in the greater Los Angeles area. The Company believes that significant further growth of rail competition is unlikely.

*Water* — The waterborne importation of aggregate from coastal quarries into the United States has increased significantly during the last two decades. The growing availability of large vessels that offer cost-effective, long-distance haulage through efficient self-discharge systems has greatly reduced the cost per ton-mile for aggregate shipping. When using waterborne distribution, the mineral resource should be located next to suitably deep, navigable water where loading can take place directly from the quarry without the need to truck materials to a receiving port. This is the case at the Orca Quarry. Logistical and environmental advantages, such as the proximity of ports to urban markets and established road networks, are other essential requirements for economic waterborne distribution. Quarries located in British Columbia, Nova Scotia, New Brunswick, the Bahamas, the Yucatan Peninsula

and Baja California in Mexico now supply many coastal U.S. markets. Further development of waterborne aggregate supplies can be anticipated from Caribbean Islands to south east coastal markets in the U.S.

*Barging* – The Mississippi River is extensively used for the movement of aggregates by barge as are a number of smaller inland waterways. In certain coastal locations barges are used for ocean transportation but generally only on sheltered and shorter routes.

### **Competition**

Two existing British Columbia aggregate operations supply waterborne materials to California and Hawaii in addition to the Orca Quarry. The Lafarge Group, a French-owned international building materials company, supplies crushed rock from a quarrying operation on Texada Island. This includes larger sizes of rock for coastal and river erosion protection in California and aggregate-sized material for asphalt manufacture which is primarily used in Hawaii. Lehigh Hanson, a subsidiary of the German international building materials company Heidelberg Cement, operates the Sechelt sand and gravel quarry (“Sechelt”) in British Columbia and also a receiving terminal in the city of San Francisco operated by Hanson Aggregates Mid-Pacific, another subsidiary. Sechelt was previously the one competitor that supplied the San Francisco area with sand and gravel of a comparable quality to that of the Orca Quarry. In December 2012, Polaris and Hanson entered into a supply agreement whereby CSL vessels chartered by Hanson would be loaded FOB Orca Quarry for supply to Hanson’s terminal in San Francisco Bay. Supplies under this agreement commenced in February 2013. In January of 2016, the Company and Hanson agreed that purchases would continue past the third year anniversary date in February 2016, until December 31, 2016. Hanson also operates the Mission Valley Rock Company, a large sand and gravel pit operation in the San Francisco Bay area, which they purchased in 2005. In addition to the Texada and Sechelt quarries, there are a number of smaller operations that use barges to supply the greater Vancouver market with both sand and gravel and crushed rock aggregates.

Sources of production have continued to close and new quarry operations remain exceedingly difficult to permit, especially in California. In 2007, Lehigh Hanson closed its Producers Pit, a sand and gravel quarry which produced approximately two million tons per year, located near Victoria, British Columbia, due to exhaustion of reserves. This operation had shipped materials by barge to west coast locations, as well as serving the Victoria area by truck. At the end of 2011, Hanson suspended the production of construction aggregates at its Cupertino limestone quarry near San Jose, which served customers in the south San Francisco Bay markets. The closure was stated to be for a period of two years and production recommenced towards the end of 2013, albeit at a lower level compared with the pre-closure years, before a final closure was announced effective towards the end of 2014. Granite Construction is believed to have closed a granite quarry located south of San Jose towards the end of 2012. The Company believes that these closures have removed well over one million tons per year of coarse aggregate production and have, in part, continued to influence the increasing demand for Polaris’ products since 2011. During 2012 and 2013, two new quarry projects in California failed to obtain permits and were cancelled. These were the Liberty Quarry project near San Diego and the Jesse Morrow Mountain project near Fresno, both of which proposed to develop large hard rock quarries but could not overcome enormous public opposition. It is Polaris’ expectation that new quarries permitted in California would be expected to be significantly further from the established markets with consequently higher transportation costs, which is a reason for Polaris’ competitiveness especially in the city areas close to the ports where the Company’s terminals are located.

Other waterborne competition may conceivably arise from the coasts of Alaska, British Columbia, or Mexico. However, during the period from 2000 to 2002, the Company carried out a search on the west coast of North America, from Alaska to Mexico, seeking to identify suitable deposits capable of shipping aggregates to California. In Alaska, the climate and remoteness, a lack of infrastructure, longer distances to markets, and the U.S. *Jones Act* (which increases shipping freight costs for aggregate deposits located in the United States due to a requirement to use US flagged carriers) were all negative factors. Mexico’s potential was found to be limited by poor quality material, a lack of infrastructure, and limited fresh water available for processing and washing. In 2010, however, a new sand and gravel processing plant was installed in Tijuana, Mexico which receives raw materials from diverse riverbed sources. Products from this facility are currently being exported into the San Diego market, although the Company believes that there may be quality issues with these aggregates and therefore this source would be unlikely to present a challenge to the Company’s products for use in infrastructure works.

A significant number of sites were examined in British Columbia following which the Company concluded that the Orca Project offered a cost-effective source of high quality sand and gravel that could be shipped from coastal British Columbia. Although a number of other coastal sand and gravel deposits are being investigated by others, who could become future competitors, none have yet to be developed and Polaris now has a significant advantage through its long-term customer supply contracts and secured receiving terminals. See “Risk Factors” for further details.

### **Prices**

The Company enjoyed relatively stable pricing for its products since commencing shipments in 2007 through to 2012. However, as a result of the severe recession, the price growth anticipated at the time of the IPO (see “Financings”) was not realized during that period but can be expected once significant growth in demand becomes evident and the industry as a whole is in a period of strong recovery. The downturn in the demand for construction aggregates did create pricing pressure in certain market areas in California and Polaris experienced some minor reduction in average selling prices during 2011, principally the result of incentive pricing offered to contracted customers to encourage volume growth. Price increases, in line with the rate of inflation, were implemented in May 2012, and thereafter further incremental increases have been achieved. The Company believes that market conditions are now supporting real price increases as the industry’s recovery gathers pace in the US. The results of all major industry companies had been severely impacted by the recession but strong improvements in performance were evident particularly since late 2014, including very positive results by many companies for the full year 2015. Increases in shipping fuel surcharges during the period 2007 to 2013 caused an increase in the Company’s delivered prices into the northern California market and although they were passed through to customers, there was no net benefit to the Company. World oil prices steadily increased during this period and remained reasonably flat through 2014, but have since declined through 2015 and current prices sit near 10 year lows. The anticipated price increases due to implementation of Phase II of the ECA during 2015 have been mitigated by the decline in world oil prices in 2015.

### **Social Responsibility and First Nation Relationships**

Land in British Columbia is either owned privately by fee simple owners or publicly by either the Federal Government of Canada or by the Provincial Government of British Columbia, both commonly referred to as the Crown. In addition, while minerals are generally excluded from fee simple ownership of land in British Columbia, the *Mineral Tenure Act* (British Columbia) specifically excludes sand, gravel and rock or a natural substance used for construction purpose, from the definition of mineral. Accordingly, in British Columbia, the right of a land owner to remove sand, gravel and rock for construction purposes is a right connected to fee simple ownership. First Nations in British Columbia have made claims of aboriginal and treaty rights and title (collectively “Aboriginal Rights”) to substantial portions of land and water in the Province, including areas where the Company’s properties are situated, creating uncertainty as to the status of other public and private property rights. In the last decade, there have been numerous judgments by both the Supreme Court of Canada and the British Columbia Supreme Court regarding Aboriginal Rights and the duties of government and individuals to consult with First Nations groups, creating a constantly evolving legal environment.

To deal with this uncertainty, Polaris adopted a guiding principal: to seek to work cooperatively with those First Nations that have asserted traditional territory claims over the Company’s search areas with a view to developing the projects for mutual benefit. The Company sought and respected the guidance from the relevant First Nations groups which allowed the Company to avoid searching in areas of spiritual or other sensitive uses by the First Nations, thereby avoiding conflict from the outset. Once project areas had been identified as suitable mineral resource areas, the Company undertook an exceptionally detailed and inclusive consultation process that involved not only all those First Nations with overlapping traditional territory claims over the various project lands but also involved every community group and potential stakeholder.

The First Nations asserting aboriginal rights and title over the Company’s proposed project lands were offered participating interests in the projects. Thereafter, the First Nations worked closely with the Company during the environmental assessment process and planning in addressing ecological, cultural, and socio-economic interests. This co-operative and consultative process resulted in the issuance of environmental and other project permits and Crown tenures by the provincial and federal agencies, and has also provided the surface rights owners of private project lands with assurances that the First Nations are in agreement with the arrangements that have been put in

place in connection with those privately-held lands. Post-development, the Company is working closely with the First Nations in connection with the operation of the Orca Quarry. See “History of the Orca Project” and the “History of the Eagle Rock Quarry Project”.

The Company is in good standing under all operating permits and leases at the Orca Quarry and maintains good relationships with the local communities in which it operates.

### **Financing and Management of the Company’s United States Operations**

Eagle Rock Aggregates, Inc., one of the Company’s U.S. subsidiaries, holds the Richmond Terminal Lease and corresponding easement and facilities use agreements, as well as the Company’s Long Beach port interests. It also holds the Company’s marketing interests in California, including the initial aggregates supply and distribution agreement with Cemex pursuant to the Strategic Alliance, and manages the Company’s operations in California, including the shipment and sale of construction aggregates from the Orca Quarry. The parties to the Eagle Rock Shareholders Agreement (as later defined), being the Company and the Hupacasath and Ucluelet First Nations, began discussions in 2008 regarding a potential renegotiation of the terms of the arrangement with Eagle Rock Aggregates, Inc. for the financing, construction, and operation of the Richmond Terminal and other California port terminals, and for the purchase, shipping, distribution and sales of construction aggregates from the Orca Sand & Gravel Limited Partnership (the “Orca Partnership”). The original concept of the agreement was to ensure that the First Nations involved in the Eagle Rock Quarry Project were protected in the future from economic risk caused by the arbitrary setting of transfer prices between quarry and terminal. However, in practice the transfer pricing has been set independently by the Canada Revenue Agency under an advanced transfer price ruling that was finalized in February 2011. Through market forces that changed the originally anticipated timing of the quarry developments, this agreement is no longer practical in respect of terminal development and the Company does not wish these First Nations to be locked into an agreement that would be greatly to their disadvantage going forward. These discussions were restarted at the end of 2014, however, there is no assurance that a new agreement will be reached on terms satisfactory to the Company. The failure to enter into such agreement may have a material adverse effect on the Company (see “Risk Factors”). See “Port Terminals and Development – Existing Terminals” for further details regarding the Richmond Terminal. Future terminal interests outside the state of California will be held by Polaris Aggregates Inc., a 100% owned U.S. subsidiary of the Company that became responsible for sales in Hawaii in 2014 upon the dissolution of Polaris Materials Inc., a step taken to simplify the corporate structure and reduce the number of subsidiaries that have to be maintained.

## **ORCA SAND & GRAVEL PROJECT**

### **History of the Orca Project**

The Orca Project was originally comprised of three large, high quality, sand and gravel deposits - the East Cluxewe, West Cluxewe and Bear Creek Deposits. The Company began development of the East Cluxewe Deposit, the associated process plant and ship loader (together the “Orca Quarry”) in March 2006 with land clearing and site preparation for the construction of the ship load-out conveyors and the sand and gravel processing plant. The quarry commenced production in February 2007. On June 15, 2008, the Company received a ten-year Licence of Occupation from the Province of British Columbia covering an area of Crown land referred to as the East Cluxewe Extension Deposit, which is contiguous with the East Cluxewe Deposit. In the longer term, subject to further studies and permitting, the Company expects to quarry the East Cluxewe Extension and West Cluxewe Deposits and ship those products to markets, using the process plant and ship loader located at the Orca Quarry site. A comprehensive geological evaluation and drilling program was completed on these two deposits during the summer of 2008 in order to quantify potential additional resources. Until March 31, 2009, the Orca Partnership held the exclusive rights to negotiate a lease to obtain rights to the Bear Creek Deposit located on fee simple private land owned by Island Timberlands LP. However, following consideration of the results of a detailed geological evaluation and the economic requirements of the owner, interests in the Bear Creek Deposit were allowed to lapse during 2009 and, therefore, it is no longer considered a future resource. During 2007, Polaris received a Licence of Occupation from the Province over a potential sand and gravel deposit located 19 kilometres from the Orca Quarry and referred to as

the Cougar Deposit. Results of a limited quantity of drilling on the Cougar Deposit in 2008 were not encouraging and, as a consequence, the Company relinquished the Licence of Occupation for this site.

The East Cluxewe and West Cluxewe Deposits are situated on fee simple, private lands owned by Western Forest Products Inc. (“WFP”). The East Cluxewe Extension Deposit is located on Crown land over which the Company has access rights through a ten-year Licence of Occupation with the Province of British Columbia. The Orca Project lands, together with the East Cluxewe Deposit and the East Cluxewe Extension Deposit, all lie within the asserted traditional territories of the Kwakiutl Band (the “Kwakiutl”) and the Namgis First Nation (the “Namgis”), whereas the West Cluxewe Deposit is located in traditional territory asserted exclusively by the Kwakiutl.

The rights to the East Cluxewe Deposit, East Cluxewe Extension Deposit, and West Cluxewe Deposit are held by the Orca Partnership pursuant to a limited partnership agreement (the “Partnership Agreement”) dated March 1, 2005, amended and restated April 1, 2005, among the Namgis (as to 12%) and the Company (as to 88%), both as limited partners, and Orca Sand & Gravel Ltd., as the general partner (the “Orca General Partner”). See “Corporate Structure – Intercorporate Relationships”. The Orca Quarry was originally designed and permitted to produce up to 6.0 million metric tonnes per year working on a two-shift basis. During 2008, the NI 43-101 technical report on the Orca Quarry was updated and concluded that, subject to obtaining a revised mine permit, the quarry could produce approximately 8.7 million metric tonnes per year on a 24/7 operation.

The Orca Partnership entered into an impact and benefits agreement dated April 1, 2005, with the Namgis, which grants certain preferential opportunities to the Namgis for business development, employment, and training within its community. Contributions based on volumes of construction aggregates sold by the Orca Partnership will be made by the Orca Partnership to foundations that will benefit communities located within the asserted traditional territories of the Kwakiutl and Namgis. In the event that treaties are settled over the Orca Project area granting the Namgis the authority to impose taxes or royalties over the Orca Project, the Namgis will not impose a tenure or tax regime, for a period of 20 years from the date of such treaties, which is less favourable than the tenure and tax regime that would have governed had the treaties not been settled. In December 2031, the Namgis will have a one-time right to increase their ownership in the Orca Partnership by up to 50%, by purchasing Orca Partnership units from the Company for cash at fair market value.

The Orca Partnership has also entered into an impact and benefits agreement, dated March 9, 2005, with the Kwakiutl. This agreement applies only to the Orca Quarry development and operations. It provides the Kwakiutl with a gross royalty based on volumes of construction aggregates sold from the East Cluxewe Deposit. This royalty rate increased over four years and, commencing in the fifth year, is adjusted annually with reference to a price index. Also, certain preferential opportunities have been granted to the Kwakiutl for business development, employment, and training within its community. In the event that treaties are settled granting the Kwakiutl jurisdiction over the Orca Project site, the Kwakiutl will not impose a tenure or tax regime, for a period of 20 years from the date of such treaties, which is less favourable than the tenure and tax regime that would have governed had the treaties not been settled.

#### *Namgis Funding*

In April 2005, the Company and the Namgis entered into a loan agreement whereby, at the request of the Namgis, the Company would make advances to the Namgis to enable them to meet their required equity contributions to the Orca Partnership. Advances made by the Company to the Namgis following the construction decision bore substantial interest rates. The Company’s sole recourse for repayment of the advances is the distributions receivable by the Namgis from the Orca Partnership and the advances cannot be prepaid. The Company does not record interest receivable on the Namgis loan in its financial statements. In light of significant changes in the credit markets since the loan agreement was originally executed, together with the impact of the severe economic recession since the construction decision was made, several terms of the original loan agreement were amended in March 2010 whereby interest payable on the loan was frozen at the amount payable as of September 30, 2009; changes were made to the rate of interest such that they are more reflective of current market conditions; and the terms of the cash distributions and recourse for repayment were adjusted to be less restrictive. As at December 31, 2014, the Company had advanced \$8,032,337 to the Namgis.



### *Tenure*

The Orca General Partner, on behalf of the Orca Partnership, has executed a *profit à prendre* lease with WFP over its freehold land lying to the south and west of Port McNeill, which includes the East and West Cluxewe Deposits. The *profit à prendre* has been registered against title to the subject lands.

A *profit à prendre* is an agreement made by a landowner granting the right to the holder to enter the land of the grantor and to sever, take away and convert to the holder's own use a product of the land. The holder does not obtain any right or interest in the subject product until it is severed from the land. A *profit à prendre* usually includes compensation payable to the grantor, a right of entry to the holder, and the right of the holder to use such surface land as is necessary and convenient to exercise the rights of access and removal.

In the case of the *profit à prendre* in respect of the East and West Cluxewe Deposits, the designated products are rock, stone and sand, and it provides the Orca Partnership with the right to access the deposits and remove rock, stone and sand therefrom. The term of the *profit à prendre* in respect of the East and West Cluxewe Deposits is for 10 years commencing March 1, 2005, with four separate consecutive options, exercisable by the Orca Partnership, to extend the term for further periods of 10 years each for a total of 50 years. This *profit à prendre* includes a right of entry and use of the necessary area of the surface land.

The East Cluxewe Deposit is subject to royalties payable by the Orca Partnership to WFP and the Kwakiutl together with a local community philanthropic fund beginning in 2013. Royalties totaled \$0.81 per tonne of construction aggregates sold upon commencement of operations in 2007 and are subject to certain inflation indexation provisions.

Title to the ship loader site is held under a 30-year foreshore lease with the Province of British Columbia entered into on May 1, 2006.

### *Permitting*

Rights to operate the Orca Quarry are granted by Environmental Assessment Certificate M05-01 and Mine Permit G-225, both issued to Orca Sand & Gravel Ltd. by the Province of British Columbia in July 2005.

### **Information from the Orca Report**

In 2008, the Company engaged Greg Kulla, P. Geo., Ryan Ulansky, P. Eng., and Vladimir Solodkin, P. Eng., of AMEC (each a "Qualified Person" as such term is defined in NI 43-101 and independent of the Company) to prepare an updated NI 43-101 compliant technical report on the Orca Project with an effective date of November 27, 2008 and revised on December 23, 2008 (together, the "Orca Report").

Unless stated otherwise, the information in this section is summarized, derived or extracted from the Orca Report.

Certain information under this heading "Orca Sand & Gravel Project" is based on assumptions, qualifications and procedures that are set out only in the Orca Report. For a complete description of assumptions, qualifications and procedures associated with the information in the Orca Report, reference should be made to the full text of the report that is available for review on the Company's website or under the Company's profile on the System for Electronic Document Analysis and Retrieval (SEDAR) located at the website [www.sedar.com](http://www.sedar.com).

### **Property Description and Location**

The Orca Quarry produces high-quality construction aggregates from a large sand and gravel resource for export to the coastal city markets of North America, particularly California, Vancouver and Hawaii. A production capacity of approximately six million metric tonnes per annum is presently permitted, with all products leaving the site in large ocean-going bulk carriers (Panamax class or similar) or barges that are loaded at a dedicated facility constructed on the adjacent foreshore.

The Orca Quarry site is approximately 4 km west of Port McNeill, Vancouver Island, British Columbia, and covers approximately 350 ha of land that was clear-cut logged 45 to 65 years ago. Construction aggregate produced from sand and gravel is a natural material benign to the environment. The production process of construction aggregates utilizes only physical processes, principally crushing, sizing, and washing, although small quantities of flocculants

may be used to remove sediments from process wash water. Aggregates are the principal constituents of all forms of concrete and asphalt, and their wide range of applications makes them fundamental to providing homes, highways, schools, hospitals, and virtually all the facilities and infrastructure necessary to support modern society.

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

The project pit at the East Cluxewe Deposit is located northwest of Port McNeill, British Columbia, on northern Vancouver Island, British Columbia. Port McNeill is accessible from Vancouver via scheduled daily flights by Pacific Coastal Airlines to Port Hardy, 40 km northwest of Port McNeill, or via ferry to Nanaimo, British Columbia and a 3.5-hour drive north on Island Highway 19. The pit is approximately 4 km from Port McNeill and is accessible from both Highway 19 and a network of logging roads maintained by Island Timberlands and WFP. Port McNeill experiences cool, moist weather typical of northern Vancouver Island. Annual rainfall in neighbouring Port Hardy averages 1,766 mm per year, with the majority falling during the winter months from September to April. Annual temperatures at Port Hardy average 8° C. July and August are the warmest months, averaging 17° C highs. Winter lows average 0.2° C. Temperatures occasionally fall below freezing during winter, but not for prolonged periods. The quarry operates year round.

Traditionally, logging has provided the economic base of Port McNeill, but tourism and sport fishing are becoming larger employers to the community. These resources are supported by a diversity of other businesses such as restaurants, grocery, and general stores. The community has a population of 3,000 people that includes an existing, skilled resource-based industrial workforce. Power supply for the processing and ship loading facilities is provided from an existing power grid that borders the project on its north and eastern boundaries. This power line supplied power to the now-closed Island Copper mining operation, which was located in the Port Hardy area. No upgrading was required to supply power to the project.

Water for product washing and domestic use (non-potable) is obtained from wells drilled on the property.

Northern Vancouver Island consists of three major physiographic units: the Nahwitti Lowland, the Susquash Basin, and the Vancouver Island Mountains immediately to the south. The Nahwitti Plateau dominates the northern tip of Vancouver Island, principally to the west of the coastal area. It is characterized by low relief and a smoothed upland, remnants of a dissected Tertiary erosional surface that slopes northward towards Cape Scott.

The Susquash Basin is a triangular-shaped area along the eastern margin of the Nahwitti Lowland extending between Port Hardy and Port McNeill. It is characterized by gentle, rolling to level topography below 300 m elevation, with scattered uplands or hillocks. The lowlands are underlain by gently dipping Cretaceous-Age sedimentary rocks of the Nanaimo Group; the hillocks are made up of Triassic-Age sediments volcanics of the Vancouver Group. Erosion and glaciation of the soft Cretaceous sediments in the basin have produced the lowland topography. The uplands are mantled by colluvial and glacial moraine deposits. Thick Quaternary glacial fluvial and lacustrine deposits consisting of fluvial and glacial-fluvial sand and gravel and marine lacustrine clay mantle the eastern lowlands in the Port McNeill area. The glacial-fluvial sand and gravel deposits formed 9,000 to 12,000 years ago from the melting of the mountain glaciers to the south. The alluvial and glacial-fluvial sand and gravel deposits are up to 100 m thick in the Cluxewe River area and are the principal targets in the project area.

### **History**

The Orca Project pit and surrounding area have provided local resources of sand and gravel from several extraction operations. Within the proposed extraction boundary was the Hartford Pit which had been used as a sand and gravel resource by WFP. Quarry Lease No. 1407109, operated by the BC Ministry of Transportation, lies on the southern border of the Orca Project pit. On the western border is the OK Paving pit which processes sand and gravel as feedstock for an on-site asphalt plant. The historical production from these pits is not known, but all are under active use.

## Geological Setting

### *Regional Bedrock Geology*

In late Middle Triassic time a few hundred feet of black argillite and siltstone were deposited (Parson Bay Formation). Basaltic lava welled up, forming a diabase sill and dyke-complex between the older Paleozoic rocks and the recently deposited Middle Triassic siltstones. Basalt was also sub-aqueously extruded in large quantities forming pillow-lavas. As the water dropped and the area became shallow and subject to wave action, close packed pillow-lavas were replaced by pillow-breccias and sub-aqueous tuffs. Eventually the volcanic shield rose above the water and basaltic flows, with vesicular tops and bottoms, erupted and reached a maximum thickness of about 3,000 m (Karmutsen Formation). In early Jurassic time, renewed island arc-type volcanism occurred and formed the Bonanza Volcanics. Volcanism was confined mainly to the southwestern part of the basin and/or to the outer arc where andesitic to rhyodacitic lava, tuff and breccia erupted, and intercalated with marine clastic sediments. Volcanism was coupled with major plutonic activity. Plutonism ceased in middle to late Jurassic time. Uplift and erosion followed in late Jurassic time and clastic wedges were laid down on the outer shelf. Farther ocean-ward, flysch-type sedimentation occurred on the continental slope, or slope of the outer island arc and in a trench west of the arc. Successively overlapping sediments show the eastward transgression of shelf sedimentation in early Cretaceous time. By late Cretaceous time the outer shelf emerged and sedimentation shifted to a northeasterly inner basin with varying marine, delta and lagoon conditions. Bedrock outcrops with and without colluvial veneers are common in the high relief areas south of Port Hardy and in the northwest and southwest corners of the project region, respectively. Scattered outcrops also occur in the highland area south of Port McNeill. The structure of the project region is dominated by block faults and exhibits a medial north northwest trending arch, flanked by fault blocks with outward dipping strata. The entire region is crisscrossed by irregular sets of steep to vertical faults of normal or strikeslip, but largely unknown, displacements. These blocks are divided by the Brooks Fault Zone into southeastern and northwestern groups.

### *Local Geology*

The Susquash Basin borders these blocks on the northeast, and the Pacific Rim block forms the continental slope on the southwest. The Orca Quarry is located at the convergence of several major faults and fault zones. It is underlain by Upper Cretaceous Nanaimo Group sediments, overlying Karmutsen lavas and is pierced by several later Tertiary volcanic structures. The local area is chiefly underlain by the Vancouver Group, consisting of a basal Middle Triassic sediment-sill unit, a thick pile of Triassic basaltic volcanics (Karmutsen Formation), Upper Triassic carbonate, pelitic and volcanoclastic sediments (Quatsino and Parson Bay Formations), and a Lower Jurassic sequence of basaltic to dacitic effusive and pyroclastic volcanics with minor intercalated sediments (Bonanza Subgroup).

### *Property Geology*

The East Cluxewe Deposit rests on flat-lying bedrock of Cretaceous-Age sediments of the Nanaimo Group. The sedimentary bedrock consists principally of coarse sandstone grit with minor inter-bedded shales and coal horizons. The sediments have been intruded by a small andesite body which is exposed in a rock quarry on the east side of the Cluxewe River. It was also intercepted at the bottom of two drill holes. This intrusive body is one of a series of Tertiary-Age intrusives that were emplaced along a northeast structural trend through the northcentral part of Vancouver Island.

The sand and gravel deposit is overlain by overburden material consisting of Podzolic soils that are formed under cold and temperate coniferous forests from the degradation of needles. Overburden material thickness is in the order of 1 m to 2.5 m. The sand and gravel deposit consists of two clearly definable horizons labeled Stratum A (upper) and Stratum B (lower). Material in Stratum A is a mixture of coarse aggregate with fine aggregate in the interstitial spaces. Stratum B is represented by fine to medium sand. The sand and gravel deposit is well exposed in 12 pits and road cuts along its 11,000 m length. A third horizon labeled Stratum C (lowest) was identified which consisted of a very fine sand and silt. This stratum contains silt or fines in excess of 40% and is considered to have no economic value and therefore does not form part of the resource. The sand and gravel is composed predominantly of volcanic material with minor granitic material, dark dyke rock, limestone, and metamorphic material.

### *Deposit Types*

The East Cluxewe Deposit is a well-sorted, fluvio-glacial sand and gravel deposit that reflects a regressive depositional environment. The upper layers consist of approximately 40 m of coarse sands and gravels. This is followed by a layer of predominantly medium and fine-grained sands with minor coarse sand and silts. This middle layer ranges from 22 m thick on the eastern edge of the deposit to almost no thickness at all on the west side near local bedrock highs. Below this is a lower layer of very fine sands and silts.

### **Mineralization**

The East Cluxewe Deposit is situated between the Cluxewe River to the west and Highway 19 to the east and a British Columbia government quarry to the south. The deposit trends northwest and is approximately 3,000 m long and 1,000 m wide and has an average thickness of 60 m. Extensions of the deposit to the northwest and to the southeast are evidence in existing pits and exploration drill holes.

Two reasonably contiguous and homogenous economic horizons have been identified within the East Cluxewe deposits. Stratum A, material in the upper horizon, is approximately 40 m thick and is a mixture of coarse aggregate with fine aggregate in the interstitial spaces. Stratum B, the lower horizon, ranges from 22 m thick on the eastern edge of the deposit to almost no thickness at all on the west side near local bedrock highs and is a mixture of fine to medium sand. The sand and gravel are composed predominantly of volcanic material comprised of approximately 70% granite and 30% metamorphic material. Stratum C, a third and the lowest horizon identified consists of a very fine sand and silt. Stratum C contains silt or fines in excess of 40% and is considered to have no economic value.

### **Exploration and Drilling**

From May to October 2003, a detailed program of road building, line cutting, mapping, surface sampling, and shallow seismic was carried out. The seismic program was undertaken by Frontier Geosciences Inc. ("Frontier"), of North Vancouver, British Columbia. Frontier was also responsible for the interpretation of the results. During May and June 2003, Frontier completed a total of approximately 10 km of seismic refraction survey involving 15 separate seismic lines. On the East Cluxewe Deposit, 11 seismic lines were laid out in an east-west, sub-parallel arrangement at approximate spacing of 250 to 300 m apart. Three lines were run on the smaller West Cluxewe Deposit. One line was run near a gravel pit approximately 1.5 km east of the main East Cluxewe area.

Polaris conducted a drilling program on the Orca Quarry from September 19 to 29, 2003. Polaris established the hole locations after consultation with Beck & Associates Geo-consultants Inc. and a review of the exploration seismic data. The goal was to improve upon the geological interpretation of the deposit and obtain representative samples for quality analysis.

In 2008, a 24-line kilometer high resolution resistivity survey was completed by Golder and Associates in the East Cluxewe Extension areas southeast of the East Cluxewe pit. Confirmation and exploration drilling was also completed in 2008 within the East Cluxewe pit, at the West Cluxewe target to the northwest and the East Cluxewe Extension lands to the south. This geophysical program and new drilling within the West Cluxewe and East Cluxewe Extension areas were not reviewed by AMEC and were considered to have no impact on the East Cluxewe resources.

In 2008, Orca Partnership completed 969.4 m of reverse circulation drilling in 35 holes. Seven holes were drilled as infill holes along the western flank of the East Cluxewe resource area. Analytical results from the 2008 drill program were completed at the writing of the Orca Report but have not been reviewed. AMEC examined drill logs and sample material from these holes and concludes that the 2008 drilling in the East Cluxewe resource area has confirmed the interpretation as presented in the geologic model. If included in an updated mineral resources estimate these holes would likely allow reclassification of some Indicated material to Measured but will not result in a reduction or addition to the resource tonnage estimated in 2005. Ten exploration holes were drilled at the West Cluxewe area, 14 were drilled in the East Cluxewe Extension area and four were drilled in the Cougar area. All holes were vertical. These holes will not impact the East Cluxewe resource estimate.

## **Sampling, Analysis and Data Verification**

### *Sampling*

Samples used for deposit evaluation include surface grab samples and reverse circulation drill hole samples. Surface grab sampling was primarily used for reconnaissance mapping purposes to focus the search to a specific gravel and sand deposit in the area. This was followed up by the detailed sampling from the reverse circulation drill holes on the East Cluxewe Deposit. Polaris established a standardized procedure for recovering, collecting, logging (recording), and representatively sampling the material from the reverse circulation drilling program.

One set of 3.1 m (10 ft) individual samples and the 16.8 m (60 ft) composite samples were shipped to laboratories in Burnaby and Surrey, British Columbia for analysis work. The other sets were retained at a warehouse in Port McNeill. No special security measures were taken for loading and transporting the samples to the laboratories other than those for normal freight transport. Samples were transported from the Port McNeill warehouse to the laboratories in Vancouver by a contracted highway trucking firm.

### *Analysis*

All of the 3.1 m (10 ft) individual samples and the 16.8 m (60 ft) composite samples were sent to AMEC Earth and Environment's geotechnical testing laboratory in Burnaby, British Columbia. Additional testing on the composite samples were performed at Golder Associates' material laboratory in Surrey, British Columbia. All tests performed are standard tests of the American Society for the Testing of Materials ("ASTM") or the California Department of Transportation ("Caltrans").

During 2007, Caltrans submitted samples of Orca Project aggregates to Kleinfelder Laboratories in Pleasanton, California, for testing by the ASTM C-1260 method, Potential Alkali Reactivity of Aggregates. Kleinfelder Laboratories reported the results for both coarse and fine aggregates were "innocuous". These results formed the basis for Orca Project aggregates being approved for use in reduced mineral admixture concrete in California.

### *Data Verification*

AMEC technical staff visited the Port McNeill office/warehouse and the East Cluxewe Deposit site on August 11, 2005 and August 21, 2008. During the 2008 visit, the processing facilities, stockpiles and Cluxewe pit excavation site and drill sites were reviewed. Old and new drill sites were accessed to confirm activity had taken place. The reported locations of the 2008 holes were determined by handheld GPS and have been re-surveyed by a professional land surveyor in September 2008. In general, the holes were determined to be situated as reported on drill plans. In addition, the access road cuts were examined to confirm the generally thin cover of soils above the gravel deposit.

In 2005 and in 2008, AMEC opened several of the five gallon retained sample and composite pails. Material was checked for mineralogy, and the size distribution was noted and compared to the sample interval reported on drill logs. This helped verify the premise that the coarser gravel material was at shallower depths than the finer sand material. Also, the sample tag information was compared to the information written on the outside of each pail. This information matched for all pails examined.

### **Security of Samples**

No special security measures were taken for loading and transporting the samples to the laboratories other than those for normal freight transport. Samples were transported from the Port McNeill warehouse to the laboratories in Vancouver by a contracted highway trucking firm, Overland Freight Lines Ltd. of Victoria, British Columbia. All sampling was carried out by the Company's staff.

The sampling, sample preparation, security and analytical procedures meet industry standards and sample results are considered suitable for use in resource estimation. In addition, production since February 2007 has met expectations as modeled in the 2005 resource estimate and further validates the sampling.

## Mineral Resources and Mineral Reserves Estimates

### Mineral Resources

In 2005, AMEC prepared a feasibility study outlining the mineral resource and reserve estimate at the East Cluxewe Deposit. Since 2005, the Company has completed construction of the processing and ship loading facilities and has begun production. In 2008, AMEC prepared an updated feasibility study as part of the Orca Report. Supporting documentation on market, supply contracts, receipts for product sales and operating costs demonstrate the mineral resources outlined in the 2005 feasibility study are economically mineable, which is a requirement to meet the definition of mineral reserve as stated under CIM Definition Standards for Mineral Resources and Mineral Reserves, and which are incorporated by reference in NI 43-101. After conversion of resources to reserves, the remaining resources are zero.

### Mineral Reserves

The reserves represent sand and gravel aggregate of a quality suitable for concrete applications. The following factors were used in determining reserves for the East Cluxewe Deposit:

- 2.01 in situ Specific Gravity;
- 2% loss at the contact with the soils and subsoils, and;
- 3% loss of fine material (silt) as determined from the mine scheduling material balance. The AMEC process plant feasibility study, April 2005, estimated 4% silt material.

Volumes were constrained within a conceptual pit above the water table and classification was established by distance from nearest data point. Material lying within 300 m of a drill hole data point and within the pit boundary is classified as Proven. All other material within the pit boundary is classified as Probable.

The reserves figures of the Orca Quarry are set out in the following table. For a complete description of assumptions, qualifications and procedures associated with the information in the Orca Report, reference should be made to the full text of the report that is available for review on the Company's website and on SEDAR at [www.sedar.com](http://www.sedar.com).

<u>Name</u>	<u>Tonnage (mt) (as at October 7, 2005)</u>		
	<u>Probable Reserves</u>	<u>Proven Reserves<sup>(1)</sup></u>	<u>Proven &amp; Probable Reserves</u>
East Cluxewe Deposit			
Stratum A (Coarse Aggregate) .....	16.6	78	94.6 <sup>(2)</sup>
Stratum B (Fine Aggregate) .....	6.5	20.5	27 <sup>(3)</sup>
Total.....	23.1	98.5	121.6

### Notes:

- (1) The mineral reserves have been categorized in accordance with the classifications defined by CIM. Mineral reserves are a subset of the mineral resource numbers. The two quantities cannot be added together or combined in any way and do not take into consideration depletion due to production at the Orca Quarry.
- (2) Represents 77.8% of the total.
- (3) Represents 22.2% of the total.

Since production began, the East Cluxewe reserves have been depleted by mining by 19.18 million tonnes. After processing, the amount of saleable product is calculated at 18.7 million tonnes. A summary of the production from East Cluxewe as of December 31, 2015 is as follows:

Raw Material Processed 'Run-of-Pit' <sup>(2)</sup>	Saleable Production <sup>(1)</sup>						
	Concrete Sand		Small Gravel		Large Gravel		TOTAL
<u>Tonnes</u>	<u>Tonnes</u>	<u>%</u>	<u>Tonnes</u>	<u>%</u>	<u>Tonnes</u>	<u>%</u>	<u>Tonnes</u>
<b>19,184,838</b>	<b>10,816,368</b>	<b>58%</b>	<b>4,463,692</b>	<b>24%</b>	<b>3,426,810</b>	<b>19%</b>	<b>18,706,870</b>

**Notes:**

- (1) Saleable Production is the summation of invoiced shipments, material donations, and any yearend stockpile inventory adjustment as confirmed by an independent, professional surveying company.
- (2) 'Run-of Pit' raw material feed is measured by a conveyor belt scale that is not a certified scale for trade. It is used for production monitoring and estimating process losses for control purposes only.

### **Mining Operations**

Construction of the Orca Quarry was completed in February 2007 for an overall budget of US\$53 million, including the marine ship loading terminal, and production began that same month. Three 24 cubic metre tandem-powered self-loading scrapers excavate run-of-pit materials. A single tracked dozer supports the scrapers by developing the initial access across and down the production face for each phase of extraction which are approximately 30 m wide established on a downward gradient traversing the production face. To maintain a balanced production face, access to sequenced phases alternate between the established return routes located on the east and west extraction limits of the pit. A front-end loader is used to recover bench remnants and clean up spilled materials.

#### *Material Processing*

The materials handling portion of the project consists of a receiving hopper equipped with a grizzly screen to prevent large boulders from passing onto the field-collecting conveyor. This hopper receives "as-dug" sand and gravel excavated from the working face by the scrapers. In later years, the receiving hopper will be relocated, and additional collecting conveyors will be installed to suit the mine plan. The field conveyor system transports the sand and gravel from the hopper onto a surge storage stockpile ready for processing.

The processing of the sand and gravel is relatively simple. It consists of screening to separate the individual particle sizes, crushing of oversize gravel that is larger than 25 mm, followed by washing of the products. Material is reclaimed from the run-of-pit storage stockpile by feeders and conveyors mounted in a multi-plate reclaim tunnel to feed the necessary screens, crushers, and sand washing system. Fine sand (silt), which is removed during the washing process, is sent to a thickener tank and then either to a filter press system, where it is collected and trucked, or pumped directly into the excavated pit. In either case it will be utilized for site reclamation.

The various products are loaded aboard a ship at a maximum rate of 4,500 tonnes per hour. The products, ready for shipment, are stacked in four stockpiles, one for large gravel (25 mm x 12.5 mm), one for small gravel (12.5 mm x 4.75 mm), and two for concrete sand (minus 4.75 mm). Each stockpile has an estimated live capacity of 30,000 tonnes with a total capacity of approximately 120,000 tonnes per pile. Three belt or gravity gate feeders under each stockpile withdraw the gravel and sand and feed a common reclaim conveyor running through a multi-plate reclaim tunnel beneath the product stockpiles. Any one of the belt or gate feeders under each stockpile can deliver 1,000 tonnes or more per hour. The reclaim conveyor carries the products from the reclaim tunnel onto the overland conveyor system that terminates at the ship loader. A service road runs along the length of the surface-mounted conveyors from the end of the reclaim tunnel to the shore.

#### *Reclamation*

Reclamation of the pit will be progressive, and has commenced with the first portion of the ultimate pit wall being reclaimed. As progressive reclamation continues, the soils salvaged ahead of the mining advance will be hauled

directly to areas ready for reclamation. Progressive reclamation will keep the total area under disturbance to a minimum.

#### *Production Forecasts*

The Orca Quarry was designed and permitted to produce up to six million tonnes of sand and gravel per year, operating on a two-shift basis, with an operating life of approximately 25 years. However, the Orca Report confirmed that if operations are extended to a 24/7 basis, the capacity of the existing processing plant should be 8.7 million metric tonnes per annum. To achieve this increased production, the Company will need to obtain a revised mine permit, however, management believes that changing the permit will not be unduly difficult but the Company presently has no intention of seeking a change. Production will be entirely dependent upon the demand for the Company's products.

#### *Financial Analysis*

AMEC reviewed the Orca Project cash flow forecasts at the time of the Orca Report, details of which are set out in the Orca Report. All calculations were carried out on an after-tax basis that assumed combined federal and provincial income tax rates of 34% in 2007, 31% in 2008, 30% in 2009, 29% in 2010, 28% in 2011 and 26% in 2012 and thereafter. The net present value is estimated to be US\$ 226.70 million (at a discount rate of 10%), the payback period of the capital was calculated to be 6.61 years from the start of year 2009 and the internal rate of return is estimated to be 22.1% for the defined Project Case.

The results of the AMEC financial analysis of the Orca Project are based on certain underlying assumptions made when the report was prepared in 2008. Such underlying assumptions may no longer be reasonable and, therefore, undue reliance should not be placed on the results of the AMEC financial review. See "Risk Factors".

### **Environmental and Mine Permits**

#### *Environment*

The Canadian Environmental Assessment Agency's Comprehensive Study Report, dated June 30, 2005, concluded that "Based on the information contained in the Application; communications with agencies and First Nations, and the public; and the Proponent's responses and commitments, the responsible authorities concluded that the Project is not likely to cause any significant adverse environmental effects." On October 5, 2005, the Federal Minister of the Environment issued his Decision Statement concluding "No additional information is necessary and that there are no public concerns that need to be further addressed."

The British Columbia Environmental Assessment Office issued Environmental Assessment Certificate M05-1 on July 14, 2005. Schedule B of this certificate, the Compendium of Proponent Commitments, outlines proponent requirements during construction, operation, and closure of the project, addressing: project design, vegetation, reclamation, wildlife, groundwater, rivers and creeks, marine water quality, marine fish habitat, marine species, air quality, viewshed, noise, employment, archaeology, First Nations, and safety. See "Risk Factors".

#### *Mine Permit*

The BC Mines Permit G-225, issued July 28, 2005, outlines the conditions for the reclamation program. A security bond totaling \$1 million was required which the Company has paid. In February 2011, this permit was amended to include the mining of a small additional resource area close to the processing plant.

### **Production Tonnage**

The Orca Report stated that as at August 25, 2008, a total of 2.88 million tonnes of saleable sand and gravel products had been produced. Subsequent to the Orca Report annual productions are verified by Kenneth Palko, the Company's President and Chief Executive Officer, who is considered to be a Qualified Person for this purpose. At December 31, 2015 the total of saleable products produced from the East Cluxewe Deposit, since operations began, was 18.7 million tonnes.



## EAGLE ROCK QUARRY PROJECT

### History of the Eagle Rock Quarry Project

The Eagle Rock Quarry Project (the “Project”) is comprised of a large granite deposit located on deep tidewater south of Port Alberni on Vancouver Island, British Columbia. It is located on land held by the Crown within the asserted traditional territories of the Hupacasath, Tseshah, and Ucluelet First Nations.

In the fall of 2001, the Company entered into cooperation agreements with each of the Hupacasath First Nation (the “Hupacasath”) and the Ucluelet First Nation (the “Ucluelet”) and, in July 2002, the three parties entered into an unincorporated joint venture. In October 2002, the Company, the Hupacasath and the Ucluelet formed Eagle Rock Materials Ltd. (“Eagle Rock”), which holds all the interests in the Eagle Rock Quarry Project. In 2001, the Company also invited the Tseshah First Nation (the “Tseshah”) to participate in the Project, but was unable to reach an agreement with them on the terms of a potential participation. The Company has kept its invitation open as it wishes the Tseshah community to share in the socio-economic benefits of the project. The Company owns 70% of Eagle Rock, the Hupacasath and Ucluelet each indirectly own 10% and the remaining 10% is held by the Company to be available for the Tseshah, pursuant to the Eagle Rock Shareholders Agreement as defined below. The Hupacasath and Ucluelet assert shared aboriginal rights to the Project site, while the Tseshah assert exclusive aboriginal rights and title to the site. The Company has adopted a neutral position electing to deal equally with all three First Nations.

In October 2002, Polaris, through its subsidiary Quality Rock Holdings Ltd., and subsidiaries of the Hupacasath and the Ucluelet, executed a shareholders’ agreement (the “Eagle Rock Shareholders Agreement”) governing the affairs of Eagle Rock. Also, Eagle Rock, the Hupacasath and the Ucluelet entered into an impact and benefits agreement. These agreements provide that Eagle Rock will seek to arrange the preparation of a feasibility study of the Project. The Hupacasath and the Ucluelet have the right to each acquire half of the 10% interest held in trust for the Tseshah if, after a certain time period after the feasibility study is approved by Eagle Rock, the Tseshah choose not to participate in Eagle Rock. On the 25th anniversary of their equity contributions to the Project development financing, each First Nation will have the one-time right to increase their ownership in Eagle Rock by 50%, by purchasing Eagle Rock shares from the Company for cash at fair market value.

### Overview

In 2003, the Company, through its subsidiary Eagle Rock, received an Environmental Assessment Certificate (the “Certificate”) and a Mine Permit for a crushed granite aggregate quarry, located on deep tide water, with a permitted output of 6 million tonnes per year. In September, 2008, the Province of BC extended the validity of the Certificate by 5 years to September, 2013. The BC Environmental Assessment Act does not provide the government with the power to grant a second extension and therefore the certificate expired in 2013. The Company has entered into discussions with the appropriate government agencies to seek to protect the value of the extensive environmental assessment undertaken in 2002. The Project continues to have substantial support from the local communities in which it is located and the Company believes that, should market interest support the development of the Project, it will be possible to obtain new government approvals as necessary. The Company has continued to seek market outlets that would support the development of the facility to produce crushed rock construction aggregate products on site. Products would be shipped in bulk carriers to coastal urban markets in the Pacific. The Company believes that demand for those products will develop in time but it is unlikely to be before there is a clear and sustained recovery in the industry in US coastal markets, particularly in California.

Eagle Rock holds a 50-year Crown lease for the quarrying of crushed rock and sand and gravel resources that covers 339 hectares. Eagle Rock has also applied for a foreshore lease from the Port Alberni Port Authority over a portion of the adjacent foreshore where the ship loading facility would be developed. The directors of the Port Alberni Port Authority have approved the lease, in principle, and the Port Authority, in turn, is in communication with its lessor, the Province of British Columbia, regarding the Company’s foreshore lease application. Although the Company anticipates that it will enter into such foreshore lease, no definitive agreement has been reached in this regard and accordingly no assurance can be given that such agreement will be reached.

## RISK FACTORS

Investment in the securities of the Company involves a high degree of risk and should be regarded as speculative due to the nature of the Company's business. The Company has incurred losses and expects to incur further losses. Prior to making an investment in the Company's securities, prospective investors should carefully consider the information described in this Annual Information Form and documents incorporated by reference, including the risk factors set out below. Such risk factors could have a material adverse effect on, among other things, the operating results, earnings, properties, business and condition (financial or otherwise) of the Company.

### **The Company's operations will require further capital**

The quarrying, processing and development of the Company's properties and terminals, including any future terminals which may be acquired and developed by the Company, will require substantial additional financing. Failure to obtain sufficient financing may result in delaying or indefinite postponement of development or production of the Company's properties and terminals or even a loss of those property interests. There can be no assurance that additional capital or other types of financing will be available if needed or that, if available, the terms of such financing will be favourable to the Company. Any future financing may be dilutive to existing shareholders.

### **Reliance on Certain Customers**

The Company generates the major proportion of its revenue, approximately 88% and 83% in 2015 and 2014 respectively, from sales to two customers, Cemex and Shamrock. The ability of these customers to continue in business, or to retain third party sales, could have a material effect on the Company and no assurance can be given in that respect.

### **The Company may not secure additional construction aggregates sales volumes and prices projected for the Orca Quarry**

The value and price of the Common Shares, the Company's financial results, and the Company's development and quarrying activities may be significantly adversely affected if the Company does not secure the sales volumes and prices of construction aggregates intended for the Orca Quarry. Demand for construction aggregates products in the Company's target markets fluctuates and is affected by numerous factors beyond the Company's control such as private sector residential and commercial construction, and public sector construction, including roads, bridges, services, and other infrastructure. The supply of construction aggregates to the Company's target markets may also fluctuate and may be affected by new or expanded local production, or supplies of construction aggregates brought into the target markets by road, rail or vessel. Depending on the sales volumes and prices of construction aggregates, cash flow from quarrying operations may not be sufficient and the Company could be forced to discontinue production and may lose its interest in, or may be forced to sell, some or all of its properties. Future production from the Company's Orca Quarry is dependent on applicable construction aggregates sales volumes and prices being sufficient to make materials extraction from the Orca Quarry economic.

In addition to adversely affecting the Company's financial condition, declining construction aggregates sales volumes and prices can impact operations by requiring a reassessment of the feasibility of the Orca Quarry. Such a reassessment may be the result of a management decision or may be required under financing arrangements related to the Orca Quarry. The need to conduct such a reassessment may cause substantial delays or may interrupt operations until the reassessment can be completed.

### **The assumptions made in AMEC's financial analysis of the Orca Project may no longer be reasonable**

The financial analysis completed by AMEC of the Orca Project detailed in the Orca Report relies on certain underlying assumptions which may no longer be reasonable as a result of the global economic recession since 2008. The analysis undertaken by AMEC was completed in 2008. The cash flow projections were based on various assumptions including assumptions on the capital costs, operating costs, production and sales volumes and sales revenues over the life of the project which were reasonable at the time the financial analysis was completed. Since 2008, the actual sales

values suggest that the assumptions made may no longer be reasonable. Therefore, undue reliance should not be given to AMEC's financial analysis of the Orca Project.

### **The Company must secure access to discharge points and additional shipping volumes for its products**

The Company's business plan includes discharges of Orca Quarry construction aggregates to the Long Beach Terminal, barges, the Richmond Terminal and to Cemex through its Strategic Alliance with Cemex. Although the Company has access to certain terminals through its Strategic Alliance, there is no certainty that its strategic alliance will secure further joint terminals to meet the increasing deliveries and sales incorporated by the Company in its business plan. If the Company is unable to continue to secure access to additional discharge terminals, or acquire its own discharge terminals, its revenues, operations and financial condition could be materially adversely affected.

When the Eagle Rock Shareholders Agreement was entered into in 2002, it did not contemplate the construction or use of the Richmond Terminal or other terminals by third parties (including the Orca Partnership) prior to the construction of the Eagle Rock Quarry Project. In addition, the Eagle Rock Shareholders Agreement did not contemplate the marketing, shipment and sale of construction aggregates from other projects prior to the commencement of operations at the Eagle Rock Quarry Project. Eagle Rock Aggregates, Inc., a subsidiary of Eagle Rock Materials Ltd., holds the Richmond Terminal Lease, the corresponding easement and facilities use agreements, and the Company's other potential port interests. Eagle Rock Aggregates, Inc. also holds the marketing interests of the Company and it is expected that it will continue to manage the Company's operations in the United States, including the shipment and sale of construction aggregates from the Orca Quarry.

The parties to the Eagle Rock Shareholders Agreement have been negotiating, and will continue to negotiate, the terms and conditions of an arrangement with respect to Eagle Rock Aggregates, Inc. and the financing, construction, and operation of the Richmond Terminal, the Long Beach Terminal and the purchase, shipping, distribution and sales of construction aggregates from the Orca Partnership. There is no certainty when or if an agreement will be reached.

Under the Company's revised NCoA its exclusive shipper must provide volume capacity to transport approximately 3.2 million short tons of construction aggregates per annum. To achieve the anticipated sales from the Orca Quarry and the Eagle Rock Quarry Project, the Company will have to secure additional shipping capacity. If the Company is unable to secure the additional shipping volumes, or fails to meet the contracted annual minimum volumes, its revenues, operations and financial condition could be materially adversely affected.

### **The quarrying industry is competitive**

The quarrying industry is competitive and the Company faces strong competition from other quarrying companies, or prospective quarrying companies, in connection with the supply of construction aggregates to the Company's target markets. A number of these companies may have greater financial resources, operational experience and technical capabilities than the Company. As a result of this competition, the Company may be unable to maintain quarrying operations on terms it considers acceptable or at all. Consequently, the Company's revenues, operations and financial condition could be materially adversely affected.

### **Government regulation and assessments may adversely affect the Company**

The Company's construction aggregates quarrying, processing, and development activities are subject to extensive laws governing prospecting, quarrying, development, production, taxes, labour standards and occupational health, quarry safety, waste disposal, toxic substances, land use, environmental protection and remediation, endangered and protected species, water use, aboriginal rights, land claims of First Nations and local people and other matters. No assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner which could limit, curtail or prevent production, development or exploration. Amendments to current laws, regulations and permits governing operations and activities of quarrying and exploration companies, or more stringent implementation thereof, could have a material adverse impact on the Company and cause increases in exploration expenses, capital expenditures or production costs or reduction in levels of production at producing properties or require abandonment or delays in development of new quarrying properties. Failure to comply with the conditions set out in any permit or failure to comply with the applicable statutes and regulations may result in orders to cease or curtail production, development or exploration.

### **The Company's title to its properties may be subject to disputes or other claims including land title claims of First Nations**

Although the Company has exercised the usual due diligence with respect to determining title to properties in which it has a material interest, there is no guarantee that title to such properties will not be challenged or impugned. Title to and the area of resource claims may be disputed. The Company's construction aggregates property interests may be subject to prior unregistered agreements or transfers, aboriginal rights and title and, in the case of the Orca Quarry, treaty rights, and title may be affected by undetected defects. There may be valid challenges to the title of the Company's properties, which, if successful, could impair their development and/or operations.

First Nations in British Columbia have made claims of aboriginal rights and title to substantial portions of land and water in the Province including areas where the Company's operations are situated, creating uncertainty as to the status of competing property rights. The Supreme Court of Canada has held that aboriginal groups may have a spectrum of aboriginal rights in lands that have been traditionally used or occupied by their ancestors; however, such aboriginal rights or title are not absolute and may be infringed by government in furtherance of a valid legislative objective, subject to meeting a justification test. The effect on any particular lands will not be determinable until the exact nature of historical use, occupancy and rights in any particular piece of property have been clarified. First Nations are seeking settlements including compensation from governments with respect to these claims, and the effect of these claims cannot be estimated at this time. The Federal Government and Provincial Government have been seeking to negotiate settlements with aboriginal groups throughout British Columbia in order to resolve many of these claims. Any settlements that may result from these negotiations may involve a combination of cash, resources, grants of conditional rights to gather food on public lands, and some rights of self-government. The issues surrounding aboriginal title and rights are not likely to be resolved by the Federal Government or Provincial Government in the near future.

Additional uncertainty has arisen due to the decision in the Supreme Court of Canada in *Tsilhqot'in Nation v. British Columbia* (2014 SCC 44) which represents the first successful claim for aboriginal title in Canada and may lead other First Nations in British Columbia to pursue aboriginal title claims in their traditional land-use areas.

In a landmark decision in 2004, the Supreme Court of Canada determined that there is a duty on government to consult with and, where appropriate, accommodate First Nations where government decisions may impact on claimed, but as yet unproven, aboriginal rights or title. This decision also provided much needed clarification of the duties of consultation and accommodation. The Court found that third parties (such as the Company) are not responsible for consultation or accommodation of aboriginal interests and that this responsibility lies with government. However, government permits, including environmental and mine permits, will not be granted by provincial and federal agencies unless they are satisfied that the duty to consult and accommodate has been fully met. In 2005, the Supreme Court of Canada confirmed this duty exists with respect to claimed treaty rights.

The Tseshaht First Nation has asserted aboriginal rights and title over the Eagle Rock Quarry Project site. The Hupacasath First Nation and the Ucluelet First Nation, who are shareholders of Eagle Rock Materials Ltd., have also asserted aboriginal rights and title over the Eagle Rock Quarry Project site. The Company has agreed, pursuant to the Eagle Rock Shareholders Agreement, to seek the participation of the Tseshaht in the Eagle Rock Quarry Project. The Company has been engaged in negotiations with the Tseshaht, however, to date there has been no agreement with respect to any participation. The terms of any participation have not been agreed upon, and the Tseshaht may, therefore, seek to dispute the Company's title in the Eagle Rock Quarry Project, despite the fact that the Company has received the environmental assessment certificate for the Eagle Rock Quarry Project. Any such dispute could delay or, if resolved in a manner adverse to the Company, impair the development and operation of the Eagle Rock Quarry Project.

### **Quarrying involves a high degree of risk**

Quarrying operations involve a degree of risk. The Company's operations will be subject to all the hazards and risks normally encountered in the development and production of construction aggregates, including, without limitation, unusual and unexpected geologic formations, seismic activity, pit-wall failures, cave-ins, flooding and other conditions involved in the drilling and removal of material, any of which could result in damage to, or destruction of, quarries and other producing facilities, damage to life or property, environmental damage and legal liability. In

addition to these risks stated above, processing operations are subject to various hazards, including, without limitation, equipment failure, labour disputes and industrial accidents. Should any of these risks occur, it may result in increased cost of production, delays, write-down of an industrial property, work stoppages, legal liability or injury or death to personnel, all of which may have an adverse effect on the Company's operations and financial condition.

#### **Construction aggregates resources are estimates only**

There is no certainty that the construction aggregates resource represented at the Company's properties will be realized or that such resource can be economically quarried. Mineral resources, which are not mineral reserves, do not have demonstrated economic viability. Until a deposit is actually mined and processed, the quantity of construction aggregates resources must be considered as estimates only. There is a risk that the actual deposits encountered and the economic viability of the deposits may differ materially from the resource estimates. Any material change in quantity of construction aggregates resources may affect the economic viability of the Company's properties.

The volume of construction aggregates quarried and processed may not be the same as currently anticipated in the Company's resource estimates. Any material reductions in estimates of construction aggregates resources, or of the Company's ability to extract these construction aggregates, could have a material adverse effect on the Company's results of operations and financial condition.

#### **Currency fluctuations may adversely affect the Company's revenues**

The effects on operating margins and, hence, on cash flows, of the foreign exchange rate and the fluctuation of the Canadian dollar against the U.S. dollar are significant. The Company does not currently have any intention to enter into hedging contracts in connection with foreign currencies. The appreciation of the Canadian dollar against the U.S. dollar would increase Canadian dollar costs, due to stronger Canadian dollars being converted into U.S. dollars, and could materially and adversely affect the Company's U.S. dollar-reported operational profitability and financial condition.

#### **The Company currently depends on a single property**

The Company's only material mineral producing property is the East Cluxewe Deposit. Unless the Company acquires or develops additional material properties or projects, the Company will be solely dependent upon the operation of the Orca Quarry for its revenue and profits, if any.

#### **The actual costs of reclamation are uncertain**

The actual costs of reclamation included in the Company's plan for the Orca Quarry are estimates only and may not represent the actual amounts required to complete all reclamation activity. It is not possible to determine the exact amount that will be required, and the amount that the Company is required to spend could be materially different than current estimates. Reclamation bonds or other forms of financial assurance represent only a portion of the total amount of money that will be spent on reclamation over the life of the operation of the Orca Quarry. Although the Company has included estimated reclamation amounts in its plan for the Orca Quarry, it may be necessary to revise the planned expenditures, and the operating plan for the Orca Quarry, in order to fund required reclamation activities. Any additional amounts required to be spent on reclamation may have a material adverse effect on the Company's financial condition and results of operations.

#### **The Company will require other construction aggregates resources in the future**

According to the Orca Report, the Orca Quarry has an estimated quarry life of 17 years, which may not prove to be accurate. Because quarries have limited lives based on proven and probable construction aggregates reserves, in the longer term, the Company will have to replace and expand its construction aggregates resources as the Orca Quarry depletes. The Company's ability to maintain or increase its annual production of construction aggregates will be dependent almost entirely on its ability to bring new quarries into production.

There is, however, a risk that depletion of reserves will not be offset by future discoveries of mineral reserves. Exploration for minerals is highly speculative in nature and the projects involve many risks. Many projects are

unsuccessful and there are no assurances that current or future exploration programs will be successful. Further, significant costs are incurred to establish mineral reserves and to construct mining and processing facilities. Development projects have no operating history upon which to base estimates of future cash flow and are subject to the successful completion of feasibility studies, obtaining necessary government permits, obtaining title or other land rights and availability of financing. In addition, assuming discovery of an economic reserve, depending on the type of mining operation involved, many years may elapse from the initial phases of drilling until commercial operations are commenced. Accordingly, there can be no assurances that the Company's current work programs will result in any new commercial mining operations or yield new reserves to replace and/or expand current reserves.

#### **The Company's operations are subject to environmental risks**

All phases of the Company's operations are subject to Federal, Provincial and local environmental regulation in the various jurisdictions in which it operates which could potentially make operations expensive or prohibit them all together. These regulations mandate, among other things, the maintenance of air and water quality standards and land reclamation. They also set forth limitations on the generation, transportation, storage and disposal of solid and hazardous waste. Environmental legislation is evolving in a manner which will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. There is no assurance that future changes in environmental regulation, if any, will not adversely affect the Company's operations or prevent operations all together. Environmental hazards may exist on the properties on which the Company holds and will hold interests which are unknown to the Company at present and which have been caused by previous or existing owners or operators of the properties.

Government approvals and permits are currently, and may in the future be, required in connection with the Company's operations, which could potentially make operations expensive or prohibit them altogether. To the extent such future approvals are required and not obtained, the Company may be curtailed or prohibited from restarting or continuing its quarrying operations or from proceeding with planned exploration or development of construction aggregates properties.

Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions. Parties engaged in quarrying operations or in the development of construction aggregates properties may be required to compensate those suffering loss or damage by reason of the quarrying activities and may have civil or criminal fines or penalties imposed for violations of applicable laws or regulations.

#### **The Company does not insure against all risks**

The Company's insurance will not cover all the potential risks associated with a quarrying company's operations. The Company may also be unable to maintain insurance to cover these risks at economically feasible premiums. Insurance coverage may not continue to be available or may not be adequate to cover any resulting liability. Moreover, insurance against risks such as environmental pollution or other hazards as a result of exploration and production is not generally available to the Company or to other companies in the quarrying industry on acceptable terms. The Company might also become subject to liability for environmental occurrences pollution or other hazards which may not be insured against or which the Company may elect not to insure against because of premium costs or other reasons. Losses from these events may cause the Company to incur significant costs that could have a material adverse effect upon its financial condition and results of operations.

#### **Certain groups are opposed to quarrying**

In North America there are organizations opposed to quarrying, particularly open pit quarries such as the Orca Quarry and the Eagle Rock Quarry Project. The Company believes it has the support of representatives from the community and First Nation groups nearest these quarries and from various levels of government in British Columbia having jurisdiction over these quarries. Although the Company believes that it is complying with all environmental laws and permitting obligations in conducting its business, there is a risk that those opposed to its operation at these quarries will attempt to interfere with the Company's operations, whether by legal process, regulatory process or

otherwise. Such interference could have an impact on the Company's ability to operate its properties in the manner that is most efficient or appropriate, if at all, and any such impact could materially adversely affect the financial condition and results of operations of the Company.

**The Company is dependent on its key personnel**

The Company is dependent upon certain of its executive management team. The loss of the services of its executive officers could have a material adverse effect on the Company. The Company's ability to manage its development and operating activities, and hence its success, will depend in large part on the efforts of its executive officers and other members of management of the Company. The Company faces intense competition for qualified personnel, and there can be no assurance that it will be able to attract and retain such personnel. The Company does not yet have in place formal programs for succession or training of management.

**The Company's growth will require new personnel**

The Company initially experienced significant growth in its number of employees as a result of the development of its construction aggregate production and marine export business and may experience significant growth in the future as the Company develops its aggregate resource. The Company's ability to assimilate this new personnel will be critical to its performance. The Company will be required to recruit additional personnel and to train, motivate and manage its employees. The Company may also have to adopt and implement new systems in all aspects of its operations. There can be no assurance that the Company will be able to recruit or retain personnel required to execute its programs or to manage these changes successfully.

**The Company may not meet minimum freight contract volumes**

The Company's freight contract, which was again amended and restated in December 2013, provides for minimum annual volumes of construction aggregates. If the Company is unable to secure sufficient sales volumes to meet contracted minimum freight volumes, its revenues, operations and financial condition could be materially adversely affected.

**The Company's directors and officers may have conflicts of interest**

Certain of the directors and officers of the Company also serve as directors, officers and/or significant shareholders of other companies involved in natural resource exploration and development and consequently there exists the possibility for such directors and officers to be in a position of conflict.

**Eagle Rock Quarry Project Royalty Assessment**

The Company has received a royalty assessment from the British Columbia Ministry of Forests, Lands and Natural Resource Operations for overdue royalties of \$456,000 for 2012 and \$496,000 for 2013, in respect of the Company's quarrying lease for the Eagle Rock Quarry project ("ERQ project") located on the Alberni Inlet to the south of the City of Port Alberni, British Columbia. The Company is disputing the assessment. The Company has not recorded a provision for the royalties. The amount of any payment, if required, is currently uncertain and it may be necessary to record a provision in future periods. There can be no assurance that the Company's position will prevail.

**DIVIDENDS AND DISTRIBUTIONS**

The Company has never declared any cash dividends or distributions and does not have a dividend or distribution policy. The Company intends to retain all available funds, if any, for use in its business and does not anticipate declaring dividends or distributions in the foreseeable future.

## **CAPITAL STRUCTURE**

The Company's authorized share capital consists of an unlimited number of Common Shares without par value as well as warrants as described below.

### **Common Shares**

The holders of Common Shares are entitled to one vote per share at all meetings of shareholders of the Company except for meetings at which only the holders of shares of another class or of a particular series are entitled to vote separately as a class or series. The holders of Common Shares are entitled to receive dividends if, as and when declared by the Company's Board of Directors. In the event of the dissolution, liquidation, winding-up or other distribution of our assets, such holders are entitled to receive on a pro-rata basis all of our assets remaining after payment of all of our liabilities. The Common Shares carry no pre-emptive or conversion rights. As of the date hereof, 88,334,686 Common Shares were issued and outstanding.

### **Warrants**

In conjunction with the 2014 equity financing, the Company issued the 2014 Warrants exercisable into 339,250 common shares until December 27, 2015, at a price of \$2.57. All of the 2014 Warrants expired unexercised.

In conjunction with the 2013 equity financing, the Company issued the 2013 Warrants exercisable into 661,250 Common Shares until June 25, 2015, at a price of \$1.31. On November 14, 2013, 425,687 of the 2013 Warrants were exercised, on March 7, 2014, 53,125 2013 Warrants were exercised and on March 7, 2014, the remaining balance of 182,438 2013 Warrants were exercised.

In conjunction with the 2012 debt refinancing the Company issued warrants the 2012 Warrants exercisable into 13.2 million Common Shares until December 31, 2016. On December 27, 2012, the 2012 Warrants were exercised in full at a price of \$0.44 per share.

On November 17 and 19, 2010, in accordance with entering into a credit facility from a group of individual lenders, the Company issued to the lenders an aggregate of 625,000 common share purchase warrants, each warrant entitling the holder to purchase one Common Share for a five-year term at an exercise price of \$1.50 per warrant until November 17 or 19, 2015. All 625,000 of such warrants were exercised in 2015.

### **Incentive Stock Option Plan**

The Company's Incentive Stock Option Plan (the "Option Plan"), which is summarized below, was amended and restated as of May 16, 2006 and was again reconfirmed by shareholders, in accordance with the policies of the TSX, at the 2012 Annual General Meeting of shareholders of the Company which took place on June 6, 2012. At the 2015 Annual General Meeting of shareholders of the Company held on June 9, 2015, the proposed resolution to amend and restate and reconfirm the Option Plan, as set out in the 2015 Management Information Circular dated April 24, 2015, was withdrawn at the meeting on the basis that there was insufficient support. As a result, no further grants of options under the Option Plan are permitted until such time as the Option Plan is again reconfirmed by shareholders. However, options previously granted under the Option Plan remain outstanding. The Company intends to explore alternative compensation arrangements in order to continue to motivate and attract high quality executives and directors.

The purpose of the Option Plan is to attract and retain superior directors, officers, advisors, employees and other persons or companies engaged to provide ongoing services to the Company as incentive for such persons to put forth maximum effort for the continued success and growth of the Company and, in combination with these goals, to encourage their participation in the performance of the Company.

The Option Plan reserves a maximum of up to 10% of the issued and outstanding common shares for issuance on the exercise of options granted under the Option Plan. As of the date hereof, 4,547,542 options have been granted and remain outstanding under the Option Plan to purchase 4,547,542 Common Shares (representing approximately 5.1% of the issued and outstanding Common Shares as of the date hereof). Options which have expired, were cancelled or otherwise terminated without having been exercised, and those which have been exercised are available for subsequent grants under the Option Plan.



The Option Plan provides that the Board of Directors may from time to time grant options to acquire all or part of the Common Shares subject to the Option Plan to directors, officers, advisors, employees and other persons or companies engaged to provide ongoing services to the Company. The options are non-assignable and non-transferable otherwise than by will or by laws governing the devolution of property in the event of death. Each option entitles the holder to one Common Share. The exercise price for options granted pursuant to the Option Plan is determined by the Board of Directors on the date of the grant, which price may not be less than the market value. Market value is defined under the Option Plan as the closing price of the Common Shares on the TSX on the trading day immediately preceding the grant day and if there is no closing price, the last sale prior thereto. The term of the options granted is determined by the Board of Directors, which term may not exceed a maximum of ten years from the date of the grant. The Board also has the authority to determine the vesting conditions of the options, and certain other terms and conditions of the options. Options granted under the Option Plan may be exercised as soon as they have vested. The Option Plan does not contemplate that the Company will provide financial assistance to any optionee in connection with the exercise of options.

In accordance with the rules of the Option Plan and the TSX, options granted under the Option Plan are subject to certain restrictions which include:

1. the number of Common Shares which may be issued pursuant to the Option Plan (or any other employee related plan or options for services) to any one person in any one year may not exceed 5% of the Common Shares issued and outstanding on a non-diluted basis from time to time;
2. the number of Common Shares which may be reserved for issuance pursuant to the Option Plan (or any other employee-related plan or options for services) to all insiders of the Company may not exceed 10% of the issued and outstanding Common Shares on a non-diluted basis from time to time; and
3. the number of Common Shares which may be issued pursuant to the Option Plan (or any other employee related plan or options for services) to all insiders of the Company within a one-year period may not exceed 10% of the issued and outstanding Common Shares on a non-diluted basis from time to time.

An optionee whose employment with the Company is terminated as a result of retirement, disability or redundancy will have 60 days from the date of termination to exercise any options that had vested as of the termination date. An optionee whose employment with the Company is terminated, other than for cause, at any time in the six months following a change of control of the Company shall have 90 days from the date of termination to exercise any option granted, and all options granted will immediately vest on the date of the termination. In the event of the death of an optionee, either prior to termination or after retirement or disability, the optionee's legal representative will have one year from the date of the optionee's death to exercise any options that had vested on the date of the optionee's death. In the event of any other termination, the optionee shall have 30 days from the date of termination to exercise any options that had vested on the termination date. In the event that an optionee is terminated for cause, any options not exercised prior to the termination shall lapse.

In the event that the Company:

- a. subdivide, consolidate, or reclassify our outstanding Common Shares, or make another capital adjustment or pay a stock dividend, the number of Common Shares receivable under the Option Plan will be increased or decreased proportionately; or
- b. amalgamate, consolidate with or merge with or into another body corporate, holders of options under the Option Plan will, upon exercise thereafter of such option, be entitled to receive and compelled to accept, in lieu of Common Shares, such other securities, property or cash which the holder would have received upon such amalgamation, consolidation or merger if the option was exercised immediately prior to the effective date of such amalgamation, consolidation or merger.

Subject, where required, to the approval of the TSX, and/or applicable securities regulatory authorities, the Board may from time to time, amend, suspend or terminate the Option Plan in whole or in part.

In addition, the Option Plan and any outstanding options may be amended or terminated by the Board if the amendment or termination is required by any securities regulatory authority, a stock exchange or a market as a condition of approval to a distribution to the public of the common shares or to obtain or maintain a listing or quotation of the Common Shares.

The Board may also amend or terminate any outstanding options, including, but not limited to, substituting another award of the same or of a different type or changing the date of exercise; provided, however, that the holder of the Option must consent to such action if it would materially and adversely affect the holder.

A copy of the Option Plan may be obtained by any shareholder by request to the Secretary of the Company at Suite 2740, PO Box 11175, 1055 West Georgia Street, Vancouver, BC, V6E 3R5, telephone number (604) 915-5000.

### Shareholder Rights Plan

The Company does not have a shareholder rights plan.

## MARKET FOR SECURITIES

### *Trading Price and Volume*

As of the date hereof, the Common Shares are listed and posted for trading on the TSX under the symbol "PLS". The following sets out the price range and volumes traded or quoted on the TSX, on a monthly basis for each month since the beginning of the Company's last completed financial year:

Month	High (\$)	Low (\$)	Close (\$)	Volume
<b><u>2016</u></b>				
January	1.56	1.12	1.34	322,009
<b><u>2015</u></b>				
December	1.67	1.26	1.54	745,171
November	1.97	1.37	1.47	959,352
October	2.00	1.65	1.70	287,350
September	2.25	1.75	1.77	264,967
August	2.16	1.91	1.95	240,608
July	2.29	1.85	2.00	552,972
June	2.69	2.05	2.10	506,728
May	2.83	2.55	2.57	548,131
April	2.64	2.37	2.55	595,703
March	2.62	2.13	2.37	635,404
February	2.80	2.12	2.59	770,698
January	2.44	2.02	2.11	267,430

### *Prior sales*

During the most recently completed financial year, being the year ended December 31, 2015 a total of 285,000 incentive stock options were granted under the Option Plan, as previously described, on February 2, 2015 with an exercise price of \$2.15 and an expiry date of February 3, 2020.

## DIRECTORS AND OFFICERS

The Company's directors are elected by the shareholders at each annual meeting and typically hold office until the next annual meeting at which time they may be re-elected or replaced. Casual vacancies on the Board are filled by the remaining directors and the persons filling those vacancies hold office until the next annual general meeting at which time they may be re-elected or replaced. The officers are appointed by the Board and hold office at the pleasure of the Board.

The following table sets forth the names and municipality, province and country of residence of all executive officers and directors, the positions and offices held by such persons, their principal occupations, together with the number of Common Shares held, directly or indirectly or over which control or discretion is exercised. Collectively, as of the date hereof the directors and executive officers of the Company, as a group, own 707,645 Common Shares (4,487,187 on a fully diluted basis), representing approximately 0.8% (5.1% on a fully diluted basis) of the issued and outstanding Common Shares.

Name, Municipality of Residence and Present Position with the Company	Date Became a Director/Officer	Principal Occupation	Common Shares Held
TERRENCE A. LYONS <sup>(1)</sup> Vancouver, BC Director, Chairman of the Board	April 22, 2004	Corporate Director	25,000
HERBERT G.A. WILSON Toronto, ON Director, Executive Vice-Chairman	July 13, 2002	Executive Vice-Chairman of the Company since October 1, 2015; President & Chief Executive Officer of the Company from January 1, 2009 to September 30, 2015; Senior Vice President & Chief Operating Officer from July 13, 2002 to December 31, 2008.	353,825
EUGENE P. MARTINEAU <sup>(1), (2)</sup> Ponte Vedra Beach, Florida Director	March 18, 2010	Principal, Martineau and Associates Consulting	20,000
MARCO A. ROMERO <sup>(2)</sup> West Vancouver, BC Director, Chairman of the Governance, Compensation and Nominating Committee	May 14, 1999	President & CEO of Euro Manganese Inc.; President and CEO of the Company from 1999 to 2008	38,175
LENARD F. BOGGIO <sup>(1), (2)</sup> North Vancouver, BC Director, Chairman of the Audit Committee	April 1, 2013	Corporate Director	10,000
KENNETH M. PALKO North Vancouver, BC Chief Executive Officer	February 18, 2008	Chief Executive Officer of the Company since October 1, 2015; Vice President, Operations from June 2011 to September 30, 2015.	24,900
DARREN K. McDONALD North Vancouver, BC Vice President, Finance and Chief Financial Officer	May 2, 2011	Vice President, Finance and Chief Financial Officer	5,000

<b>Name, Municipality of Residence and Present Position with the Company</b>	<b>Date Became a Director/Officer</b>	<b>Principal Occupation</b>	<b>Common Shares Held</b>
SCOTT W. DRYDEN Langley, BC Vice President, Operations	August 15, 2014	Vice President, Operations of the Company since October 1, 2015; Vice President, Business Development from August 15, 2014 to September 30, 2015	Nil
DAVID F. SINGLETON Roswell, Georgia Director, Eagle Rock Aggregates Inc.	October 5, 2001	President of Proconsult UK Ltd., a consulting company to the construction aggregates industry	125,245
NICHOLAS M. VAN DYK North Vancouver, BC Vice President, Investor Relations and Corporate Development	February 1, 2016	Vice President, Investor Relations and Corporate Development	500

**Notes:**

- (1) Member of the Audit Committee.
- (2) Member of the Governance, Compensation and Nominating Committee.

The following are brief biographies of our directors and senior management team:

**Terrence A. Lyons, ICD.D, age 66, Chairman and Director** — Mr. Lyons was appointed Chairman of the Company in June, 2011. His business background includes natural resources, manufacturing, real estate, merchant banking and corporate restructuring activities. Mr. Lyons is a director and officer of several public and private corporations including Lead Director and Chairman of the Audit Committee of Canaccord Genuity Group Inc., and Chairman and director of Sprott Resources Corporation, and a director of Martinrea International Inc. Mr. Lyons was formerly President and Managing Partner of B.C. Pacific Capital Corporation and a Managing Partner of Brookfield Asset Management for 18 years. He is past Chairman of Northgate Minerals Corporation, Versatile Pacific Shipyards, Westmin Resources and the Mining Association of British Columbia and past Vice Chairman of Battle Mountain Gold.

**Herbert G. A. Wilson, age 65, Director, Executive Vice-Chairman** — Mr. Wilson has over 40 years of experience in the development and operation of construction materials and industrial minerals operations. Mr. Wilson joined the Company in 2001, prior to which he was President of United States Lime & Minerals Inc., a NASDAQ-listed public company producing lime products and construction materials from limestone quarries located in the south-central states. From 1992 to 1998, he was a founding director and Executive Vice-President and Chief Operating Officer of Global Stone Corporation, a Toronto-listed public company producing construction aggregates and lime products. Mr. Wilson is a director of Hudson Resources Inc.

**Eugene P. Martineau, age 75, Director** — Mr. Martineau was the founder and first president and CEO of U.S. Concrete Inc., which, under his guidance, became one of the largest concrete producers in the United States. In 2007, he left U.S. Concrete Inc. to found Martineau and Associates Consulting. He has served as a director and member of the Executive Committee of the National Ready Mixed Concrete Association (NRMCA) and has been elected as a lifetime honorary director. He served as the National Director of RMC 2000 from 1993 to 1997. RMC 2000 was a grass roots industry movement which facilitated monumental changes in the industry. He has served as a member of the Board of Trustees for the RMC Research & Education Foundation since its creation and served as chairman in 2004. Mr. Martineau was one of the founders, and served as the chairman, of the National Steering Committee for Concrete Industry Management (CIM). The CIM Program is now installed in five universities across the U.S. and is providing the industry with its future leaders. He currently serves as its Executive Director. In 2007, Mr. Martineau was selected by *Concrete Producer* magazine as one of the top influencers in the concrete industry. Mr. Martineau is the 2010 recipient of NRMCA's Lifetime Achievement Award for Promotion which is awarded to a ready-mix concrete industry professional whose career has demonstrated outstanding leadership, dedication and achievement in support of concrete promotion and industry advancement.

**Marco A. Romero, age 53, Director** — Mr. Romero is an entrepreneur with 35 years of diversified international experience in the mining and construction materials industries. He is President and CEO of Euro Magnanese Inc. He has held senior roles in exploration, environmental permitting, project development and mining operations, as well as mergers, acquisitions and corporate development. Mr. Romero was founder of Polaris Materials Corporation and served as its President and CEO from 1999 to 2008. He was former founder, President and CEO of Delta Gold Corporation, Senior Vice President of Corporate Development for Ivanhoe Mines Ltd., and co-founder and Executive Director of Eldorado Gold Corporation.

**Lenard F. Boggio, FCPA, FCA, ICD.D, age 61, Director** — Mr. Boggio is a finance professional and was a partner in PricewaterhouseCoopers LLP, where he led the BC Mining Group, prior to retirement. He has extensive experience in financial reporting and auditing, public finance offerings, and mergers and acquisitions. He is a board member of a number of Canadian resource companies and his professional activities include appointments as a Commissioner of the Financial Institutions Commission of BC and as Chair of the Canadian Institute of Chartered Accountants.

**Kenneth M. Palko, P.Eng., age 45, President and Chief Executive Officer** — Mr. Palko joined the Company in February 2008 as Vice President, Technical Services. During 2011 he was promoted to Vice President, Operations and his role expanded to include responsibility for the Orca Quarry. On October 1, 2015, he was appointed as the Company's Chief Executive Officer. He has over ten years of experience in the Ontario aggregate industry in various operational, marketing and project management roles with Holcim and Lafarge. Mr. Palko has a B.Sc. (Honours) in Civil Engineering from Queens University in Kingston, Ontario and a B.A. in Psychology from the University of Western Ontario in London, Ontario. He is a Professional Engineer (Civil) in good standing in the Province of British Columbia.

**Darren K. McDonald, CPA, CMA, age 49, Vice President, Finance and Chief Financial Officer** — Mr. McDonald joined the Company as Corporate Controller in January 2009. He was appointed Vice President, Finance in June 2011 and Vice President and Chief Financial Officer in December 2013. He is a member in good standing with the Chartered Professional Accountants of British Columbia. He began his accounting career in public practice, including 3 years with Grant Thornton LLP, and has held a number of accounting and finance positions, including corporate controller positions at producing diamond mining and open pit copper mining companies, prior to joining Polaris.

**Scott W. Dryden, MBA, age 40, Vice President, Operations** — Mr. Dryden joined the Company in August 2014 as Vice President, Business Development. On October 1, 2015 he was appointed Vice President, Operations and his role expanded to include responsibility for the Orca Quarry. Prior to joining the Company he spent seven years in shipping operations serving the west coast of Canada and the northern territories, including five years with the Company's exclusive shipping contractor. Mr. Dryden attended the University of Victoria and holds a Masters of Business Administration from Royal Roads University. Before joining Polaris, he was Director of Marketing and Customer Service for Northern Transportation Company a substantial maritime transportation company owned by, and operating for, a group of First Nations.

**Nicholas M. Van Dyk, CFA, age 34, Vice President, Investor Relations and Corporate Development** — Mr. Van Dyk joined the Company in February 2016. Prior to joining Polaris, Mr. Van Dyk founded Revelation Financial Inc., an independent financial and strategic advisory firm, and previously worked in the investment banking division of a Canadian chartered bank. Mr. Van Dyk has over 10 years' experience in capital markets and corporate finance. Mr. Van Dyk holds the Chartered Financial Analyst® designation and is a member of the CFA Institute.

**David F. Singleton, age 76, Director of Eagle Rock Aggregates, Inc.** — Mr. Singleton was the President of Eagle Rock Aggregates, Inc. between 2002 and June 2013 and a director of the Company from October 2001 to June 2009. He has over 40 years' experience in the industrial minerals sector and has been President of Proconsult UK Ltd. since 1990. Mr. Singleton was the Managing Director of ARC Aggregates Limited, from 1987 to 1989, a large aggregates producer in Europe which was acquired by Hanson Plc in 1989. Mr. Singleton formed Global Stone Corporation, a lime and limestone company that he took public on the Toronto Stock Exchange in 1993. Mr. Singleton was the President and Chief Executive Officer of Global Clay Products LLC from 1999 to 2001, a company in the North American clay brick industry. In March, 2014, he was appointed a director of the National Stone Sand and Gravel Association where he represents the Company.

### **Cease Trade Orders or Bankruptcies**

Except as described below in respect of Terrence A. Lyons and Lenard F. Boggio, no director or executive officer of the Company is, or within ten years prior to the date hereof has been, a director, chief executive officer or chief financial officer of any company (including the Company) that (i) was subject to a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation, that was in effect for a period of more than 30 consecutive days, that was issued while the director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer; or (ii) was subject to a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation, that was in effect for a period of more than 30 consecutive days, that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer.

Except as described below in respect of Terrence A. Lyons and Lenard F. Boggio, no director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially control of the Company (i) is, or within ten years prior to the date hereof has been, a director or executive officer of any company (including the Company) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or (ii) has, within ten years prior to the date hereof, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

Terrence A. Lyons was a director and executive officer of FT Capital Ltd. ("FT") which was subject to cease trade orders in each of the provinces of British Columbia, Alberta, Manitoba and Ontario due to the failure of FT to file financial statements since the financial year ended December 31, 2001. FT was liquidated in June 2009 and Mr. Lyons ceased to be a director. Mr. Lyons was a director of Royal Oak Ventures Inc. ("Royal Oak") which was subject to cease trade orders in each of the provinces of British Columbia, Alberta, Ontario and Quebec due to the failure of Royal Oak to file financial statements since the financial year ended December 31, 2003. After restructuring, the cease trade orders were lifted on July 4, 2012. Mr. Lyons was a director of International Utility Structure Inc. ("IUSI") which, on October 17, 2003, was granted creditor protection by the Court of Queen's Branch of Alberta under the *Companies' Creditors Agreement Act* (Canada) ("CCAA"). On March 31, 2005, an order was granted approving the final IUSI restructuring plan under the CCAA at which time Mr. Lyons resigned as a director. Mr. Lyons was elected to the board of directors of each of FT, Royal Oak, and IUSI because of his valuable experience and expertise in financial restructurings in the insolvency context.

Lenard F. Boggio was a director of Great Western Minerals Group Ltd. ("GWMG") from January 2013 until his resignation together with all the then current directors in July 2015. On April 30, 2015, GWMG announced that a support agreement was entered into with the holders of a majority of GWMG's secured convertible bonds and GWMG was granted protection from its creditors under the CCAA upon receiving an initial order from the Ontario Superior Court of Justice Commercial List. On May 11, 2015, an order was issued by the Financial and Consumers Affairs Authority of the Province of Saskatchewan that all trading in the securities of GWMG be ceased due to its failure to file financial statements for the year ended December 31, 2014.

### **Penalties or Sanctions**

No director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially the control of the Company, has been subject to (i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or (ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

### **Conflicts of Interest**

To the Company's knowledge, and other than as disclosed in this Annual Information Form, there are no known existing or potential conflicts of interest among the Company, its directors and executive officers, or other members of management, or of any proposed director, officer or other member of management as a result of their outside business interests except that certain of the directors and officers serve as directors and officers of other companies, and therefore it is possible that a conflict may arise between their duties to the Company and their duties as a director or officer of such other companies. See "Interest of Management and Others in Material Transactions" and "Risk Factors".

The directors of the Company are required by law to act honestly and in good faith with a view to the best interests of the Company and to disclose any interests that they may have in any material contract or material transaction. If a conflict of interest arises at a meeting of the Board of Directors, any director in a conflict is required to disclose his interest and abstain from voting on such matter. The directors and officers of the Company are aware of the existence of laws governing accountability of directors and officers for corporate opportunity and requiring disclosures by directors of conflicts of interest in respect of the Company and are required to comply with such laws in respect of any directors' and officers' conflicts of interest or in respect of any breaches of duty by any of its directors or officers.

## **CORPORATE GOVERNANCE AND BOARD COMMITTEES**

### **Board of Directors**

The Board of Directors functions in accordance with its written board mandate and terms of reference, available for viewing on the Company's website. The Board of Directors is responsible for overseeing the management of the business and affairs of the Company, including the approval of major transactions such as strategic alliances, acquisitions and financings. The Board establishes the overall policies and standards for the Company and monitors and evaluates the Company's strategic direction and retains plenary power for those functions not specifically delegated by it to management. The directors are kept informed of the Company's operations at meetings of the Board and its committees and through reports and analyses by management. In addition, informal communications between management and directors occur apart from regularly scheduled Board and committee meetings. Directors have a duty to deal fairly and in good faith in making any decision or recommendation involving the Company and must therefore refrain from voting on any matter in which they have a conflict of interest.

Effective September 11, 2013, the Board of Directors adopted a majority voting policy with respect to the election of the directors of the Company. In connection with the election of directors of the Company at an annual meeting, if a director nominee has more votes withheld than are voted in their favour, then the nominee will be considered by the Board of Directors not to have received the support of shareholders and will be expected to submit their resignation as a director forthwith. Certain exceptions to the policy may apply such as a proxy battle involving nominees not supported by the Board of Directors. A copy of the majority voting policy can be found on the Company's web site at [www.polarmin.com](http://www.polarmin.com).

### **Committees of the Board of Directors**

The Company's Board of Directors has two committees: a governance, compensation and nominating committee and an audit committee. These are considered adequate given the Company's size and early stage of development.

#### *Governance, Compensation and Nominating Committee*

The Governance, Compensation and Nominating Committee assists the Board of Directors in fulfilling its oversight responsibilities relating to the governance of the Company, its relationship with senior management, and compensation. The committee's role includes developing and monitoring the effectiveness of the Company's system of corporate governance, assessing the effectiveness of individual directors, the Board of Directors and various board committees, and is responsible for appropriate corporate governance and proper delineation of the roles, duties and responsibilities of management, the Board of Directors and its committees. The committee's role includes establishing a remuneration and benefits plan for directors, executives and other key employees and reviewing the

adequacy and form of compensation of directors and senior management in order to support the Company's business objectives and attract and retain key executives. The committee also reviews and makes recommendations to the Company's Board of Directors regarding the Company's incentive compensation equity-based plans. The current members of the Governance, Compensation and Nominating Committee are Marco Romero (Chairman), Eugene Martineau and Lenard Boggio, all independent directors.

#### *Audit Committee*

The Audit Committee assists the Board of Directors in fulfilling its responsibilities for oversight of financial and accounting matters. In addition to recommending the auditors to be nominated and reviewing the compensation of the auditors, the committee is responsible for overseeing the work of the auditors, and pre-approving non-audit services. The committee also reviews the Company's annual and interim financial statements and releases containing information taken from the Company's financial statements prior to their release. The committee is responsible for reviewing the acceptability and quality of the Company's financial reporting and accounting standards and principles and any proposed material changes to them or their application. The current members of the Audit Committee are Lenard Boggio (Chairman), Terrence Lyons, and Eugene Martineau, all independent directors.

#### *Education and Experience of Members of the Audit Committee*

All members of the Audit Committee are independent and financially literate, based on either their experience as senior executives of a public and/or private company or their experience in the mining industry.

<i>Lenard F. Boggio (Chair)</i>	a former partner at PricewaterhouseCoopers LLP responsible for the audits of several public companies engaged in the mining sector;
<i>Terrence A. Lyons</i>	presently the Chair of the audit committee of Canaccord Genuity Group Inc. a leading independent, full-service financial services company; and
<i>Eugene P. Martineau</i>	has served as a senior executive and chief executive officer of a number of public companies in the United States.

#### *Audit Committee Mandate*

The Company has adopted a mandate to guide the Audit Committee in the fulfillment of its purpose. The mandate is reviewed by the Board of Directors on a periodic basis. The mandate, as most recently approved by the Board of Directors, is attached as Appendix A to this Annual Information Form.

#### *Reliance on Certain Exemptions*

At no time since the commencement of the Company's most recently completed financial year has the Company relied on the exemptions in Section 2.4 of NI 52-110 (De Minimis Non-audit Services), Section 3.2 of NI 52-110 (Initial Public Offerings), Section 3.4 of NI 52-110 (Events Outside of Control of Member), Section 3.5 of NI 52-110 (Death, Disability or Resignation of Audit Committee Member), Section 3.3(2) of NI 52-110 (Controlled Companies), Section 3.6 (Temporary Exemption for Limited and Exceptional Circumstances), Section 3.8 (Acquisition of Financial Literacy) or an exemption from NI 52-110, in whole or in part, granted under Part 8 of NI 52-110.

#### *Audit Committee Oversight*

At no time since the commencement of the Company's most recently completed financial year was a recommendation of the Audit Committee to nominate or compensate an external auditor not adopted by the Board of Directors.

#### *Pre-Approval Policies and Procedures of Non-Audit Services*

In May 2006, the Audit Committee approved pre-approval policies and procedures for non-audit services to be provided by the Company's auditors, PricewaterhouseCoopers LLP ("PwC"). The Audit Committee has the sole authority to review in advance and grant any appropriate approvals of all auditing services to be provided by PwC



and any non-audit services to be provided by PwC as permitted by applicable securities laws. The Audit Committee has adopted policies and procedures for the engagement of non-audit services by the Company's external auditors. Each year the Audit Committee reviews a list of audit, audit-related, tax and other non-audit services and recommend pre-approval of these services for the upcoming year. Any additional requests will be addressed on a case-by-case specific engagement basis as described below. The Audit Committee is informed quarterly of the services on the pre-approved list for which the auditor has been engaged.

#### *External Auditor Service Fees*

The aggregate fees billed for professional services rendered by PwC, the Company's external auditor, for the years ended December 31, 2015, and 2014 were as follows:

<b>Fiscal year ended December 31,</b>	<b>2015</b>	<b>2014</b>
Audit Fees (for audit of the Company's annual financial statements for the respective year and reviews of the Company's quarterly financial statements)	\$289,000	\$270,000
Audit-Related Fees (for accounting consultation)	\$0	\$33,000
<b>Total audit and audit-related fees</b>	<b>\$289,000</b>	<b>\$303,000</b>
Tax Related Fees	\$81,600	\$232,000
All Other Fees, (valuation)	\$0	\$0
<b>Total Fees</b>	<b>\$370,600</b>	<b>\$535,000</b>

The Audit Committee considered and concluded that the provision by PwC of such audit, audit-related, tax and other services as were provided to the Company in fiscal 2015, is compatible with maintaining the independence of PwC.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

There are no material legal proceedings against the Company or affecting any of its properties as of the date of this Annual Information Form, other than as set out in this Annual Information Form.

There are no (a) penalties or sanctions imposed against the Company by a court relating to securities legislation or by a securities regulatory authority during its most recently completed financial year; (b) other penalties or sanctions imposed by a court or regulatory body against the Company that would likely be considered important to a reasonable investor in making an investment decision in the Company; and (c) settlement agreements the Company entered into before a court relating to securities legislation or with a securities regulatory authority during its most recently completed financial year other than as set out in this Annual Information Form.

During the fourth quarter of 2012, the Company's subsidiary Eagle Rock Aggregates Inc., was verbally notified by the County Assessor for Contra Costa County ("the County") that the property taxes in respect of the Company's aggregate terminal located in the City of Richmond, California, may not have been duly reassessed following the completion of construction at the end of 2007. The Company entered into discussions with the County Assessor which were ongoing at the end of June, 2013. However, during the quarter ended September 30, 2013, Eagle Rock Aggregates Inc. received a payment demand, including penalties, for property tax dating back to 2008. Under the terms of its lease agreement with Levin Terminals Inc. ("Levin"), Eagle Rock Aggregates Inc. has paid its pro-rata share of property tax on the Richmond terminal land each year to Levin. The County's new assessment is in regard to personal property taxes on the value of the building, leasehold improvements, and equipment at the site. To date the Company has been successful in reducing the original assessment period from five years to four under a statute of limitations applicable to the tax code and has also filed a notice of appeal against the assessment. To prevent any additional accumulation of interest and/or penalties, Eagle Rock Aggregates Inc. entered into an Escape Assessment Installment Plan (the "Plan") with the County, and made a payment of \$379,000 on August 15, 2013 which was equal

to 20% of the assessed taxes. During September, 2014, the Company entered into negotiations with the county assessor and consequently withdrew the appeal. These negotiations led to an increase in the amount owed, to a total of \$2.103 million. At December 31, 2015, the liability was \$898,000.

On April 9, 2014 Eagle Rock Materials Ltd. received a communication from the B.C. Ministry of Forest, Lands and Natural Resources (the "Ministry") alleging that the Company owes royalty fees of \$0.95 million relating to the Eagle Rock quarry lease. The Ministry's position was based on an interpretation of the lease relating to a minimum fee assessment for 2012 and 2013. Company management met with the Ministry in 2014 to dispute the minimum fee assessment on the basis that it does not reflect the terms of the lease. Documentation was provided to the Ministry to support that position. The Company also questioned with the Ministry the legality of royalty arrangement under the BC Land Act. Since the meeting Company management has not received a response or further demand for payment from the Ministry. Management's view is that there is no merit in the Ministry's position. No further demand is expected and therefore no liability has been recorded.

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

No director, senior officer or principal shareholder of the Company and no associate or affiliate of the foregoing have had a material interest, direct or indirect, in any transaction in which the Company has participated within the three year period prior to the date of this Annual Information Form, or will have any material interest in any proposed transaction, which has materially affected or will materially affect the Company, except as follows:

On May 12, 2004, Polaris Aggregates Inc. ("PAI"), a subsidiary of the Company, entered into a services agreement (the "Agreement") with Proconsult UK Ltd. ("Proconsult"). Proconsult is controlled by David F. Singleton, a director of Eagle Rock Aggregates, Inc. and also a former officer of that company. The Agreement provided that Proconsult would provide management services, including the identification and securement of aggregates discharge, storage and distribution sites at certain California ports, the development of suitable arrangements for the distribution and sale of aggregates from those sites, and the management of related engineering, environmental, marketing and financial research, studies and evaluations. During 2015 the annual fee provided for in the agreement was not renewed. However, the Agreement continues to provide that if 4 million tonnes of sales is achieved in any year between 2015 and 2019 a bonus of \$150,000 will be paid within 60 days of the year end. The Company, at its sole discretion, may elect to pay the bonus in Common Shares. During the years ended December 31, 2014 and 2015, PAI paid fees, including the reimbursement of expenses, of US\$151,783 and US\$72,432 respectively, to Proconsult.

On July 14, 2008, the Company entered into a consulting agreement with Marco A. Romero, a director, and former President and CEO, of the Company. This agreement has a nine year term commencing on January 1, 2009, and provides that Mr. Romero will provide strategic advice and perform liaison functions. Pursuant to the terms of this agreement, Mr. Romero will receive an annual fee of \$10.00 per year plus \$150.00 per hour, with a minimum of 20 hours per month for the first 36 months of the agreement. On July, 2012, the Company agreed to extend the period during which Mr. Romero receives a fixed annual fee for services for a further 3 years until July 2015, at a fee of \$3,000 per month. The parties again extended the agreement during 2014 such that it now expires on December 31, 2017. The fee of \$3,000 per month remains unchanged during the extension period. During the years ended December 31, 2014 and 2015, the Company paid fees of \$42,165 and \$27,821 respectively to Navigator Management Ltd., a company controlled by Mr. Romero.

On June 7, 2010, the Company entered into a consulting agreement with Martineau & Associates, a company controlled by Eugene P. Martineau, a director of the Company. This agreement does not have a fixed term and provides that Mr. Martineau will provide commercial and marketing activities for the Company. Pursuant to the terms of this agreement, Mr. Martineau received a fee of US\$1,000 per day. In 2014 the per diem amount was revised to US\$1,500 per day. During the years ended December 31, 2014 and 2015, the Company paid fees of US\$13,500 and US\$3,000 respectively to Martineau & Associates.

## TRANSFER AGENTS AND REGISTRARS

The transfer agent and registrar for the Common Shares is Computershare Investor Services Inc. (“Computershare”), and the register of transfers for the Common Shares is held at Computershare’s principal offices in Vancouver, British Columbia and Toronto, Ontario.

## MATERIAL CONTRACTS

Except for contracts made in the ordinary course of business, the following are the only material contracts entered into by the Company within the most recently completed financial year or before the most recently completed financial year (but after January 1, 2002) and still in effect:

1. The Strategic Alliance Agreement. See “General Development of the Business – Sales Arrangements and Strategic Alliance with Cemex”.
2. The Partnership Agreement. See “Orca Sand & Gravel Project — History of the Orca Project”.
3. The *profit à prendre* agreement dated March 1, 2005 between WFP and the Company in respect of the East and West Cluxewe Deposits. See “Narrative Description of the Business – History of the Orca Project — Tenure”.
4. The Services Agreement. See “Interest of Management and Others in Material Transactions”.

## NAMES AND INTERESTS OF EXPERTS

Certain information of an economic, scientific or technical nature regarding the Orca Project is included in this Annual Information Form based upon the Orca Report. The Orca Report provides independent technical reviews of the mineral resources and mineral reserves, operations, and development of the Orca Project. The authors of the Orca Report being Greg Kulla, P.Geol., Ryan Ulansky, P.Eng. and Vladimir Solodkin, P.Eng. of AMEC are “Qualified Persons” as such term is defined in NI 43-101 and all are independent of the Company within the meaning of NI 43-101.

Information regarding the Company’s industry target markets, competition, supply and demand, present and future, included in this Annual Information Form is based upon the 2005 Market Report and the 2008 Market Report. The author of the 2005 Market Report and the 2008 Market Report is David A. Holmes, R. Geo. of Holmes Reserves LLC. Mr. Holmes is a “Qualified Person” as such term is defined in NI 43-101.

Subsequent to the Orca Report, annual productions from the Orca Project are verified by Kenneth Palko, the Company’s President and Chief Executive Officer, who is considered to be a Qualified Person for this purpose as such term is defined in NI 43-101.

To the knowledge of the Company, none of the qualified persons named above beneficially owns, directly or indirectly, or exercises control or direction over more than one percent of the issued and outstanding Common Shares in the capital of the Company.

None of the aforementioned qualified persons are currently expected to be elected, appointed or employed as a director, officer or employee of the Company or of any associate or affiliate of the Company.

The Company’s auditors, PwC, have prepared the audit report attached to the Company’s audited consolidated financial statements for the most recent year end. The Company’s auditors have reported that they are independent of the Company in accordance with the rules of professional conduct of the Chartered Professional Accountants of British Columbia.

## ADDITIONAL INFORMATION

Additional information, including directors’ and officers’ remuneration and indebtedness, principal holders of our securities, securities authorized for issuance under equity compensation plans and a statement as to the interest of

insiders in material transactions, was contained in the management proxy circular for the annual meeting of shareholders held on June 9, 2015, and will also be contained in the management proxy circular for the annual meeting of shareholders to be held in 2016. Additional financial information is provided in the audited financial statements and management discussion and analysis (“MD&A”) for the most recent year-end. The foregoing additional information is available on SEDAR at [www.sedar.com](http://www.sedar.com) under the Company name.

## APPENDIX A

### AUDIT COMMITTEE CHARTER OF POLARIS MATERIALS CORPORATION

#### (the “Company”)

As Amended and Re-Approved by the Board of Directors on March 6, 2014

The Audit Committee (the “Committee”) is a committee of the board of directors (the “Board”) of the Company. The role of the Committee is to provide oversight of the Company’s financial management and of the design and implementation of an effective system of internal financial controls as well as to review and report to the Board on the integrity of the financial statements of the Company, its subsidiaries and associated companies. This includes helping directors meet their responsibilities, facilitating better communication between directors and the external auditor, enhancing the independence of the external auditor, increasing the credibility and objectivity of financial reports and strengthening the role of the directors by facilitating in-depth discussions among directors, management and the external auditor. Management is responsible for establishing and maintaining those controls, procedures and processes and the Committee is appointed by the Board to review and monitor them. The Company’s external auditor is ultimately accountable to the Board and the Committee as representatives of the Company’s shareholders.

#### **Duties and Responsibilities**

##### ***External Auditor***

- To recommend to the Board, for shareholder approval, an external auditor to examine the Company’s accounts, controls and financial statements on the basis that the external auditor is accountable to the Board and the Committee as representatives of the shareholders of the Company.
- To oversee the work of the external auditor engaged for the purpose of preparing or issuing an auditor’s report or performing other audit, review or attest services for the Company, including the resolution of disagreements between management and the external auditor regarding financial reporting.
- To evaluate the audit services provided by the external auditor, pre-approve all audit fees and recommend to the Board, if necessary, the replacement of the external auditor.
- To pre-approve any non-audit services to be provided to the Company by the external auditor and the fees for those services.
- To obtain and review, at least annually, a written report by the external auditor setting out the auditor’s internal quality-control procedures, any material issues raised by the auditor’s internal quality-control reviews and the steps taken to resolve those issues.
- To review and approve the Company’s hiring policies regarding partners, employees and former partners and employees of the present and former external auditor of the Company. The Committee has adopted the following guidelines regarding the hiring of any partner, employee, reviewing tax professional or other person providing audit assurance to the external auditor of the Company on any aspect of its certification of the Company’s financial statements:
  - No member of the audit team that is auditing a business of the Company can be hired into that business or into a position to which that business reports for a period of three years after the audit;
  - No former partner or employee of the external auditor may be made an officer of the Company or any of its subsidiaries for three years following the end of the individual’s association with the external auditor;
  - The CFO must approve all office hires from the external auditor; and,

- The CFO must report annually to the Committee on any hires within these guidelines during the preceding year.
- To review, at least annually, the relationships between the Company and the external auditor in order to establish the independence of the external auditor.

### ***Financial Information and Reporting***

- To review the Company's annual audited financial statements with the CEO and CFO and then the full Board. The Committee will review the interim financial statements with the CEO and CFO and, if delegated the power by the Board, approve the interim financial statements.
- To review and discuss with management and the external auditor, as appropriate:
  - The annual audited financial statements and the interim financial statements, including the accompanying management discussion and analysis; and,
  - Earnings guidance and other releases containing information taken from the Company's financial statements prior to their release.
- To review the quality and not just the acceptability of the Company's financial reporting and accounting standards and principles and any proposed material changes to them or their application.
- To review with the CFO any earnings guidance to be issued by the Company and any news release containing financial information taken from the Company's financial statements prior to the release of the financial statements to the public. In addition, the CFO must review with the Committee the substance of any presentations to analysts or rating agencies that contain a change in strategy or outlook.

### ***Oversight***

- To review, with the CEO, CFO and others, as appropriate, the Company's internal controls over financial reporting and disclosure controls and procedures and the findings from any evaluation of those controls.
- To review and monitor the Company's major financial risks and risk management policies and the steps taken by management to mitigate those risks.
- To meet at least annually with management, including the CFO, and the external auditor in separate executive sessions and review issues and matters of concern respecting audits and financial reporting.
- In connection with its review of the annual audited financial statements and interim financial statements, the Committee will also review the process for the CEO and CFO certifications (if required by law or regulation) with respect to the financial statements and the Company's disclosure and internal controls, including any material deficiencies or changes in those controls.

### **Membership**

- The Committee shall consist solely of three or more members of the Board, each of whom the Board has determined is "unrelated" or "independent" as required under applicable securities rules or applicable stock exchange rules.
- Any member may be removed from office or replaced at any time by the Board and shall cease to be a member upon ceasing to be a director. Each member of the Committee shall hold office until the close of the next annual meeting of shareholders of the Company or until the member ceases to be a director, resigns or is replaced, whichever first occurs.
- The members of the Committee shall be entitled to receive such remuneration for acting as members of the Committee as the Board may from time to time determine.

- All members of the Committee must be “financially literate”, that is to have the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Company’s financial statements.

### **Procedures**

- The Board shall appoint one of the directors elected to the Committee as the Chair of the Committee (the “Chair”). In the absence of the appointed Chair from any meeting of the Committee, the members shall elect a Chair from those in attendance to act as Chair of the meeting.
- The Chair will appoint a secretary (the “Secretary”) who will keep minutes of all meetings. The Secretary does not have to be a member of the Committee or a director and can be changed by simple notice from the Chair.
- No business may be transacted by the Committee except at a meeting of its members at which a quorum of the Committee is present or by resolution in writing signed by all the members of the Committee. A majority of the members of the Committee shall constitute a quorum, provided that if the number of members of the Committee is an even number, one-half of the number of members plus one shall constitute a quorum.
- The Committee will meet as many times as is necessary to carry out its responsibilities. Any member of the Committee or the external auditor may call meetings.
- The time and place of the meetings of the Committee, the calling of meetings and the procedure in all respects of such meetings shall be determined by the Committee, unless otherwise provided for in the bylaws of the Company or otherwise determined by resolution of the Board.
- The Committee shall have the resources and authority necessary to discharge its duties and responsibilities, including the authority to select, retain, terminate, and approve the fees and other retention terms (including termination) of special counsel, advisors or other experts or consultants, as it deems appropriate.
- The Committee shall have access to any and all books and records of the Company necessary for the execution of the Committee’s obligations and shall discuss with the CEO or the CFO such records and other matters considered appropriate.
- The Committee has the authority to communicate directly with the internal and external auditors.

### **Reports**

- The Committee shall produce the following reports and provide them to the Board:
  - An annual performance evaluation of the Committee, which evaluation must compare the performance of the Committee with the requirements of this Charter. The performance evaluation should also recommend to the Board any improvements to this Charter deemed necessary or desirable by the Committee. The performance evaluation by the Committee shall be conducted in such manner as the Committee deems appropriate. The report to the Board may take the form of an oral report by the Chair or any other member of the Committee designated by the Committee to make this report; and
  - A summary of the actions taken at each Committee meeting, which shall be presented to the Board at the next Board meeting.