QGI CONSULTING

Alaska Canada Rail Link

Logistics Evaluation for Mineral Resources

Work Package: A-2 (D) May 12, 2006

Suite 701, 9707 – 110 Street
Edmonton, Alberta T5K 2L9

1-866-246-6287 (toll free)
1-780-447-2111 (office)
1-780-451-8710 (fax)

www.qgiconsulting.com

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Suite 701
9707 – 110th Street
Edmonton, AB
T5K 2L9
Phone: (780) 447-2111
Fax: (780) 451-8710

To: Kells Boland – Project Manager - Alaska-Canada Rail Link

Subject: Work Package A2 (d) – Logistics Evaluation for Mineral Resources

Attached is the report of QGI Consulting for the above noted work package within the market analysis phase of the ongoing feasibility study for the proposed Alaska-Canada Rail Link.

The principal objectives of this work assignment were to:

- Develop long range production forecasts in the context of world markets
- Assess the level of rail rates required for competitive positioning relative to existing transportation capability;
- Compare current bulk transport routes and rates to determine which potential mineral export traffic is susceptible to rail movement;
- Estimate bulk rail traffic and revenue streams

The analysis and forecast traffic flows and revenue streams contained in this submission have been developed using the data tables and analysis developed by Gartner Lee and the University of Alaska in the completion of work package A2 (a). These analyses resulted in the development of baseline mineral export traffic data related to potential future mine development in northern British Columbia, Yukon Territory, and Alaska. This data has been supplemented with publicly available data for North American railway rates, forecasts for commodity pricing and supply-demand estimates, and discussions with industry stakeholders where possible.

The specific methodologies utilized in developing the forecast volume and revenue scenarios are documented in the attached report.

Sincerely,

Milt Poirier
Partner
QGI Consulting Ltd.

Executive Summary

Mineral deposits within the three study regions consist principally of coal, base metals (iron, lead, zinc, copper), and polymetallics with limited volumes of tungsten (Yukon) and asbestos (Alaska). Primary research has identified a total of fifty-five (55) deposits within these three regions with total identified reserves of some 7.7 billion tons and estimated shippable quantities of 1.9 billion tons. The Yukon is home to 56% of total reserves and an estimated 80% of total shippable quantities from the identified priority deposits. Its prominence is driven by the Crest iron ore deposit that accounts for an estimated 68% of all shippable quantities.

This report examines the viability of individual mineral deposits for movement given estimated ore valuations and transportation costs. The lack of available cost effective transportation infrastructure has historically been a constraint on development of the mineral resource sectors in the north. It has however, not been the sole constraint. Other issues including commodity prices, global supply-demand balances, and access to cost effective sources of power have also served to constrain development activities in the past.

Recent improvements in commodity pricing and global supply-demand balances have sparked renewed interest in resource development in these regions. Current market pricing for zinc, copper, lead, and coal – the principal commodities found within the study region, have in the past two years reached record levels driven largely by the rapid pace of economic and industrial growth in the emerging Asia – Pacific economies, particularly China. Forecasts for all major commodities are positive in the short to medium term with demand seen to be increasing and pricing to be stable. Current and projected market conditions are positive factors that may contribute to the development of some of the mineral deposits located in Alaska, Yukon, and northern British Columbia.

The objective of this logistics analysis is to identify reasonable volume and revenue projections for mineral resource traffic originating within the study regions that may be shipped by rail using the proposed Alaska-Canada Rail Link. This analysis uses the results of primary research conducted by Gartner Lee and the University of Alaska at Fairbanks (UAF) who identified and assessed known mineral deposits and provided the subset of deposits deemed initially viable for subsequent analysis of transportation costs.

The methodology employed to develop the tonnage and revenue forecasts contained in this report is fully documented in the body of the report. The methodology consists of two main elements including net ore valuation and transportation cost development. Key elements of the transportation cost assessment include:

- examination of six potential rail routes;
- assumption that all resource traffic will move to export via the nearest most economical port;
- assumption of inland logistics, specifically mine site origins for connection to railway alignments;
- calculation of estimated costs using average cent per ton-mile earnings of Class 1 railways as a proxy for Alaska Canada Rail Link revenues for all potential rail routes.

Traffic and revenue forecasts assume that the Alaska Canada Rail Link will seek to maximize total revenues through the movement of traffic to the port location(s) that yield the highest revenue.

We conclude that the route option that connects with CN Rail at New Hazelton in the south and extends northward through Watson Lake and Carmacks to the connection with the Alaska Railroad at Delta Junction yields the highest volumes and revenues for the Alaska Canada Rail Link. It is estimated this route could yield 3.5 million tons and revenues of USD $ 61.9 million annually. These forecasts assume, based on the criterion of maximum revenues for the railway, that 95% of traffic would move to the Port of Skagway for export. It is assumed that both Prince Rupert and Skagway are viable port destinations possessing the rail and terminal infrastructure and capacity necessary to accommodate the projected volumes. No constraints have been placed on the forecast based on limitations in these areas or based on the capabilities of the White Pass &Yukon railroad that serves the Port of Skagway.

The evaluation of mineral deposits for transportation has some inherent limitations based on the availability of information regarding actual transportation costs, mine operating costs, capital investment requirements, probability of resource development, timing, production rates, and life of individual deposits. Key issues for considerations include:

1. Network Density and Operating Costs

   Forecast volumes and revenues do not consider the Alaska Canada Rail Link's network density and operating costs, each of which will influence rate development. The rates used and revenues identified while competitive may or may not be profitable.

2. Revenue Estimation Methodology

   This methodology relies principally on publicly available information published for CN Rail and reflects average earnings for similar traffic on its network. No assumptions have been made regarding competitive and commercial issues that may influence the development of transportation rates for connecting carriers and no attempt made to estimate the potential impact of such factors on subsequent movements and revenues.

3. Return on Investment Criteria

   Railway revenue estimates have not been developed in consideration of any return on investment criteria that takes into account the capital costs associated with the construction and long-term maintenance of any of the route options.

4. Non Transportation Issues

   No assumptions have been made regarding the impact of non-transportation factors on the viability of individual movements or overall volume and revenue forecasts. Such factors include: long term commodity prices, behaviour of mineral resource development companies as it pertains to opportunity costs associated with development of these versus other deposits in their portfolios, and availability and cost of required power for mine development and operation.

Finally, no temporal analysis has been undertaken to project estimated timing and sequencing of traffic. All forecasts reflect an annualized level of activity assuming an average 30-year mine life for all viable deposits. This approach provides for a reasonable estimation of annual volumes over the long term but does not account for peaks and valleys in traffic volumes that would inevitably result from variations in timing for deposit development.

This analysis examines only the potential for movement of ores and concentrates by rail for export to secondary processing markets. Long term potential is thought to exist for the shipment of refined base metals and processed iron ore directly from Yukon and Alaska origins. The production and movement of these commodities, if feasible, would be linked to the development of sufficient low cost sources of power to facilitate construction and operation of such processing facilities. These potential volumes are excluded from this analysis but will be addressed in the broader integrated traffic forecasts to be developed in subsequent work packages.

1.0 Overview of Mineral Resource Activities

The mineral resource sectors of Northern British Columbia, Alaska, and the Yukon can best be described as possessing significant potential with relatively little existing production[1]. Consistent with the objective of developing reasonable traffic and revenue forecasts for rail shipments using the proposed Alaska-Canada Rail Link this analysis is limited to examination of those commodities deemed to be viable candidates for rail transportation based on their product characteristics and potential market destinations. These commodities include coal and a variety of base metals including iron ore, copper, lead, zinc, and others such as asbestos, tungsten, and polymetallics. Other resource commodities, most notably precious metals such a gold, have been excluded from the analysis as they do not lend themselves to rail transportation.

This section will provide a brief overview of the mineral resource deposits that form the basis of the logistics analysis used to develop forecast volumes and revenues presented in Section 4.0 of this report. Gartner Lee Ltd. and the University of Alaska at Fairbanks (UAF) completed the primary research and preliminary assessment of the mineral deposits used in this analysis. Their respective findings are documented in greater detail in their reports and memorandums as they pertain to the completion of Work Package A2 (a) – Traffic Data Development – Mineral Resources.

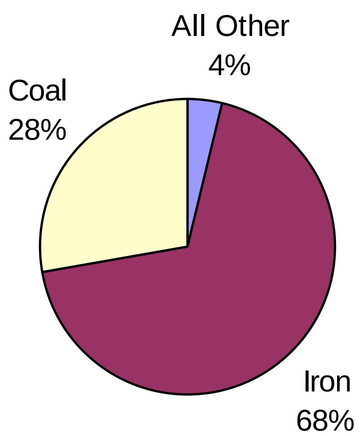
1.1 Identified Mineral Resources

Mineral deposits within the three study regions consist of three principal types: coal, base metals (iron, lead, zinc, copper), and polymetallics. There are also limited deposits of tungsten (Yukon), and asbestos (Alaska). Primary research has identified a total of fifty-five (55) deposits within these three regions with total identified reserves of some 7.7 billion tons and estimated shippable quantities of 1.9 billion tons.[2] The Yukon holds the largest identified mineral deposits representing 56% of total reserves followed by Northern British Columbia with 36% and Alaska accounting for 8% of total reserves. When examining potential shippable quantities[3] the importance of Yukon is magnified as deposits in this region may represent as much as eighty percent of total shippable quantities from the identified priority deposits.

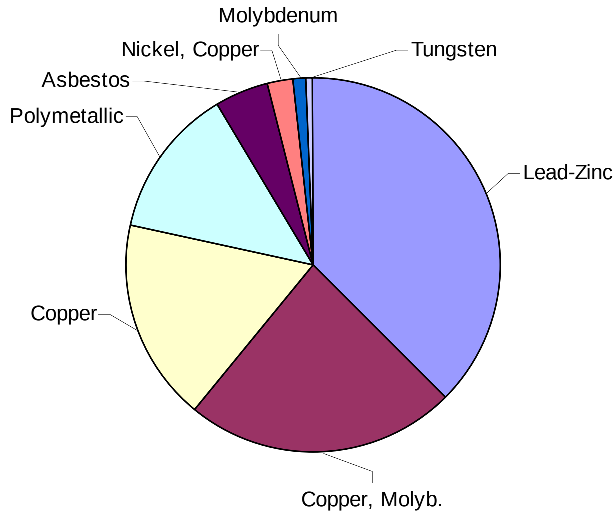
[1] The Red Dog Mine (Teck Cominco) is the major producing mine in Alaska which is excluded from this analysis.
[2] Represents cumulative estimated shippable quantities from all priority mineral deposits as identified by Gartner Lee for the life of the various deposits.
[3] Shippable quantity represents the estimated volume of a commodity that could be shipped by rail accounting for estimated mine life, mine production rates, mineral recoveries and concentrate grades.

Figures 1 –3 below provide a high level overview of the types of mineral resources, estimated volumes, and geographic location.

Figure 1. Deposits by Commodity Type (Estimated Shippable Quantities)



Breakdown of All Other Category



As Figure 1 above shows coal and iron ore represent 96% of priority deposits with iron ore being the single largest commodity at 68% of estimated shippable quantities or an estimated 1.3 billion tons. The iron ore is made up of a single deposit, the Crest deposit, located in the northeastern region of the Yukon. Coal is the second largest commodity at approximately 540 million tons representing 28% of total shippable quantities. The remaining volumes, while small by comparison, total 74 million tons consisting principally of base metal deposits including lead, zinc, and copper.

Figure 2. Deposits by Region

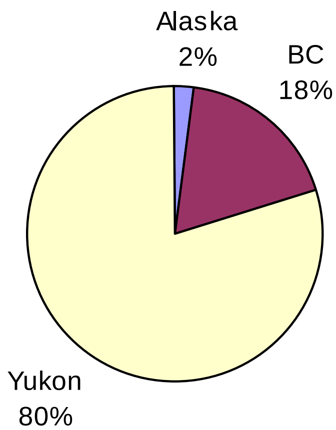


Figure 3. Shippable Quantities by Commodity and Region (Million Tons)

	Region			
Commodity	**Alaska**	**BC**	**Yukon**	**Grand Total**
Asbestos	3.51	-	-	3.51
Coal	33.00	321.87	186.01	540.89
Copper	-	12.40	0.52	12.92
Lead-Zinc	0.23	3.34	24.15	27.72
Molybdenum	-	0.55	0.11	0.67
Polymetallic	2.92	2.77	3.96	9.66
Tungsten	-	-	0.48	0.48
Iron	-	-	1,341.45	1,341.45
Nickel, Copper	-	-	1.71	1.71
Copper, Molyb.	4.40	10.18	2.89	17.47
Grand Total	**44.05**	**351.13**	**1,561.29**	**1,956.47**

As shown in Figures 2 and 3 above the Yukon holds the largest mineral reserves of which 85% are accounted for by the Crest iron ore deposit. British Columbia and Yukon both hold substantial coal deposits estimated at 322 and 186 million tons respectively. Base metals and other commodities represent only 4% of total potential shippable quantities consisting principally of lead, zinc, and copper. Alaska coal reserves, while representing 75% of total potential shipment volumes, are small as compared to the coal deposits in the other two regions.

Appendix A of this report provides a detailed listing of the subset priority mineral deposits examined during the course of this analysis.

Constraints on Development

There have been historically, and continue to be, significant challenges to the economically viable development of mineral resources located in Alaska, Yukon, and northern British Columbia. In addition to the issues of commodity pricing and favorable market supply-demand ratios these northern deposits must overcome a number of somewhat unique regional constraints including transportation infrastructure and power generation.

Commodity Prices

International markets have always been, and continue to be, important outlets for mineral resource production in North America. Growing international consumption of base metals and coal are today being driven by the rapid economic growth of the emerging and transitional economies of the Asia Pacific region – more specifically China and India.

Metals and mineral commodity prices are cyclical in nature and until recently had been depressed for an extended period of time. Over the last two years prices for most base metals and coal have rebounded significantly as a result of increased demand in international markets with the growth of the Chinese and Indian economies being principal drivers. This most recent resurgence in mineral resource commodity prices has ignited renewed interest in the development of a number of mineral deposits in these regions.

Power Generation

Mineral resource operations are energy intensive and require a consistent, reliable, and cost effective source of power. In the absence of fixed power generation facilities such as coal or gas fired power plants and suitable transmission infrastructure, northern mining operations have historically relied on site based power generation using diesel fuel powered generators. The shipment of diesel fuel from southern supply points in the quantities required to support large scale mining operations is expensive, in many cases logistically difficult, and can have a significant impact on the economic viability of such developments.

Transportation Infrastructure

Access to cost effective and efficient transportation is a critical enabler of resource development. Transportation infrastructure plays a dual role in supporting the economic viability of resource development by enhancing the logistics capabilities and reducing the costs associated with the movement of both outbound resource commodities and inbound goods required to develop and maintain operations. The mineral deposits located within these regions are by their nature and location most likely to move to export markets as opposed to domestic markets. Accessing export markets means accessing tidewater as quickly and cost effectively as possible – a task best suited to rail transportation. While truck movement of resources to port is logistically feasible it is not the most efficient or cost effective means of doing so. Rail transportation is best suited to the long distance movement of highly dense commodities such as mineral resources. The positive economies of scale achievable through rail transportation make it the preferred and dominant transportation mode for such commodities throughout North America, whether for domestic consumption or international export.

2.0 Global Supply – Demand Overview

The identification of reasonable volume and revenue forecasts for rail movement of export mineral resources using the proposed Alaska Canada Rail Link (ALCAN) requires an examination of broader global supply – demand balances. The following sections will provide a brief overview of existing and forecast market conditions for the primary commodities being examined. Our examination of resource markets focuses on coal, lead, and zinc as these three commodity groups represent the majority of the volumes identified as being potentially viable for movement via the Alaska Canada Rail Link in the future.

The analysis of markets for these resources has been completed using information garnered from various sources including the United States Geological Survey reports, London Metals Exchange, BP Statistical Review of World Energy (2005), united States Energy Information Administration (EIA), and the International Lead and Zinc Study Group.

2.1 Coal

2.1.1 Reserves

Proven global coal reserves as of December 2004 total nearly one trillion tons. The Asia Pacific region, Europe, and North America represent 92% of these reserves with the balance residing in South/Central America, Africa, and the Middle East.

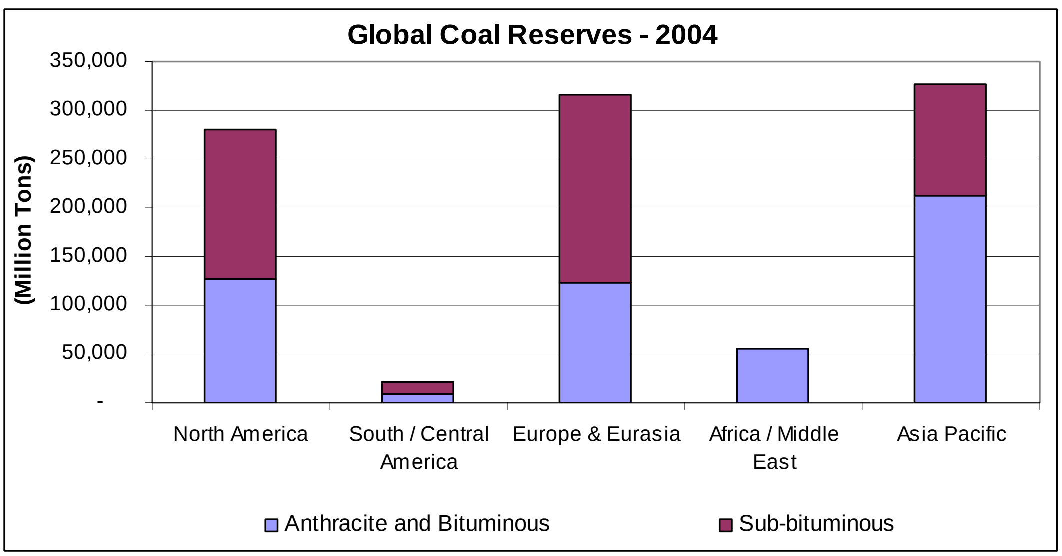


Figure 4. World Coal Reserves

The United States holds 97% of all North American proven reserves and approximately 27% of global reserves. The United States, along with the Russian Federation (17%), and China (13%)

account for 57% of total global reserves and when combined with Australia (9%), South Africa (5%), Ukraine (4%), Kazakhstan (4%), and India (11%) represent 90% of the world's total proven reserves and nearly 80% of global coal production. Canada is a relatively minor player on the world stage with an estimated 7.2 billion tons of proven reserves, less than 1% of world resources.

2.1.2 Production

While coal reserves are split somewhat evenly among the three principal regions of North America, Europe, and Asia Pacific the production of coal, and more importantly recent trends in production, reveal a different picture.

The Asia Pacific Region is currently the world's leading producer of coal with its share of world production rising from 43% to 55% from 2000 to 2004, a net growth of 655 million tons. Growth during this period has been concentrated in three countries namely Australia (19%), India (20%), and China (97%). By comparison North American coal production has remained essentially flat with Canadian production declining 6% or approximately 2.3 million tons during this period. The Asia Pacific Region now accounts for 55% of global production with China representing two-thirds of regional production and 37% of world production.

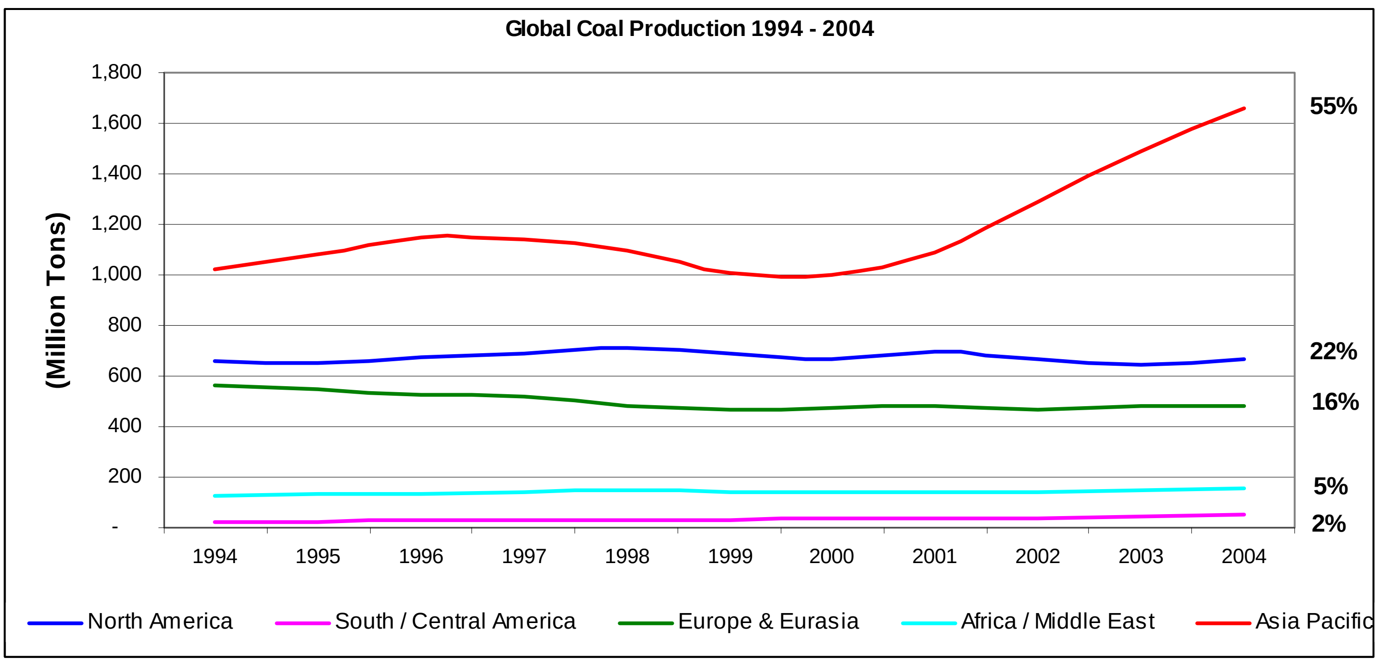


Figure 5. World Coal Production 1994 - 2004

2.1.3 Consumption

Consistent with recent trends in coal production, the Asia Pacific region also dominates global coal consumption accounting for 54% of total consumption. Once again China is the principal force within this consuming region accounting for 80% and 34% of regional and global consumption respectively.

This level of consumption, and more specifically the rate of growth experienced since 2000, is a direct reflection of the robust economic development occurring in this region, led principally by the rapidly developing economies of China and India and to a lesser extent those of Japan, Indonesia, and Malaysia.

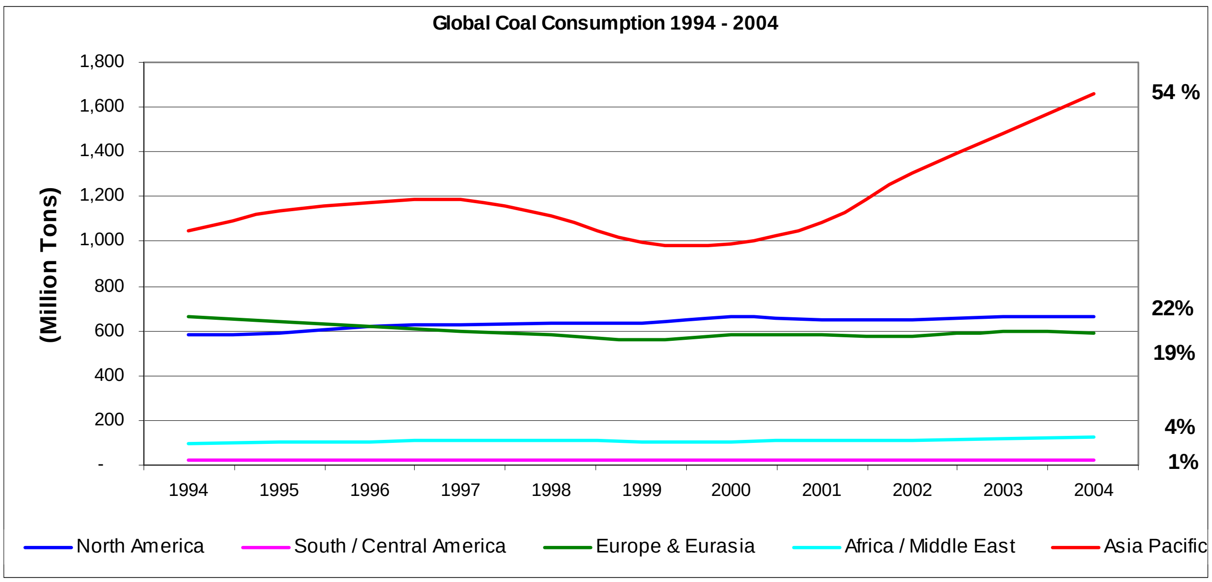


Figure 6. World Coal Consumption 1994 - 2004

Coal consumption is driven mainly by demand to support coal fired electricity generation. For the majority of countries, with the exception of China, India, and Japan, power generation is the dominant use of coal and is forecast to remain the principal driver of demand in the future. China, Japan, and India while heavy consumers of coal for power generation, with 50-60% of coal consumed for this purpose, also consume significant volumes of coal to support their respective industrial sectors. For Japan and China demand for coal in the industrial sector is related to steel production with these two countries being the world's two leading steel producing nations.

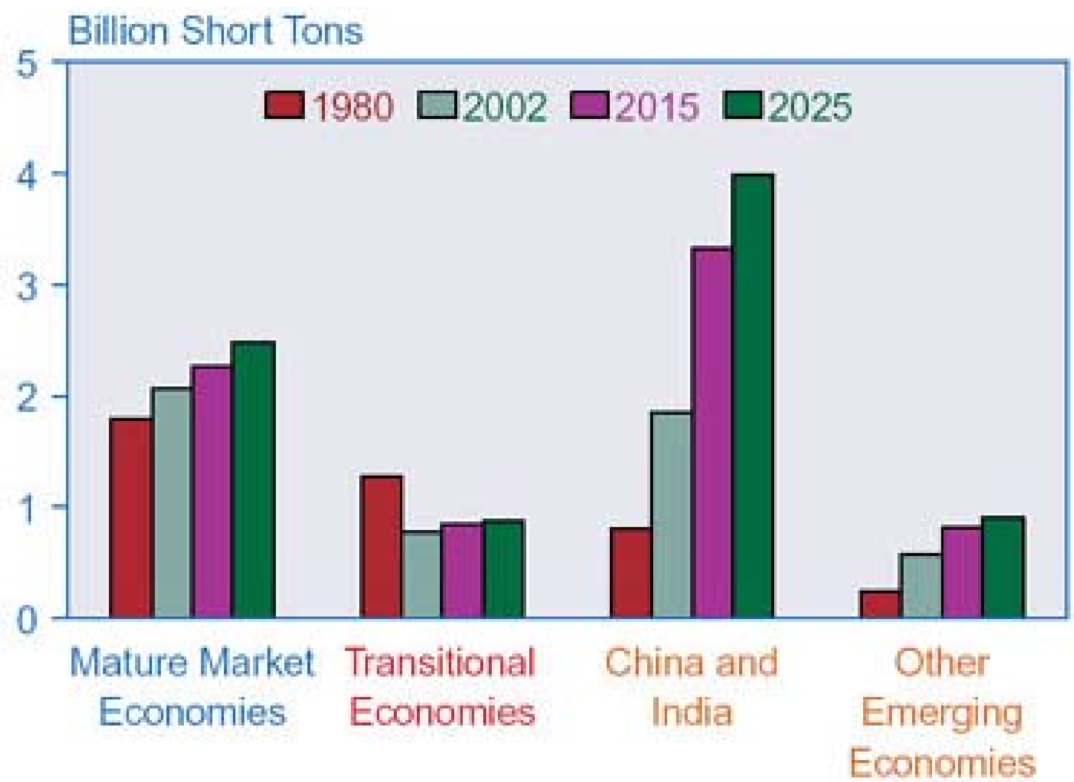
Forecast Demand

Forecast demand for coal is anticipated to vary significantly across the globe with the majority of demand continuing to be driven by the rapid economic expansion of the emerging Asia Pacific region.

Mature economies including North America, Western Europe, and the Asia Pacific countries of Australia, New Zealand, and Japan are forecast to experience relatively moderate growth over the next 20 years. With the exception of Western Europe coal demand within these economies will be driven by the continued prominence of coal in power generation and forecast increases in coal fired power-generating capacity. Western Europe is an anomaly in this respect with total demand anticipated to decline by 20% between 2004-2025 continuing a trend that has seen coal consumption decline 36% since 1990. These declines are driven by a number of factors including:

- Increased use of natural gas and renewable fuels in power generation driven principally by environmental concerns associated with the use of coal;
- Continued European Union pressure on member countries to reduce subsidies that promote the domestic production of coal; and
- Reduced growth in overall energy consumption.

Figure 7. World Coal Consumption Forecast to 2025



The transitional economies of Eastern Europe and the former Soviet Union are forecast to have moderate growth over the next 20 years with total consumption increasing 13% during this period or approximately 0.5% per year. Coal consumption in this region is driven by power generation requirements with Russia, Ukraine, Kazakhstan, and Poland being the leading consumers. Coal fired power generation is expected to remain a significant element of the national strategies of these nations as all have identified plans for renewal of existing and construction of new generating capacity in the coming years.

Consumption in the emerging Asian economies, once again led by China and India, is anticipated to more than double over the next twenty years accounting for nearly 80% of the projected worldwide growth during this period. The projected increase in consumption for these two countries is based on strong economic growth projections exceeding 5% per year for both countries. Coal will support existing and expanded coal fired power generation capacity and the rapidly growing industrial sectors of both these economies. Also fuelling the demand for coal in China is a move by the government to reduce its dependence on imported oil and natural gas through the development of coal liquefaction capacity. An initial plant is under construction and is currently forecast to be converting approximately 80-100 million tons of coal per year, approximately 10% of China’s current consumption, by the year 2020.

2.1.4 Trade

World trade in coal is, as compared to production and consumption, relatively small. World trade in coal in 2004 is estimated to have been in the order of 760 million tons. The international coal trading market consists of two distinct markets – steam coal and coking coal. The international steam coal market is driven by three specific areas of demand:

(1) electricity generation
(2) steam and heat production for industrial applications, and
(3) steel making blast furnaces.

The coking coal market on the other hand consists solely of coal coke used as a fuel and reducing agent for smelting iron ore in blast furnaces.

Steam coal accounts for an estimated 500 million tons or 70% of the total trade market with coking coal accounting for the balance. Both markets are anticipated to grow in the coming decades although it is expected that steam coal will grow at a rate 15% higher than coking coal. Growth in the steam coal market will be driven principally by increased exports to Asia to supply new coal fired generating capacity planned to be brought on line.

Exports

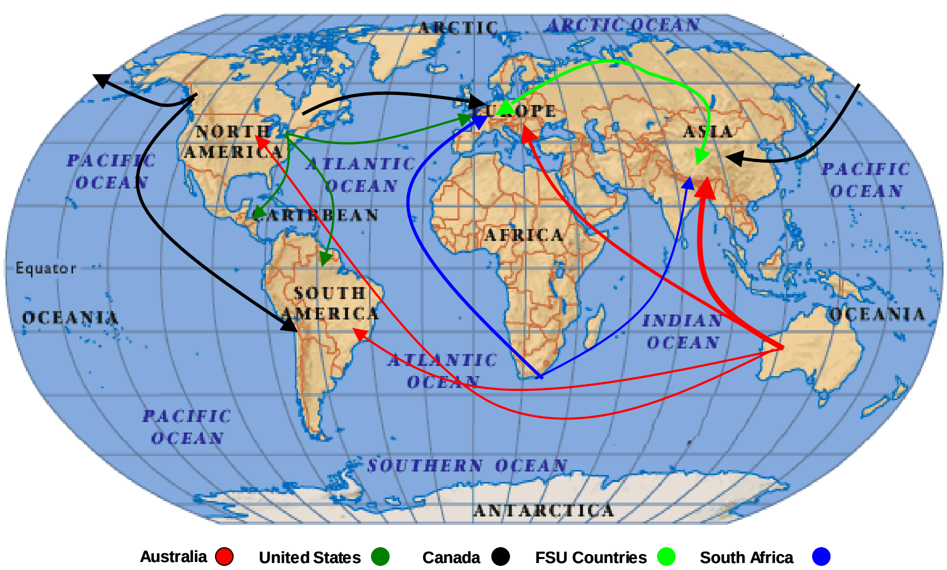
Australia is the world's largest exporter of coal accounting for 33% of global exports with 75% of all its exports destined to the Asian market. Indonesia and China rank second and third respectively in the global export trade with annual volumes in the order of 210 million tons or 30% of total world trade although roughly 85% of these countries' exports are destined to neighboring Asia Pacific countries with only nominal amounts shipped to Europe and the Americas. Canada is a relatively small player on the world stage with annual exports in the order of 27.7 million tons representing less than 4% of total world trade. Asia is the principal destination for Canadian coal accounting for half of exports with the balance moving to Europe and the Americas.

Current forecasts anticipate Australia retaining its position as world export leader with anticipated growth of 50% by 2025 with nearly all growth projected to supply the Asia Pacific market. Indonesia and South America are also forecast to grow their exports substantially over the next twenty years with their individual exports anticipated to surpass those of China. This shift represents the combined effects of projected export growth for these countries and the forecast decline of exports from China as it turns more of its domestic production to its own internal use.

Imports

Asia is the dominant importer of coal accounting for 55% of global coal imports. Of this, two thirds is steam coal used for electricity generation and steel production. Europe is also a large importer of coal accounting for a third of world trade although as noted earlier it is anticipated that European imports will decline in the coming decades by some 7% reflecting an overall anticipated decline in demand of up to 20%.

Figure 8. Principal World Coal Trade Flows (Ocean Transport)



2.1.5 Synopsis

Deposits located in Northern British Columbia and the Yukon are anthracite (Mt. Klappan), bituminous and sub-bituminous (Division Mountain, Bonnet Plume) coal deposits. Anthracite coal is the hardest form of coal and is used principally as a smokeless fuel and for high-grade steel production. Bituminous and sub-bituminous coal such as that found in the Division Mountain and Bonnet Plume deposits lends itself to a variety of uses including power generation, industrial, cement, and iron and steel manufacturing.

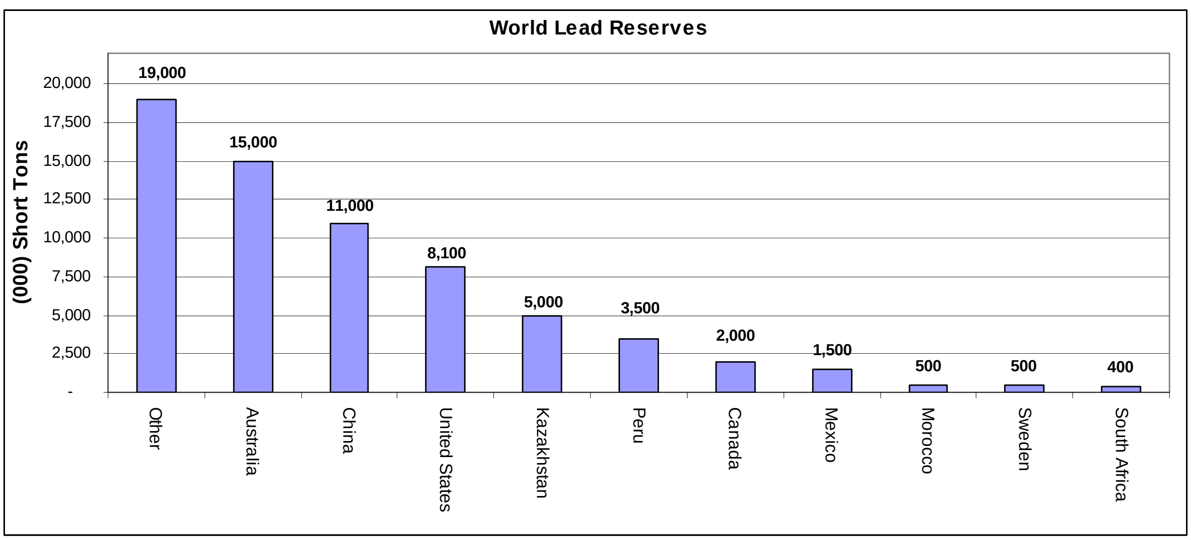
Demand for these coal types, as noted earlier, is anticipated to continue to grow in the Asia Pacific region as additional coal fired power generation capacity is brought on stream and steel production continues to grow in China, Japan, and South Korea three of the world's largest steel producers. It is estimated the principal coal deposits within the study region could yield annual shipments of 6.9 million tons[4], equivalent to 25% of Canada's current exports. With growing demand anticipated in China and other Asia Pacific countries and with Canada already a significant supplier to these markets these deposits, if able to be economically extracted and shipped to tidewater, are well positioned to serve these markets.

2.2 Lead

2.2.1 Reserves and Production

Global lead reserves are estimated to be in the order of 67 million tons. While lead ore is mined in many countries around the world nearly 75% of world output originates in six countries: China, Australia, United States, Peru, Canada and Mexico.

Figure 9. World Lead Ore Reserves



[4] Estimate of 6.9 million tons represents annual shippable quantities for the priority deposits as identified by Gartner Lee including Mount Klappan (3.3), Groundhog (1.3), Division Mountain (1.4) and Bonnet Plume (0.9).

Total lead production is estimated to be some 6 million tons per year with roughly 50% of production from primary and secondary sources[5]. Consistent with the location of reserves the principal producing countries are China, Australia, and the United States that account for more than 50% of global primary production.

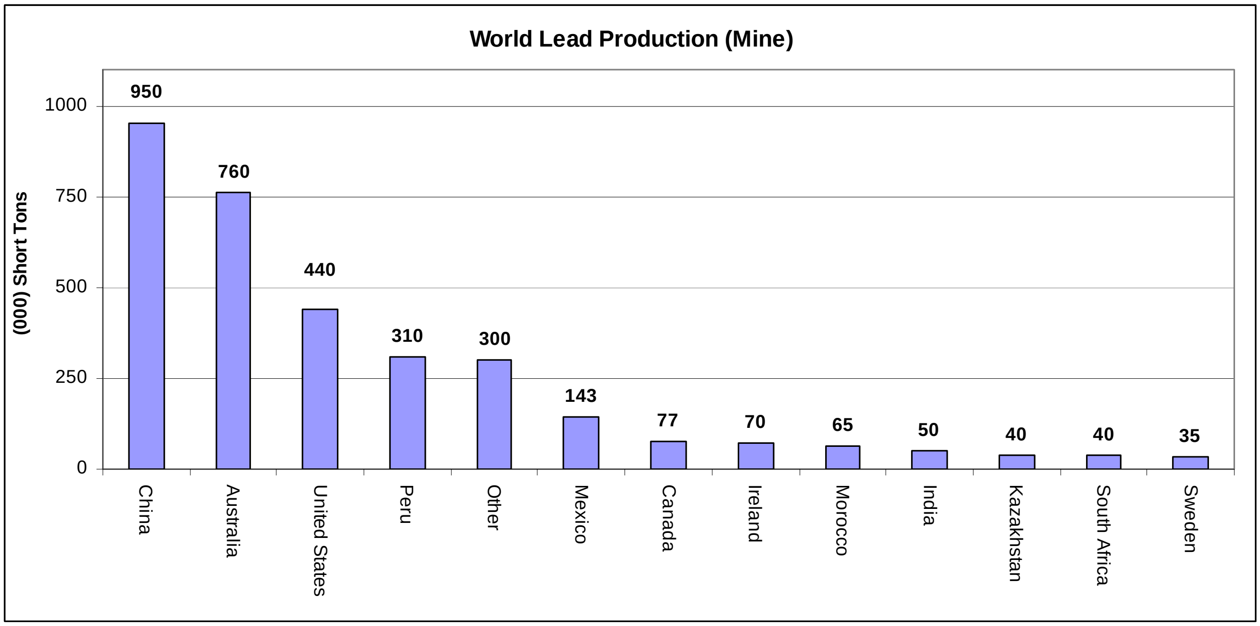


Figure 10. World Lead Production (Mined)

Global production has remained at fairly constant levels since the 1970s with new production brought on stream to replace older depleted properties. North America and Western Europe produce 50% of the world's refined lead (from all sources) much of which is achieved through production from secondary sources (i.e. scrap metal). North America produces 70% of its lead from secondary sources, and Western Europe 60%. In contrast, Chinese production is almost entirely from ore, which is consistent with the level of ore mining as shown in Figure 10 above.

In recent years, significant lead resources have been discovered in conjunction with other minerals most notably zinc, silver, and/or copper deposits in Australia, Canada, China, Ireland, Mexico, Peru, Portugal, and the United States. Identified global resources[6] are estimated to be in the order of 1.5 billion tons. Lead is often mined in conjunction with other minerals within the same deposit region.

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[5] Primary production of lead involves the production of metallic lead from lead ore concentrates by processing the ore through smelting and refining processes. Secondary lead production involves the production of refined metal by processing lead scrap.

[6] Identified resources are those whose location, grade, quality and quantity are known or estimated from specific geologic evidence. Identified resources include economic, marginally economic, and uneconomic components. To reflect varying degrees of geologic certainty, these economic divisions can be subdivided into measured, indicated, and inferred.

2.2.2 Consumption

Lead is consumed by all industrialized countries around the world. The United States is the largest consumer of lead with other leading consuming nations including China, Japan, Korea and a number of European countries including the United Kingdom, Germany, France, and Italy.

The main use of lead worldwide is for lead-acid batteries, used principally in vehicle ignition systems, accounting for 85% of lead consumption in the United States in 2005. Other end uses include PVC plastics used in cable sheathing, lead sheet used in the building industry, industrial paints, and manufacturing of chemicals.

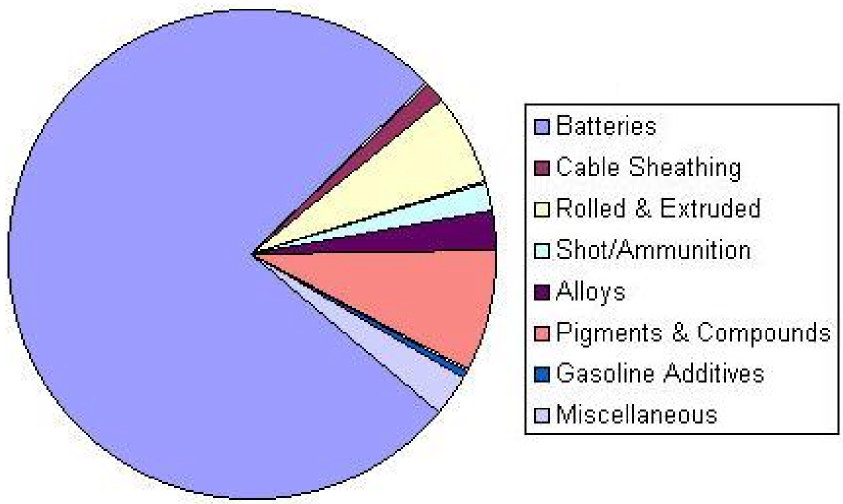


Figure 11. End Uses of Lead by Share of Consumption

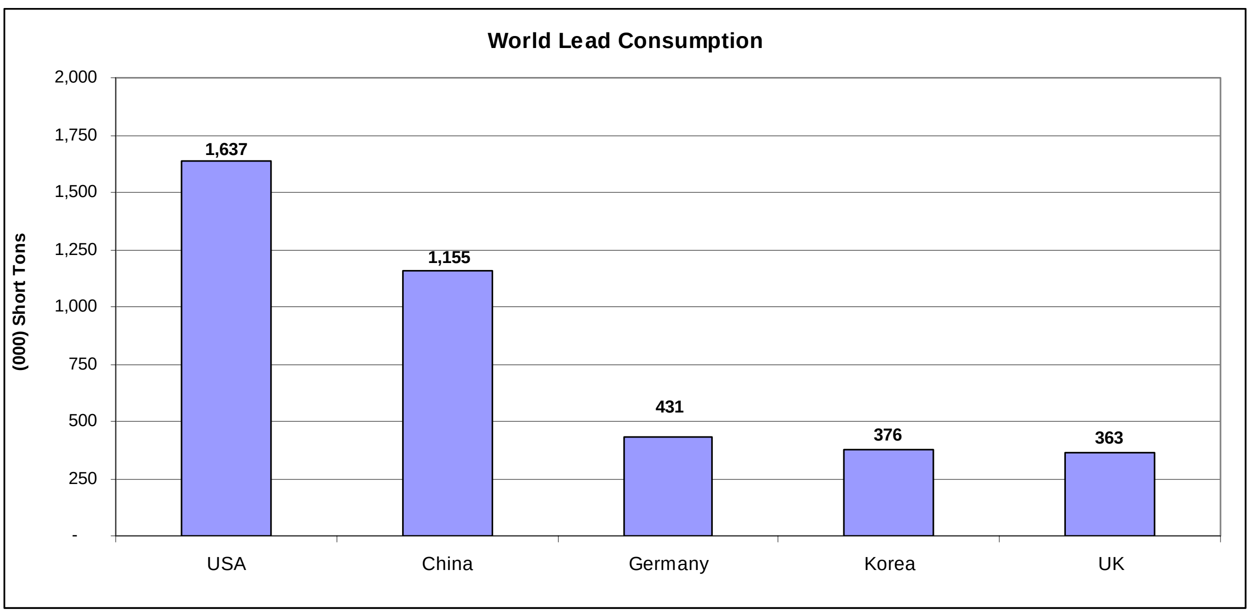


Figure 12. Primary Lead Consuming Countries

2.2.3 Trade

Lead is bought and sold by many countries on the world market, in the forms of ore, impure metal and refined metal, as well as final products. The USA, South East Asia, and Western Europe are the largest importers of lead in its various forms, though many of these countries also export refined metal. The main exporters of lead are the countries that mine large amounts of lead ore namely China, Australia, and Peru.

2.3 Zinc

2.3.1 Reserves and Production

Global zinc reserves are estimated to be approximately 220 million tons. China, Australia, and Peru are the leading zinc producing regions of the world with 2005 production of some 5 million tons or roughly 50% of world production. The United States is also a major player on the world stage producing an estimated 760,000 tons in 2005. Teck Cominco's Red Dog mine in northern Alaska accounts for approximately 96% of total United States zinc production.

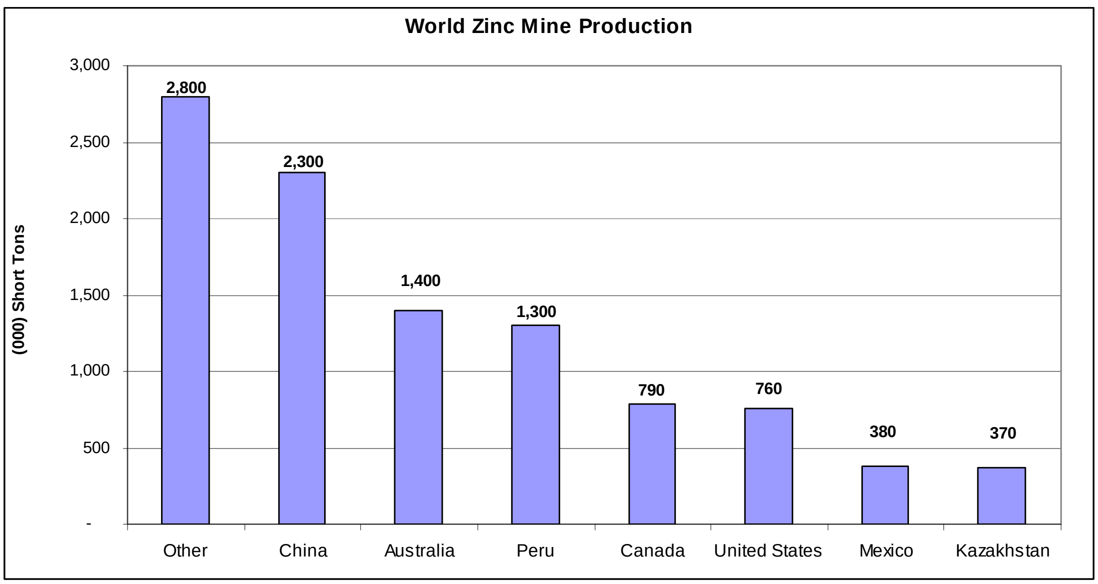
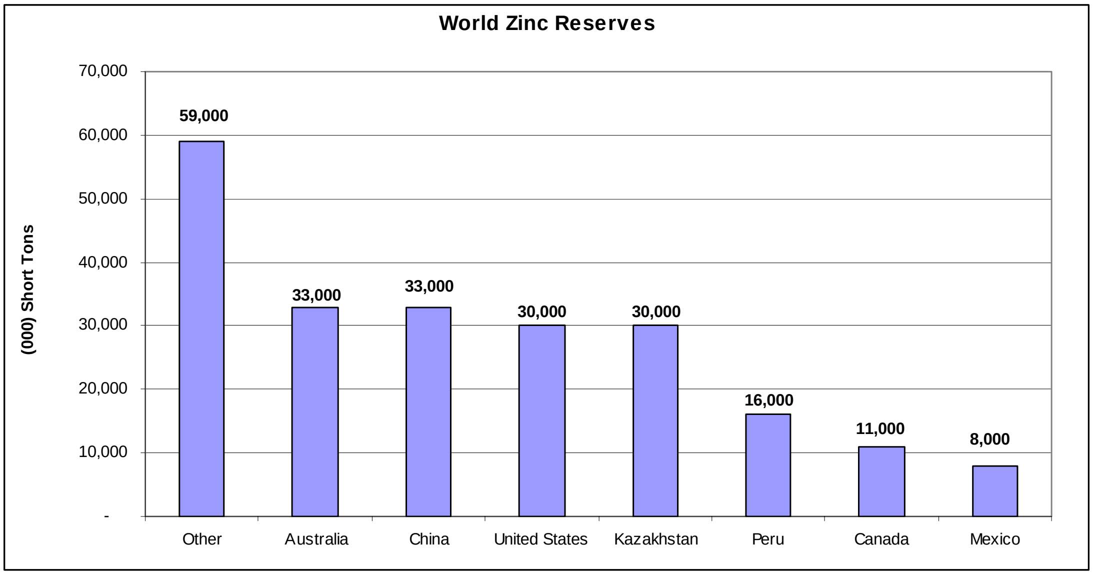


Figure 13. Global Zinc Mine Production (2005)

Identified global zinc reserves are, as might be expected, aligned closely with existing producing regions. While China, Australia, and Peru currently produce 2-3 times the output of the United States each country holds approximately the same level of reserves.

Figure 14. Global Zinc Reserves (2005)



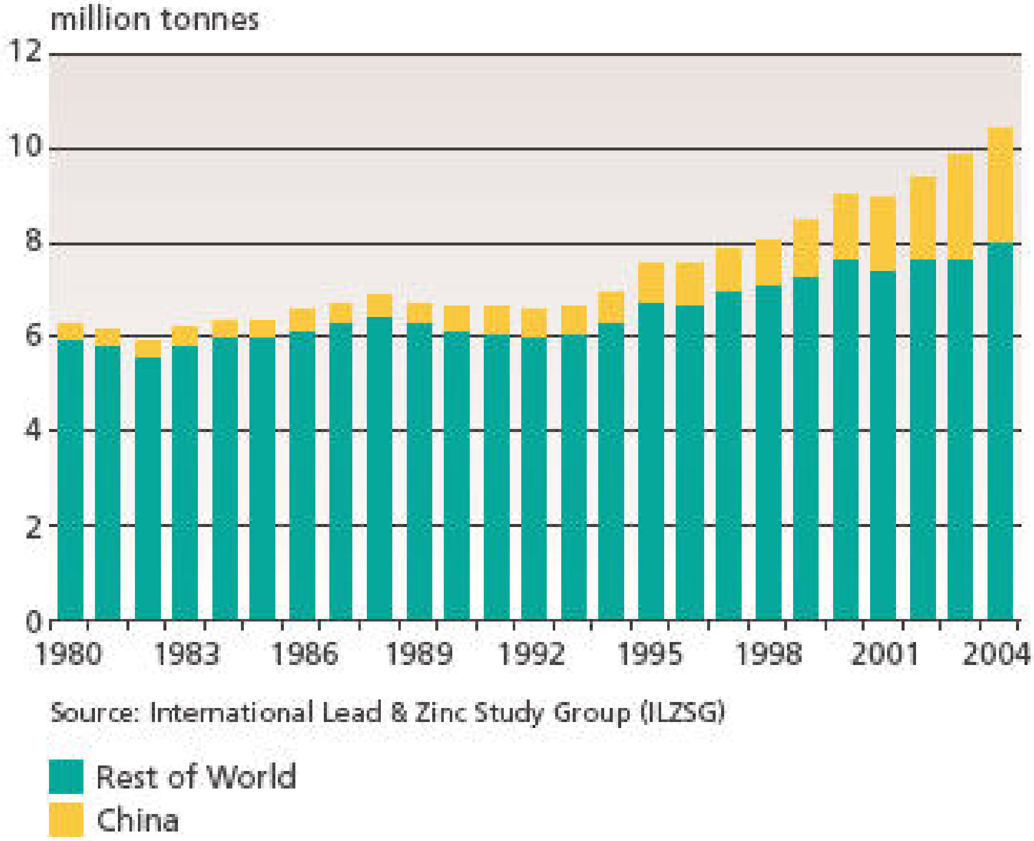
2.3.2 Consumption

Zinc ranks fourth in world metal consumption behind iron, aluminum and copper. Its primary use is for corrosion protection of galvanized steel. This application in the automotive and construction sectors accounts for approximately 50% of global consumption. Other uses include alloy manufacture for use in the construction and manufacturing industries (20%), die casting for the automotive, appliance and electronics industries (15%), and various other industrial and pharmaceutical uses(15%).

Global consumption is currently estimated to be 10.7 million tonnes[7] (11.8 million short tons) per year. Consumption has grown steadily over the last twenty five years with significant growth being experienced during the last decade. As with other resource commodities China has and continues to play a major role. In recent years China has moved from being a net exporter to a net importer of zinc as more of its own production is turned to internal use. (See Figure 15)

[7] Source: International Lead and Zinc Study Group

Figure 15. Global Zinc Consumption 1980 - 2004



Zinc Supply

Since mid 2004 demand for zinc metal has outstripped supply resulting in an estimated reduction of 850,000 tons of inventory at the London Metals Exchange (LME) during 2004 - 2005. The shift in the global zinc supply-demand balance can be attributed to a number of factors including:

- persistent low commodity pricing resulting in the constrained new mine development;
- depletion of zinc metal reserves due to lack of sufficient concentrate to supply smelter capacity;
- reduction in available global smelter capacity and reduced profitability of smelter operations stemming from reduced concentrate supplies resulting in the reduction of smelter treatment charges and reduced operating rates;
- rapid increase in consumption by China for industrial applications - specifically steel manufacturing.

It is estimated that some 2.7 million tons of new mine concentrate production annually is required to meet forecast demand in 2007. New mine development has been limited in recent years with only 1.5 million tons of annual concentrate production coming on stream since 2001 from three mines: Century (Australia), Antamina (Peru) and Lanping (China). Few new zinc developments are positioned to come into production in the near term and as such the existing supply-demand imbalance and high prices are forecast to continue for a number of years.

Concurrent with the slow pace of new zinc mine development has been the rapid increase in global zinc consumption lead by China. China's consumption has grown significantly in recent years. It is estimated that China currently accounts for 25% of global zinc consumption and that in 2004 it experienced a 28% year over year growth in consumption.

Zinc prices, along with most base metals prices, have risen dramatically in the last 24 months in response to increasing global demand combined with supply shortfalls. After a prolonged period of stagnant pricing (2001 – 2004) hovering around $0.40 – 0.50 USD per pound zinc prices have now reached $1.55 USD per pound.

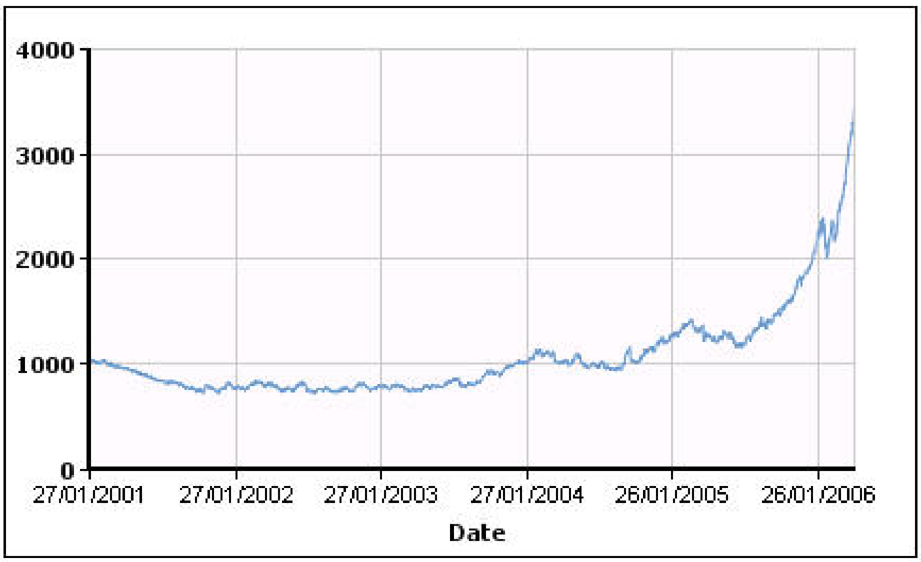
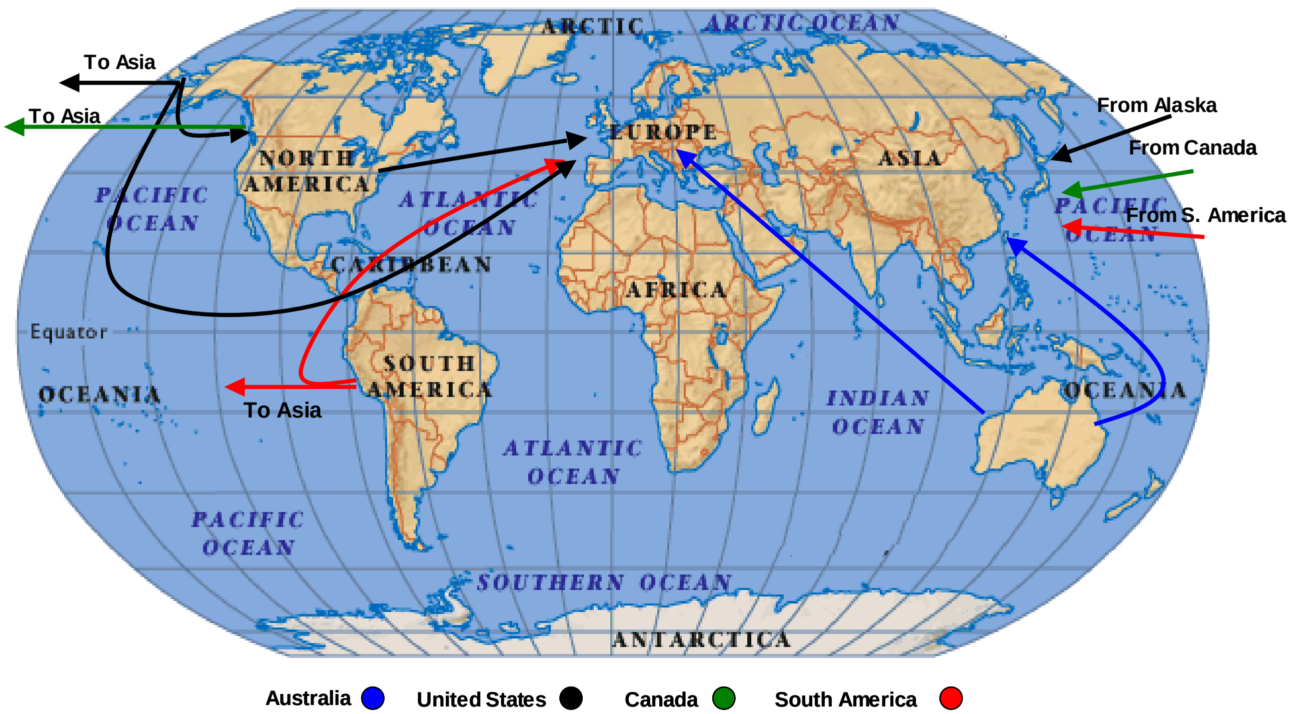


Figure 16. London Metal Exchange Cash Buyer Price History - Zinc

2.3.3 Trade

Asia, principally China and Korea, is the leading import region for zinc from sources around the world. The United States, despite being a significant exporter of zinc ore and concentrate is a significant importer of both concentrate and refined zinc. The principal sources for US imports are Canada (60%) and Mexico (17%).

Figure 17. World Trade Patterns – Zinc Concentrate



2.3.4 Synopsis

The Yukon is home to a number of world-class lead-zinc deposits including Howard's Pass, Faro, and the Yukon Zinc Wolverine deposits. These deposits are estimated to hold approximately 177 million tons of mineable resources that could, at estimated recovery and concentration rates, yield approximately 1.05 million tons of rail based shipments per year[8]. The continued buoyancy of zinc prices and the expected global supply shortage present favorable conditions for development of these resources and positions them well for effectively supplying the Asia Pacific region.

[8] Howard's Pass represents 50% of estimated mineable resources and potential annual shippable quantities.

3.0 Methodology

The objective of this logistics analysis is to identify reasonable volume and revenue projections for mineral resource traffic originating in Alaska, Yukon, and northern British Columbia that may in the future move via the Alaska-Canada Rail Link. This analysis leverages earlier work completed by Gartner Lee and the University of Alaska at Fairbanks (UAF) wherein the known mineral deposits within these regions were researched to identify the “maximum potential volume” of resource materials that could be made available for future rail movement.

3.1 Net Ore Value Methodology

A core assumption of the analysis is that the railway would not be in operation until the year 2015 at the earliest. Recognizing the extended lag time for railway construction and the current state of resource development activity in these regions the determination of potential traffic viability must necessarily project forward an assumed level of resource valuation that can be compared against the estimated costs for resource extraction and transportation.

This logistics analysis assumes that a net positive margin between estimated ore value and the sum of extraction and transportation costs signals viability of a mineral deposit. Transportation costs are assumed to include costs associated with road haul, rail movement, and port terminal activities including dumping of rail cars and loading to ocean vessel. Total cost thus reflects all costs for sale on an FOB vessel basis – typical commercial terms for movements of this nature[9].

To develop the preliminary assessment and identification of high potential deposits Gartner Lee employed a methodology that calculated the net ore value (NOV) of each deposit. This calculation provides for a valuation of each deposit based on the metal price, commodity grade, assumed recovery rate, and smelting charges[10]. Gartner Lee’s analysis has provided for three (3) net ore value calculations based on different metal valuation assumptions.

Specifically the calculation is:

Net Ore Value = Metal Price ($ / tonne) x commodity grade (%) x recovery (%) x (1 – smelter charge (%))[11]

[9] Costs do not include any assumed contribution for return on investment purposes.
[10] Net ore value reflects the estimated value of ore value mined as opposed to the value of the ore concentrate shipped.
[11] Priority Deposit Mine Operating Costs and Net Ore Value, Gartner Lee Limited, January 31, 2006

To identify the initial list of priority deposits for subsequent logistics analysis Gartner Lee applied rule of thumb criterion that the calculated net ore value of a deposit must be a minimum of two times the estimated operating cost. The principal assumption in this regard is that the difference between the operating cost and the net ore value must be sufficient to absorb transportation and recuperation of capital and profits. Using this methodology and criteria Gartner Lee identified a list of twenty-seven (27) priority deposits for logistics assessment. (See Figure 18 below)

Figure 18. Mineral Deposit Net Ore Values and Rankings

						NOV > OPEX		
Group	**Property**	**NOV (L)**	**NOV (M)**	**NOV (H)**	**OPEX**	**NOV (L)**	**NOV (M)**	**NOV (H)**
Coal	Bonnet Plume Field (Illtyd)	$ 6.75	$ 22.83	$ 38.90	17.62	**No**	Yes	Yes
Lead-Zinc	Cirque	$ 31.17	$ 52.79	$ 78.73	24.61	Yes	Yes	Yes
Copper	Copper Canyon	$ 4.89	$ 8.59	$ 14.21	6.17	**No**	Yes	Yes
Iron	Crest	$ 9.04	$ 10.76	$ 12.79	6.41	Yes	Yes	Yes
Polymetalic	Delta District (DW)	$ 28.56	$ 49.41	$ 80.25	52.55	**No**	**No**	Yes
Polymetalic	Delta District (MID)	$ 28.36	$ 49.14	$ 80.86	52.55	**No**	**No**	Yes
Polymetalic	Delta District (Val)	$ 22.55	$ 37.56	$ 58.60	52.55	**No**	**No**	Yes
Coal	Division Mt.	$ 5.86	$ 19.81	$ 33.77	8.04	**No**	Yes	Yes
Lead-Zinc	Faro Camp (Grizzly / Dy)	$ 28.64	$ 52.21	$ 82.07	45.88	**No**	Yes	Yes
Lead-Zinc	Faro Camp (Grum)	$ 17.53	$ 31.29	$ 48.74	14.14	Yes	Yes	Yes
Lead-Zinc	Faro Camp (Swim)	$ 20.48	$ 37.37	$ 57.77	23.18	**No**	Yes	Yes
Polymetalic	Finlayson L.D. (Fyre (Kona))	$ 25.98	$ 38.25	$ 51.79	20.95	Yes	Yes	Yes
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 38.28	$ 65.84	$ 108.42	29.36	Yes	Yes	Yes
Copper	Finlayson L.D. (Minto)	$ 17.26	$ 30.51	$ 45.17	19.95	**No**	Yes	Yes
Polymetalic	Finlayson L.D. (Wolverine)	$ 73.87	$ 126.15	$ 216.87	47.34	Yes	Yes	Yes
Copper	Galore Creek	$ 6.40	$ 11.34	$ 17.44	6.17	Yes	Yes	Yes
Coal	Groundhog Coalfield	$ 7.05	$ 23.86	$ 40.66	22.02	**No**	Yes	Yes
Lead-Zinc	Howard's Pass	$ 22.36	$ 38.09	$ 55.11	10.77	Yes	Yes	Yes
Copper	Kemess North & South	$ 2.34	$ 4.05	$ 6.51	3.71	**No**	Yes	Yes
Polymetalic	Kutcho Creek	$ 20.24	$ 34.45	$ 50.77	22.72	**No**	Yes	Yes
Tungsten	Logtung	$ 4.33	$ 8.66	$ 21.78	10.86	**No**	**No**	Yes
Tungsten	Mactung	$ 29.09	$ 58.18	$ 142.69	61.74	**No**	**No**	Yes
Coal	Mount Klappan (Lost Fox)	$ 5.39	$ 18.24	$ 31.09	28.71	**No**	**No**	Yes
Molyb	Red Mountain	$ 2.95	$ 5.91	$ 17.18	7.96	**No**	**No**	Yes
Copper	Shaft Creek	$ 3.66	$ 6.51	$ 10.78	4.79	**No**	Yes	Yes
Asbestos	Slate Creek	$ 40.29	$ 48.35	$ 56.47	23.57	Yes	Yes	Yes
Polymetalic	Tulsequah Chief	$ 45.43	$ 76.89	$ 122.71	45.9	**No**	Yes	Yes
			Estimated Annual Shippable Tons			**19,055,284**	**23,957,585**	**27,323,536**
			Net of Crest Iron Ore Deposit			**2,525,284**	**7,427,585**	**10,793,536**

Examining the relationship between net ore value and the estimated operating cost provides an initial filtering mechanism for deposit viability. As Figure 18 above reveals the low net ore value scenario yields few viable deposits based on net ore value exceeding operating cost while the high net ore value scenario identifies all deposit values as exceeding the estimated operating cost. The estimates of total annual shippable quantities shown above for each NOV scenario are somewhat deceptive because of the size of the Crest Iron Ore deposit included in each scenario. At an estimated 16.53 million tons this single deposit represents from 60% to 87% of estimated available tonnages across the various NOV scenarios.

This logistics analysis examines the viability of these deposits when transportation costs are applied for movement from mine site to on board vessel. In this instance the Gartner Lee criterion has been modified somewhat to employ a criterion of net ore value exceeding the sum of operating and transportation costs. This criterion can be expressed as:

Net Ore Value > Operating Cost + Transportation Cost

This assessment has been done for each of the three net ore values for each of the 27 deposits outlined above for each of the six rail route alignments included in the terms of reference.

3.2 Transportation Parameters

Key assumptions and analytical criteria considered in the development of estimated transportation costs include:

- rail routings and associated rail miles by route segment
- network definition for the Alaska Canada Rail Link including interchange points with connecting railways
- assumed railway destinations
- transportation mode(s) from mine site origins

3.2.1 Rail Routes

The Terms of Reference established for the rail route engineering analysis and capital cost assessments identified four principal routings as shown on the schematic below.

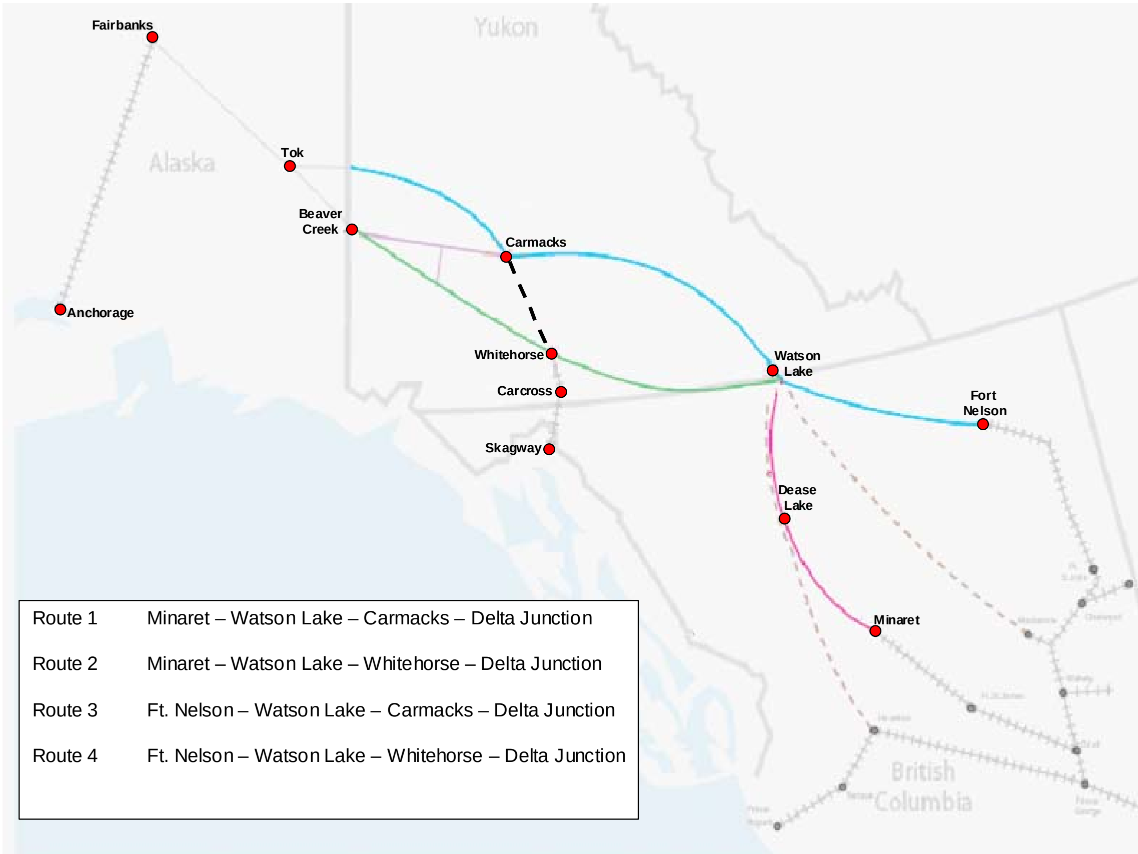


Figure 18. Principal Alaska Canada Rail Link Routes

Two additional routes from New Hazelton, B.C. via either Carmacks or Whitehorse were identified by industry stakeholders as potentially important particularly for the movement of mineral resources to Prince Rupert. The New Hazelton route for southbound movements to Prince Rupert, when measured from the common junction of Watson Lake, offers a distance savings of 541 miles and 622 miles respectively as compared to the Minaret and Fort Nelson routes to Prince Rupert. This routing can provide the ALCAN railway with two benefits as compared to other route options – longer hauls on southbound traffic and higher revenues based on longer length of haul.

The New Hazelton route has been evaluated for the movement of export minerals along with the other four routes. The route segments considered within this analysis are thus:

- Route 1 – Minaret – Watson Lake – Carmacks – Delta Junction
- Route 2 – Minaret – Watson Lake – Whitehorse – Beaver Creek – Delta Junction
- Route 3 – Fort Nelson – Watson Lake – Carmacks – Delta Junction
- Route 4 – Fort Nelson – Watson Lake – Whitehorse – Delta Junction
- Route 5 – New Hazelton – Watson Lake – Carmacks – Delta Junction
- Route 6 – New Hazelton – Watson Lake – Whitehorse – Delta Junction

3.2.2 Definition of the ALCAN Network

It is important for the financial and investment analyses that estimated revenues be aligned with operating and capital costs. This analysis assumes the physical assets of the ALCAN railway are defined by the following boundaries and interchange locations.

(1)	Canadian National Railway Connection:	Fort Nelson or Minaret or New Hazelton
(2)	Alaska Railroad Connection:	Delta Junction, AK

The White Pass and Yukon Railroad (WP&Y) is assumed to form part of the Alaska Canada Rail Link network for revenue estimation, investment, and operating purposes. The WP&Y runs a length of 110 miles from Whitehorse through to the Port of Skagway.

3.2.3 Destinations

Our analysis assumes that mineral resources traffic will be destined to off shore markets, principally the Asia Pacific Region, and as such will be transported by rail to the nearest most economical port location. Our analysis examines the logistics costs associated with the movement by rail to the ports of Skagway, AK and Prince Rupert, B.C. Movement to each of these port destinations is examined using each of the previously identified six routing options.

3.2.4 Mine Origin Movements

Generally speaking these mineral deposits are located in remote areas of each of these three regions. They do not they have direct access to existing rail services, are not located immediately adjacent to any of the proposed ALCAN rail alignments, and in many instances do not have access to existing road infrastructure.

The development of estimated transportation assumes the following:

- Mineral resources are transported from mine site to railhead by truck. Trucks are assumed to be B-Train configurations with an average payload capability of 46 short tons.
- Distance from mine site to railhead (rail connection point) assumes a straight-line distance from the deposit to the point of nearest connection for each of the proposed rail alignments. Where appropriate, distances are measured incorporating the use of existing road infrastructure and where necessary assumptions of new access road construction have been made. Highway distances and rail connection points have been calculated and supplied by Gartner Lee.
- Road transportation costs are estimated to be $0.105 cents per ton-mile (USD). This cost estimate is based on direct discussions with Fortune Minerals personnel and reflects the estimated cost of trucking used in their recently completed feasibility study.
- No consideration has been given to the capital investment requirements for creating access to the mines for either road or rail infrastructure.

The feasibility of moving these commodities directly from the mine site by rail should not be discounted as such operations are typically served by rail at the mine site. Direct movement by rail should provide for lower overall transportation costs due to the elimination of higher cost trucking from mine to rail head and the avoidance of truck to rail transfer costs at railhead. This analysis has not examined the transportation costs related to direct rail movement from mine origins nor has it assumed any direct cost for transfer of product from truck to rail car.

3.3 Transportation Cost Development

As noted above it is assumed that traffic will use a combination of road and railway transportation to one of two potential port locations – Skagway or Prince Rupert. These ports are rail served by the White Pass and Yukon Railroad and Canadian National Railway respectively. As such each rail movement involves a minimum of two railways with ALCAN serving as an originating carrier. All traffic destined to Prince Rupert is interchanged from ALCAN to CN Rail at either Minaret, B.C., Fort Nelson, B.C., or New Hazelton, B.C. depending on the route selected[12]. For traffic destined to the Port of Skagway all traffic is interchanged from ALCAN to the White Pass and Yukon Railroad at Whitehorse, YT[13].

Transportation costs have been estimated using a railway pricing model that incorporates each of the proposed six rail routes from origin to destination, length of haul for each carrier, average cent per ton mile revenues as published by CN Rail for coal movements, and cent per ton mile values provided by Pacific Coast Consultants for the portion of the movement between Whitehorse and Skagway.

The analytical steps completed in calculating estimated transportation costs for each identified priority deposit to each port destination for each of the proposed six rail routes are:

1. Calculation of length of highway haul from mineral deposit site to nearest point of connection to each proposed rail alignment.
2. Calculation of length of rail haul from point of railway connection to final port destination for each railway involved in the route.
3. Calculation of revenue ton-miles for each transportation provider in the route.
4. Calculation of per car transportation costs through application of cent per ton-mile factors to revenue ton-miles for each carrier in each movement.

[12] There are limited cases where the location of a deposit makes it logical for it to access rail directly at the proposed location of interchange with CN or the White Pass and Yukon. In these specific instances no tonnages or revenues are attributed to the ALCAN railway.
[13] For operational purposes the WPY is considered a distinct carrier although its revenue earnings are included in total ALCAN railway revenues.

5. Conversion of per carload transportation cost to per ton transportation cost using assumed railway payloads of 110 tons per car for coal and 90 tons per car for all other mineral commodities.

3.3.1 Rate Taper

The base rail cost analysis uses average cents per ton-mile earned by Canadian National Railways for its coal movements as a proxy for revenue earnings for each carrier involved in the rail movement. Recognizing that CN's average coal haul is 500-600 miles in length and that the published cent per ton mile value represents the average earnings of CN for all coal movements of all distances this "unit cost" is not necessarily appropriate for shorter rail hauls as it may underestimate a railway's revenue requirements or costs for such movements.

Given the location of the mineral deposits in the Yukon and Northern British Columbia, and their assumed on-junction point for rail movement, there are a number of rail routings significantly shorter than 500 miles – in some instances as short as ninety (90) miles. Most notable are the movements from northern British Columbia origins to rail interchange with CN on Prince Rupert routings. The shorter than average haul scenario also comes into play for selected Yukon originated movements destined to Skagway.

To more reasonably reflect the cost of these shorter route segments a graduated cent per ton mile scale has been developed in one hundred mile increments for movements less than 500 miles. The scale used is reflected in the chart below.

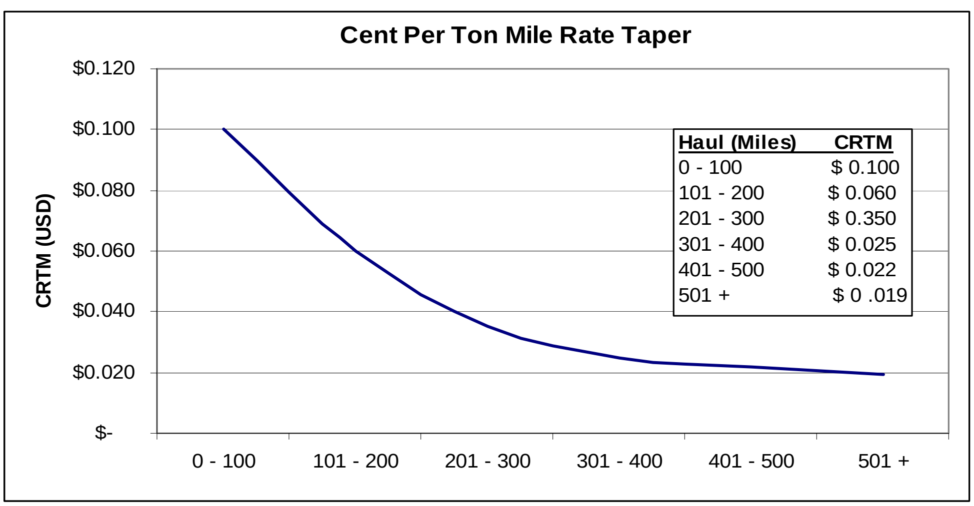


Figure 19. Cent Per Ton Mile Rate Taper

This sliding scale has been applied to both originating and terminating movements regardless of carrier. Provision of a higher revenue factor for shorter rail routings provides for recognition of the higher than average transportation costs associated with origin and destination terminal activities whether at mine site (origin) or port (destination).

It is not uncommon in the railway industry for an originating or terminating carrier to command a share of total revenue larger than its share of the total rail haul reflecting the market leverage it may possess by virtue of its control to rail access at the origin or destination. In this analysis no such premium has been allocated to any carrier as each route involves only two carriers – one serving the origin and one serving the destination. While it could be argued that ALCAN as the originating carrier holds the market leverage of influencing traffic to move to one port or another this competitive element has not been recognized in the revenue allocation model. Instead the analysis has been designed to identify all traffic viable to each port location and then to determine which combination of routings provide for the highest earnings for the ALCAN railway.

3.3.2 Terminal Costs

The analysis looks at the potential movement of export resources to two potential port locations, Skagway and Prince Rupert, assuming products are destined to Asia. Port terminal costs for the receipt of rail shipments, dumping and stockpiling, and transfer to ocean vessel are estimated to be USD $6.00 per short ton for Prince Rupert and USD $7.50 per short ton for Skagway[14].

3.4 Determining Traffic Viability

As noted earlier this logistics evaluation uses a modified version of the net ore value criterion developed by Gartner Lee to determine what traffic is and is not viable for movement. Having calculated total transportation costs to port these costs are then added to the estimated mine operating costs to arrive at total cost per ton from mine to port. Viable traffic is defined as that traffic where net ore value is greater than the sum of all transportation and mine operating costs.

Net Ore Value > Operating Cost + Transportation Cost

The Gartner Lee analysis identified a range of potential net ore values for each deposit classified into three groups: high, median, and low. Recognizing that the cost of transportation is fixed as net ore value declines transportation cost becomes a more significant cost element and in the majority of instances negatively impacts the viability of the traffic when viewed against this criterion. In order to determine the variability in the potential traffic volumes based on varying net ore values the analysis was conducted for each of the three net ore values provided.

[14] Terminal cost estimates are based on discussions with coal industry representatives and for Skagway with Pacific Contract Company reflecting the assumed costs used in the examination of the Port of Skagway Redevelopment business case.

3.5 Revenue Maximization

In many instances the analysis indicates that traffic from a given deposit location is viable for movement to both port destinations. Without the benefit of railway operating costs to calculate traffic profitability it is assumed that the ALCAN railway is indifferent as to actual destination and that its objective is to maximize total revenues. Maximum revenues have been calculated, for each route alternative, by allocating traffic to a routing (Rupert versus Skagway) that yields the highest revenue for the ALCAN railway.

3.6 Rate Sensitivity

The three net ore value scenarios allow us to sensitize traffic volumes based on changing levels of commodity valuations. This sensitivity analysis assumes that transportation costs remain static across all scenarios. To gauge the sensitivity of forecast traffic volumes to changes in transportation rates each of the base case net ore value scenarios (high, median, low) was analyzed assuming a graduated change in transportation costs.

The transportation cost sensitivity analysis examines the effect on forecast volumes and revenues resulting from both higher and lower estimated transportation costs. Eight (8) sensitivity scenarios were developed reflecting 5, 10, 15, and 20 percent increases and decreases in total transportation costs. Each of these scenarios was then applied to the NOV criterion to identify what traffic remained viable or became viable for each port and route option.

4.0 Forecast Volumes and Revenues

4.1 Forecast Scenarios

Three base forecast scenarios for mineral resource traffic have been developed using the high, median, and low net ore value criterion for each of the six defined route options. As shown in Figure 20 below a number of the forecasts are similar with respect to total volumes and revenues however each of the views is presented for consideration for the following reasons.

1. Although the absolute difference in revenues between route options may be small the composition of the traffic between routes and the allocation of traffic between the two port options may vary.
2. Mineral resources traffic is one of several components of the overall traffic forecast and when combined with the remaining business sectors may alter the relative attractiveness or viability of various route options.
3. Forecast revenues do not equate to a measure of the potential profitability of the proposed ALCAN railway. Operations modeling to identify the operating costs associated with each of the route options may determine that maximizing revenues does not provide the best commercial return or operating income for the railway.

Appendix B of this report provides detailed forecast views for each case across the six proposed route options.

4.2 Volumes & Revenues

Figure 20 below provides a summary view of forecast volumes and revenues for the movement of mineral resources from Alaska, Yukon, and northern British Columbia using the proposed Alaska Canada Rail Link.

Figure 20. Summary Base Case Revenue and Tonnage Forecasts

	NOV = High		NOV = Median		NOV = Low	
Route	**Revenue**	**Tons**	**Revenue**	**Tons**	**Revenue**	**Tons**
1	$ 57.01	3.27	$ 6.07	0.31	$ -	-
2	$ 35.72	2.08	$ 2.23	0.13	$ -	-
3	$ 61.61	3.45	$ 6.07	0.31	$ -	-
4	$ 35.47	2.08	$ 2.23	0.13	$ -	-
5	$ 61.89	3.50	$ 6.07	0.31	$ -	-
6	$ 34.10	2.08	$ 2.23	0.13	$ -	-

Key Observations

- Route option #5 (New Hazelton via Carmacks) yields the highest potential revenues and tonnages for the ALCAN railway at 3.5 million tons and $61.89 million USD per year.
- Reducing the commodity price assumptions in the median net ore value scenario eliminates approximately 90% of potential traffic regardless of route option.
- The Howard's Pass and Faro deposits represent significant swing tonnages across route options on account of the incremental trucking distance associated with some route options.
- Division Mountain is the sole coal deposit deemed viable regardless of route option and port destination. This deposit, representing 1.3 million tons and $22 million in annual revenue only remains viable in the high net ore value scenario.
- The Wolverine and Kudz Ze Kayah polymetallic deposits are the only deposits that remain viable in the median net ore value scenario. The sustained viability of these deposits reflects their high net ore value relative to estimated transportation costs.
- The low net ore value scenario yields no viable traffic for any of the selected route options to either port

Separate forecasts were developed using both maximum tonnage and revenue as criteria. No material differences in the forecasts were observed regardless of the criterion used. The analysis assumes that both Prince Rupert and Skagway are viable port destinations possessing the rail and terminal infrastructure and capacity necessary to accommodate the projected volumes within any given scenario. No constraints have been placed on the forecast volumes with respect to the capabilities of these ports or the capbilities of the WP&Y railroad. On this basis the forecast scenarios reflect the revenues and tonnages attainable for each selected route based on the optimal allocation of traffic to each port that derives the maximum revenue for the Alaska Canada Rail Link.

As shown in Figure 21 below the optimal allocation of traffic for revenue maximization can change depending on the route selected and the level of net ore value.

Figure 21. Tonnage Allocation by Destination for Maximum Revenue

	NOV = High		NOV = Median		NOV = Low	
Route	**Rupert**	**Skagway**	**Rupert**	**Skagway**	**Rupert**	**Skagway**
1	5%	95%	0%	100%	NA	NA
2	0%	100%	0%	100%	NA	NA
3	5%	95%	0%	100%	NA	NA
4	0%	100%	0%	100%	NA	NA
5	5%	95%	0%	100%	NA	NA
6	0%	100%	0%	100%	NA	NA

Principal Observations

Some key observations with respect to the assumed traffic allocation between ports:

- Skagway is the preferred port destination for all route options under the high net ore value scenario. The allocation of the majority of traffic to Skagway versus Prince Rupert reflects a combination of those volumes that are only viable to Skagway and volumes allocated to Skagway based on higher revenue earnings for ALCAN as compared to a Prince Rupert routing.
- Volumes allocated to Prince Rupert reflect in all instances tonnages that are viable to both destinations but generate higher revenues for ALCAN to Prince Rupert. These are limited to the Faro and Tulsequah Chief deposits for selected routes.
- Only two deposits, Kudz Ze Kayah and Wolverine, are viable under the median net ore value scenario. Kudz Ze Kayah is only viable to Skagway using route options 1,3,5 whereas Wolverine is viable to both ports under all route options but yields higher revenues on movements to Skagway. As such all volumes in this scenario are allocated to Skagway.

4.3 Transportation Rate Sensitivity

Estimated transportation costs have been sensitized to gauge the rate of degradation or appreciation in traffic volumes based on changes in this cost element. This sensitivity analysis has been done using graduated rate increases and decreases of 5,10,15, and 20%. Summary results of these analyses are shown in Figures 22 and 23 below.

Figure 22. Volume Sensitivity to Incremental Rate Increases

Prince Rupert Destined Traffic

	(1) High Net Ore Value					(2) Median Net Ore Value				
	Base	+ 5%	+ 10%	+ 15%	+ 20%	Base	+ 5%	+ 10%	+ 15%	+ 20%
Route 1	0.48	0.48	0.48	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 2	0.48	0.48	0.48	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 3	0.48	0.32	0.32	0.32	0.32	0.13	0.13	0.13	0.13	0.13
Route 4	0.48	0.48	0.48	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 5	1.39	0.93	0.70	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 6	0.70	0.70	0.70	0.48	0.48	0.13	0.13	0.13	0.13	0.13

Skagway Destined Traffic

	(1) High Net Ore Value					(2) Median Net Ore Value				
	Base	+ 5%	+ 10%	+ 15%	+ 20%	Base	+ 5%	+ 10%	+ 15%	+ 20%
Route 1	3.11	1.73	1.00	1.00	1.00	0.31	0.31	0.13	0.13	0.13
Route 2	2.08	0.70	0.48	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 3	3.33	1.95	1.23	1.23	1.00	0.31	0.31	0.13	0.13	0.13
Route 4	2.08	0.70	0.70	0.70	0.70	0.13	0.13	0.13	0.13	0.13
Route 5	3.33	1.95	1.00	1.00	1.00	0.31	0.31	0.13	0.13	0.13
Route 6	2.08	0.70	0.70	0.48	0.48	0.13	0.13	0.13	0.13	0.13

Figure 23. Volume Sensitivity to Incremental Rate Decreases

Prince Rupert Destined Traffic

(1) High Net Ore Value						(2) Median Net Ore Value				
	Base	**- 5%**	**- 10%**	**- 15%**	**- 20%**	**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**
Route 1	0.48	0.71	1.90	1.90	1.90	0.13	0.13	0.13	0.13	0.13
Route 2	0.48	0.48	0.48	0.48	1.21	0.13	0.13	0.13	0.13	0.13
Route 3	0.48	0.48	0.71	1.90	1.90	0.13	0.13	0.13	0.13	0.13
Route 4	0.48	0.48	0.48	0.48	0.48	0.13	0.13	0.13	0.13	0.13
Route 5	1.39	2.12	2.12	2.12	2.26	0.13	0.13	0.13	0.31	0.31
Route 6	0.70	0.70	0.70	1.43	1.58	0.13	0.13	0.13	0.31	0.31

Skagway Destined Traffic

(1) High Net Ore Value						(2) Median Net Ore Value				
	Base	**- 5%**	**- 10%**	**- 15%**	**- 20%**	**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**
Route 1	3.11	3.33	3.81	3.64	3.67	0.31	0.31	0.31	0.31	0.31
Route 2	2.08	2.08	2.93	3.61	3.61	0.13	0.13	0.13	0.31	0.31
Route 3	3.33	3.33	3.64	3.64	3.67	0.31	0.31	0.31	0.31	0.31
Route 4	2.08	2.08	2.93	3.61	3.61	0.13	0.13	0.13	0.31	0.31
Route 5	3.33	3.33	3.64	3.64	3.67	0.31	0.31	0.31	0.31	0.31
Route 6	2.08	2.08	2.93	3.61	3.61	0.13	0.13	0.13	0.31	0.31

As might be expected there is a correlation between the upward an downward movement of transportation costs and the resulting forecast tonnages. Rates of traffic degradation and appreciation vary depending on port option, route option, and net ore value assumptions.

Principal Observations

Some key observations with respect to the sensitivity of traffic volumes to increased transportation costs.

Transportation Cost Increases

- Sensitivity to rate increases in the median NOV scenario is negligible reflecting the high net ore value relative to transportation cost of the viable deposits to either port destination.

For high net ore value scenarios:

- Prince Rupert destined traffic is less sensitive to increases in transportation costs than are those destined to Skagway. This is attributable to the lower base volumes that are viable to Rupert that have some of the highest net ore values of all deposits.
- The significant degradation in volume for Skagway destined traffic reflects the marginal viability of the Division Mountain Coal and Howard's Pass deposits that represent 1.4 and 0.7 million tons respectively.
- Division Mountain coal does not appear able to absorb transportation cost increases of even 5% from base whereas the Howard's Pass deposit remains viable at rates 10% higher than base.

Transportation Cost Decreases

- There is little meaningful change in the projected volumes to either port destination under the median net ore value scenario even if transportation costs are reduced by 20%.
- There is significant upside potential to volumes if transportation rates are reduced by a minimum of 10%.
- Rate decreases greater than 10% yield little incremental traffic regardless of the route option examined.

Figures 24 through 27 provide an illustration of the sensitivity of various route options to each of the potential port destinations. These sensitivity analyses reflect the impact of changes in transportation costs to each port destination individually and are not intended to reflect the impact that rate increases or decreases would have on a net forecast that optimizes revenues for ALCAN between the ports.

As noted earlier maximum revenues for the ALCAN railway are obtained by routing almost all traffic through the Port of Skagway. It is reasonable to assume that a shift in volumes could occur from Skagway to Prince Rupert if rate levels in the Prince Rupert corridor were lowered while those to Skagway held constant. The likely effect of such a shift would not be to attract net incremental volumes and revenues but rather to reduce the available revenues on the same level of traffic.

Figure 24. Volume Sensitivity to Incremental Rate Increases – Prince Rupert

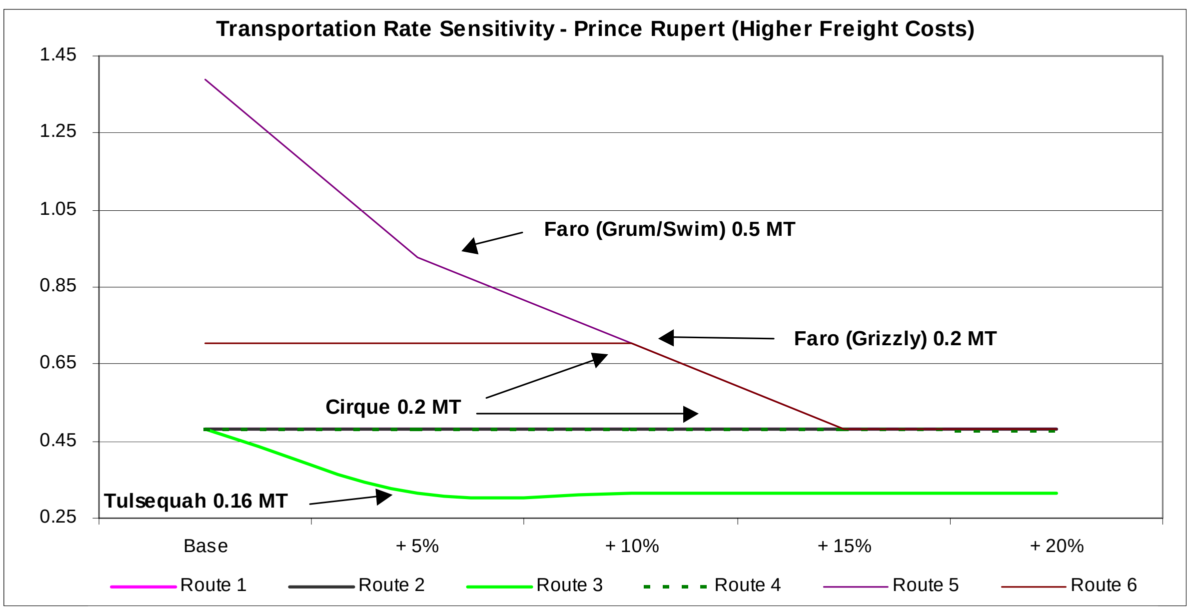


Figure 25. Volume Sensitivity to Incremental Rate Decreases – Prince Rupert

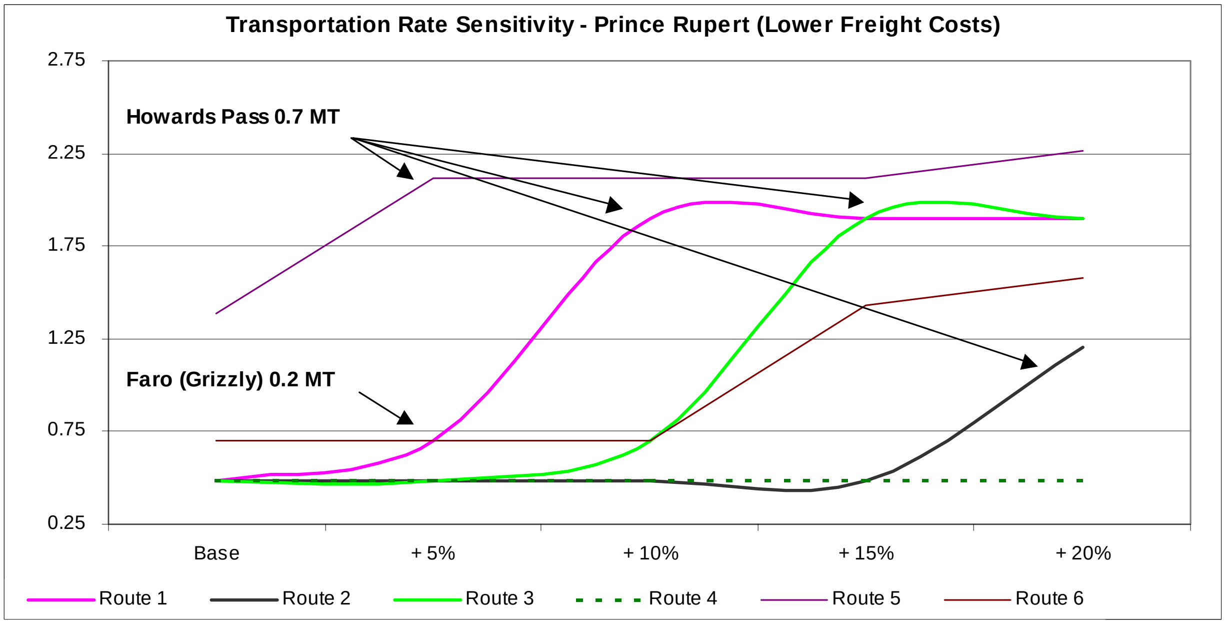


Figure 26. Volume Sensitivity to Incremental Rate Increases – Skagway

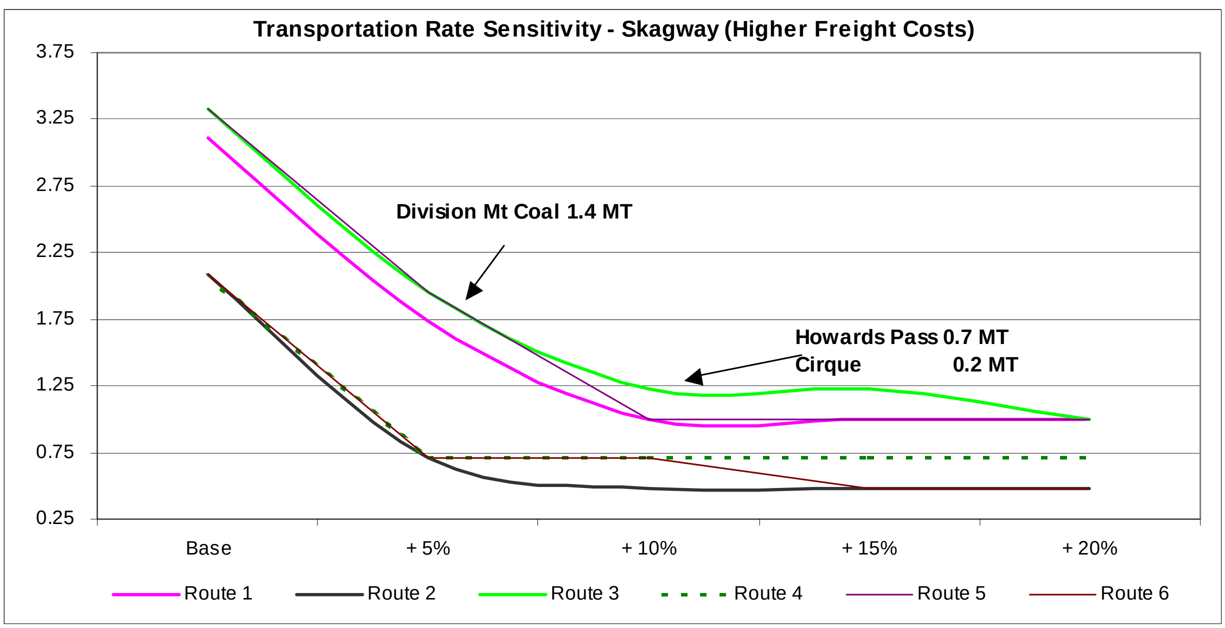
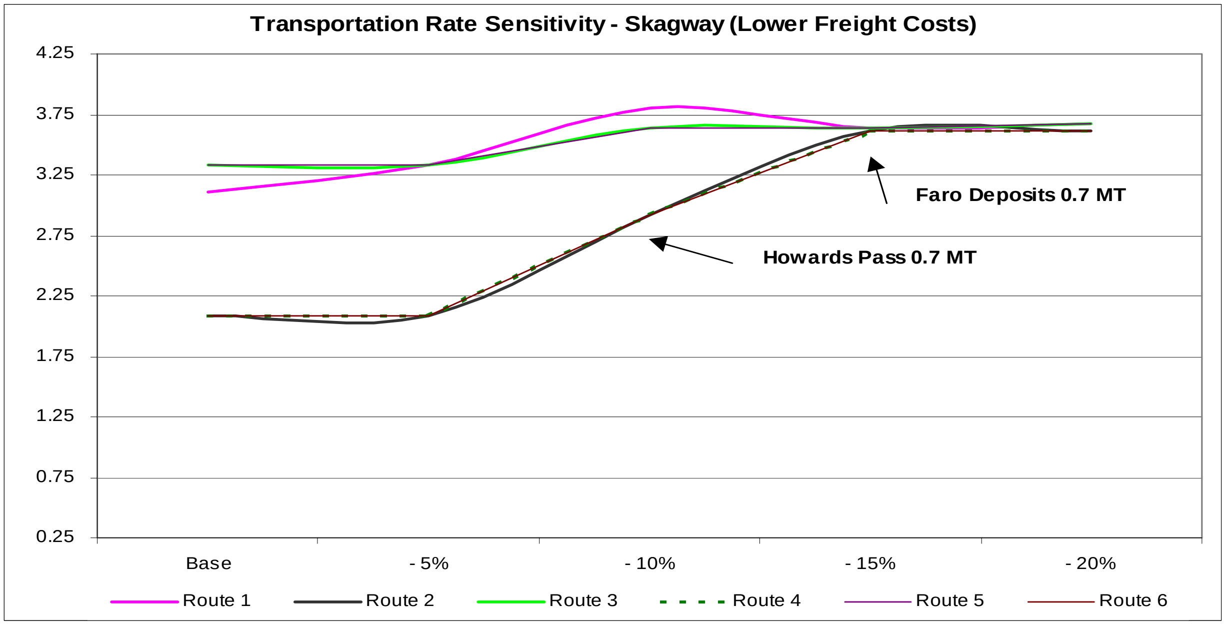


Figure 27. Volume Sensitivity to Incremental Rate Decreases – Skagway



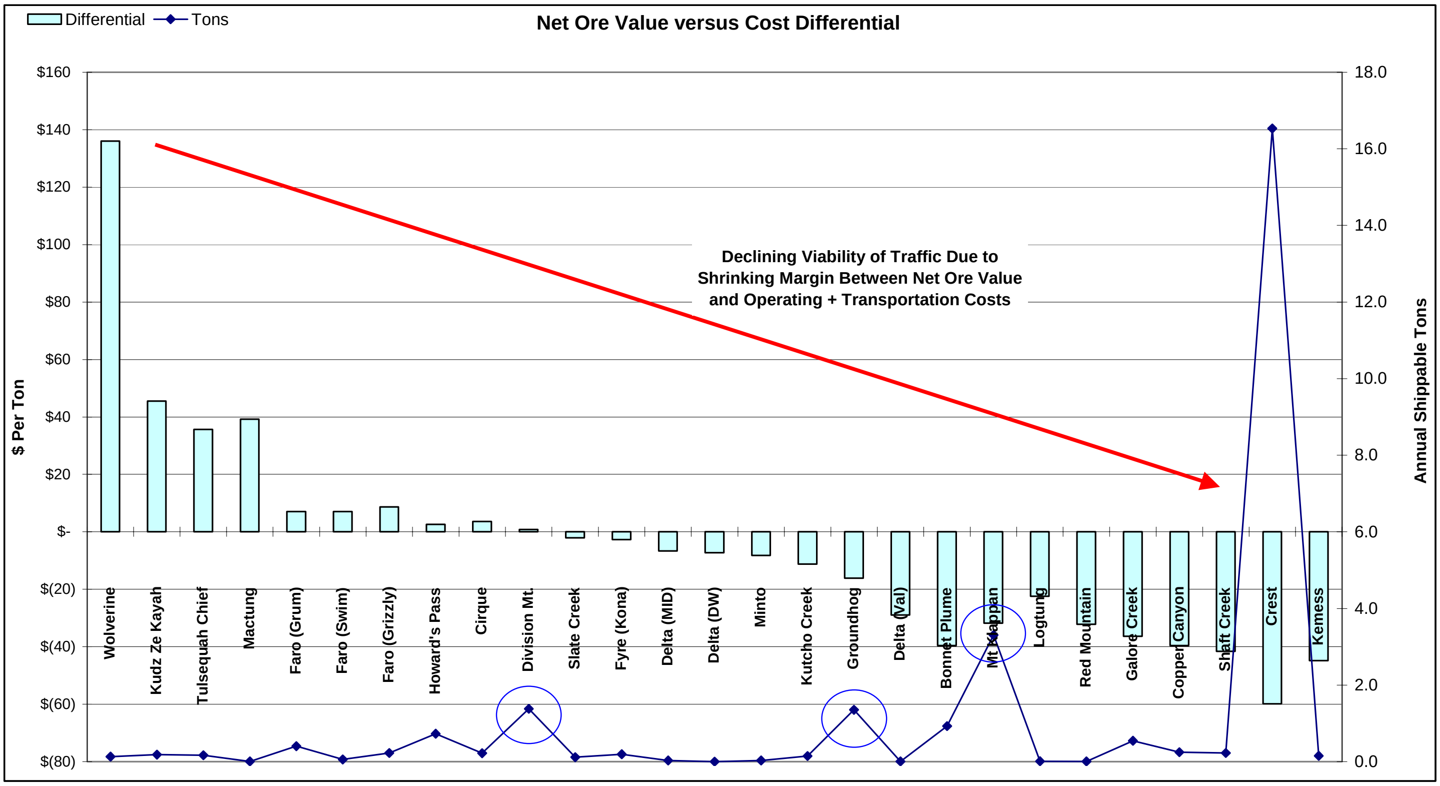
Detailed views of transportation cost sensitivity for each route option against individual mineral deposits are provided in Appendix C of this report.

Figure 28 below provides a graphical illustration of the differential between estimated cost to port and the assumed net ore value of individual mineral deposits. The case illustrated reflects high net ore value for traffic destined to Skagway using the preferred New Hazelton route (Rte #5).

Observations:

- Only ten (10) deposits show a positive margin between estimated costs to port and high net ore value representing approximately 3.4 millon tons;
- The deposits with high differentials are consistent with those deemed viable for movement and that demonstrate the greatest resilience to rate increases;
- Large coal deposits (Mt. Klappan and Groundhog) have significant negative differentials and remain not viable even with 20% decreases in transportation costs – this is a reflection of the relatively low net ore value and high operating costs associated with these deposits as opposed to significant differences in transportation costs as compared to other deposits.
- Division Mountain coal is marginal consistent with its inability to withstand increases in transportation costs as shown in the preceding sensitivity analysis.

Figure 28. Cost Versus Net Ore Value Differential – Skagway



4.4 Net Ore Value Versus Commodity Price

Determining the viability of mineral resource exports based on the calculated net ore value of mineral deposits yields a conservative view as compared to assessing viability based on current commodity prices. While the forecasts presented in this report assume the conservative view based on net ore value, coal has been examined on the basis of commodity price for comparative purposes.

4.4.1 Coal

Current market prices for coal range from USD $45 and USD $100 per short ton FOB vessel[15], for thermal and metallurgical coal respectively[16]. These commodity prices are, in all instances, higher than the estimated net ore values used in the analysis. Figure 29 below provides a summary view of the difference between estimated NOV and current commodity prices for the deposits under evaluation.

[15] FOB vessel reflects terms of sale whereby the producer absorbs transportation costs up to and including the loading of the product to vessel and the purchaser pays for ocean freight and destination terminal costs.
[16] These estimated prices for study purposes have been provided by coal industry representatives. Specific transactions reflect negotiated contract terms and the factoring in of specific BTU content.

Figure 29. Net Ore Value versus Commodity Price Differential

Deposit	Type	(Million S.T.) Annual Shippable	Calculated High NOV	Market Price	Net Cost To Vessel	Net Contribution NOV Basis	Net Contribution Market Basis
Mount Klappan	Metallurgical	3.31	$ 31.09	$ 100.00	$ 62.90	$ (31.81)	$ 37.10
Groundhog	Metallurgical	1.35	$ 40.66	$ 100.00	$ 56.80	$ (16.14)	$ 43.20
Division Mountain	Thermal	1.38	$ 33.77	$ 45.00	$ 32.98	$ 0.79	$ 12.02
Bonnet Plume	Thermal	0.93	$ 38.90	$ 45.00	$ 78.49	$ (39.59)	$ (33.49)
	Total	**6.96**					

** Market price reflects sale price on FOB vessel basis expressed in USD per short ton.

** Net cost to vessel includes road, rail, and port terminal costs.

We can see that using a criterion of market price as compared to net ore value yields a more favorable view of the viability of the potential coal volumes. Under the NOV scenario only the Division Mountain deposit is marginally viable whereas using the market price criterion all but the Bonnet Plume volumes are viable[17].

4.5 Summary

Having thoroughly analyzed the potential rail movements of mineral resources from the Alaska, Yukon, and northern British Columbia regions via the route alternatives proposed we conclude the following:

- Commodity value, as represented by net ore value, has a significant impact on the viability of mineral deposits located in these regions.
- Increases in transportation costs result in an expected decline in forecast volumes although the rate and magnitude of traffic decline varies by route option.
- The route option via Hazelton – Carmacks provides for the highest volumes and revenues for the Alaska Canada Rail Link.
- Revenue maximization for the Alaska Canada Rail Link is best achieved through selective routing of traffic to both ports although the best-case scenario results from 95-100% of traffic being routed to Skagway.
- The traffic and revenue forecasts reflect those scenarios that maximize revenues for the ALCAN railway. The assumed rate levels in these scenarios while optimal for railway revenues do not, in a number of instances, provide shippers with the lowest transportation rates.

[17] No assumptions are made regarding the net contribution per ton required by producers to provide for the required return on investment.

4.6 Key Considerations

The logistics evaluation of mineral deposits has inherent limitations based on the availability of detailed information regarding actual transportation costs, estimated mine operating costs, capital investment requirements for individual deposits and their impact on development probability, and the timing, actual production rates, and life of individual deposits. As outlined throughout this report the forecast volumes and revenues presented herein are based on a number of assumptions regarding these elements that will not account for some market and behavioral issues that can impact long term traffic viability.

Key considerations in this regard include:

1. Network Density and Operating Costs

Determination of resource deposit viability for rail movement and the resultant traffic and revenue forecasts have been developed without consideration to the overall network density of the ALCAN railway or any specific route segments within the proposed network. Traffic density will influence the railway's cost structure and in turn the criteria and hurdle rates established for development of transportation rates.

Forecasts have been developed without the benefit of detailed costing information and as such it cannot be assumed that because the proposed transportation rates are competitive, maximize revenues for the Alaska Canada Rail Link, and may make mineral resource shipments viable that they are profitable for the railway.

2. Revenue Estimation Methodology

The railway pricing model used to develop estimated transportation costs relies on publicly available cent per ton-mile data published by CN Rail in combination with a customized rate scale based on these average earnings. This methodology makes no allowance for competitive and commercial issues specific to the commodity and transportation markets that may be considered by the railways in developing transportation rates. The introduction of specific elements in this regard could, given the marginal nature of many deposits, result in traffic gains or losses.

3. Return on Investment Criteria

Railway revenue estimates have not been developed in consideration of any return on investment criteria that takes into account the capital costs associated with the construction and long-term maintenance of any of the route options.

4. Market Behaviour of Railways

The market behaviour of CN and the White Pass and Yukon railways can significantly influence the viability of specific movements, the revenue earnings of the ALCAN railway, and the directional flow of traffic to either of the two ports in question. As terminating carriers for all movements these railways may be in a position to exercise some leverage to influence individual movements.

Additionally the railways may also be in a position to influence the viability of individual deposits. Deposits that have been assumed as viable based on modeling may not be attractive to the railways and as a result may not be priced competitively. Conversely traffic that has been deemed as not viable may become viable if the railways choose to price it aggressively.

5. Non Transportation Issues

Transportation is only one of the factors that will influence the viability of mineral resource development and rail based shipments in the long term. Constraints on mineral resource development in these northerly regions are heavily influenced by general market conditions (ie. commodity prices) and other cost elements – most notably the cost of and access to power.

All other things being equal the behaviour of resource development companies will be the ultimate determinant of the rate and scope of resource development and production. Many of these companies hold commercial interests in mineral deposits around the world presenting them, in a time of positive market conditions, with options as to where to invest their money. The forecast volumes and revenues do not reflect any assumptions regarding opportunity cost of development for the resource companies.

6. Timing

No temporal analysis has been undertaken to project estimated timing and sequencing of traffic. All forecasts reflect an annualized level of activity assuming an average 30-year mine life for all viable deposits.

It can reasonably be assumed that not all mineral deposits will be developed simultaneously or that all deposits will have an equal production life. While the presentation of traffic forecasts on a 30-year annualized basis provides a reasonable estimation of annual volumes over the long term it does not account for peaks and valleys in traffic volumes that would inevitably result from variations in timing for deposit development.

APPENDIX A – Detailed Priority Mineral Deposit Listings

			Million Short Tons				(000s)	
Region	Property Name	Commodity	Total In-Ground	Mineable If Known	Likely Shippable	Annual Shippable	Mining Rate (tpd)	Mine Life
Yukon	Crest	Iron	3,500.00	3,325.00	1,344.27	16.53	17.09	30.0
	Bonnet Plume - Illtyd Creek	Coal	214.21	13.12	11.15	0.93	3.11	12.0
	Division Mt.	Bituminous B Coal	56.87	50.51	30.31	1.38	-	22.0
	Howard's Pass	Lead-Zinc	541.79	127.32	15.44	0.73	17.12	21.2
	Faro Camp - Grizzly / Dy	Lead-Zinc	19.00	16.38	2.57	0.22	-	11.5
	Faro Camp - Grum	Lead-Zinc	20.56	21.64	2.03	0.41	4.53	5.0
	Faro Camp - Swim	Lead-Zinc	4.74	4.74	0.54	0.06	1.45	9.3
	Finlayson Lake District - Wolverine	Polymetallic	5.50	7.05	1.54	0.13	1.62	12.0
	Finlayson Lake District - Kudz Ze Kayah	Polymetallic	12.46	10.36	1.65	0.18	-	9.0
	Finlayson Lake District - Fyre (Kona)	Polymetallic	9.04	9.04	0.78	0.20	-	4.0
	Finlayson Lake District - Minto	Copper	9.19	8.27	0.36	0.03	-	12.0
	Logtung	Tungsten, Mo	178.57	178.57	0.32	0.01	-	30.0
	Red Mountain	Molybdenum	206.43	50.71	0.11	0.01	8.58	16.9
	Mactung	Tungsten	15.10	14.31	0.16	0.01	-	30.0
B.C.	Shaft Creek	Copper, Gold, Mo	739.22	448.94	4.53	0.23	44.06	20.0
	Kemess North & South	Copper, Gold	561.85	382.40	2.25	0.15	-	15.0
	Galore Creek	Copper, Gold	569.56	523.60	10.94	0.55	-	20.0
	Copper Canyon	Copper, Gold	161.82	145.64	1.49	0.25	18.94	6.0
	Cirque	Lead-Zinc	27.23	20.39	3.35	0.22	3.86	15.1
	Tulsequah Chief	Polymetallic	7.63	7.63	1.32	0.17	2.76	8.0
	Mount Klappan - Lost Fox	Anthracite Coal	175.27	117.18	66.14	3.31	16.09	20.0
	Groundhog Coalfield	Anthracite Coal	53.12	29.21	19.87	1.35	5.68	14.7
	Kutcho Creek	Polymetallic	16.73	15.65	1.46	0.15	4.41	10.0
Alaska	Slate Creek	Asbestos	61.29	58.22	3.51	0.12	0.09	30.0
	Delta District - Val	Polymetalic	1.43	1.50	0.12	0.00	0.02	10.6
	Delta District - DW	Polymetalic	0.44	0.46	0.05	0.00	0.02	7.8
	Delta District - MID	Polymetalic	7.94	8.33	0.90	0.03	0.02	17.7
		Total	**7,176.99**	**5,596.19**	**1,527.17**	**27.33**		

APPENDIX B – Detailed Traffic Forecasts

Net Ore Value = High

A: Route 1 - Minaret - Watson Lake - Carmacks - Ladue River

A: Revenues and Tonnages

Group	Property	Pr. Rupert HighB$	Pr. Rupert Total	Skagway HighB$	Skagway Total	Net Tonnage and Revenue HighB$	Net Tonnage and Revenue Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Grizzly / Dy)	$ -	-	$ 4,072,444	223,423	$ 4,072,444	$ 223,423	$ 18.23	316.5
	Faro Camp (Grum)	$ -	-	$ 7,383,949	405,099	$ 7,383,949	$ 405,099	$ 18.23	316.5
	Faro Camp (Swim)	$ -	-	$ 1,056,732	57,975	$ 1,056,732	$ 57,975	$ 18.23	316.5
	Howard's Pass	$ -	-	$ 14,166,076	726,931	$ 14,166,076	$ 726,931	$ 19.49	352.5
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,791,620	182,818	$ 3,562,672	182,818	$ 3,562,672	$ 182,818	$ 19.49	352.5
	Finlayson L.D. (Wolverine)	$ 1,260,309	128,603	$ 2,506,151	128,603	$ 2,506,151	$ 128,603	$ 19.49	352.5
	Tulsequah Chief	$ 1,944,477	165,347	$ -	-	$ 1,944,477	$ 165,347	$ 11.76	196.0
Tungsten	Mactung	$ 65,759	5,180	$ 100,952	5,180	$ 100,952	$ 5,180	$ 19.49	352.5
		$ 5,062,165	**481,948**	**$ 55,067,439**	**3,107,919**	**$ 57,011,916**	**3,273,266**	**$ 17.42**	**256.5**

B: Route 2 - Minaret - Watson Lake - Whitehorse - Beaver Crk

A: Revenues and Tonnages

Group	Property	Pr. Rupert HighB$	Pr. Rupert Total	Skagway HighB$	Skagway Total	Net Tonnage and Revenue HighB$	Net Tonnage and Revenue Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ -	-	$ 5,460,109	221,913	$ 5,460,109	$ 221,913	$ 24.60	812.0
	Faro Camp (Grizzly / Dy)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Grum)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Swim)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Howard's Pass	$ -	-	$ -	-	$ -	$ -	$ -	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,791,620	182,818	$ 3,170,236	182,818	$ 3,170,236	$ 182,818	$ 17.34	420.0
	Finlayson L.D. (Wolverine)	$ 1,260,309	128,603	$ 2,230,093	128,603	$ 2,230,093	$ 128,603	$ 17.34	420.0
	Tulsequah Chief	$ 2,079,668	165,347	$ 2,535,817	165,347	$ 2,535,817	$ 165,347	$ 15.34	163.0
Tungsten	Mactung	$ 80,768	5,180	$ 100,428	5,180	$ 100,428	$ 5,180	$ 19.39	212.5
		$ 5,212,365	**481,948**	**$ 35,715,145**	**2,081,750**	**$ 35,715,145**	**2,081,750**	**$ 17.16**	**269.6**

C: Route 3 - Fort Nelson - Watson Lake - Carmacks - Ladue River

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ -	-	$ 6,060,052	221,913	$ 6,060,052	$ 221,913	$ 27.31	951.5
	Faro Camp (Grizzly / Dy)	$ -	-	$ 4,072,444	223,423	$ 4,072,444	$ 223,423	$ 18.23	316.5
	Faro Camp (Grum)	$ -	-	$ 7,383,949	405,099	$ 7,383,949	$ 405,099	$ 18.23	316.5
	Faro Camp (Swim)	$ 1,535,674	182,818	$ 1,056,732	57,975	$ 1,535,674	$ 182,818	$ 8.40	336.0
	Howard's Pass	$ 1,080,265	128,603	$ 14,166,076	726,931	$ 14,166,076	$ 726,931	$ 19.49	352.5
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,704,751	165,347	$ 3,562,672	182,818	$ 3,562,672	$ 182,818	$ 19.49	352.5
	Finlayson L.D. (Wolverine)	$ 60,137	5,180	$ 2,506,151	128,603	$ 2,506,151	$ 128,603	$ 19.49	352.5
	Tulsequah Chief	$ -	-	$ -	-	$ -	$ -	$ -	-
Tungsten	Mactung	$ -	-	$ 100,952	5,180	$ 100,952	$ 5,180	$ 19.49	352.5
		$ 4,380,827	**481,948**	**$ 61,127,491**	**3,329,832**	**$ 61,606,433**	**3,454,676**	**$ 17.83**	**307.3**

D: Route 4 - Fort Nelson - Watson Lake - Whitehorse - Beaver Crk

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ -	-	$ 5,219,271	221,913	$ 5,219,271	$ 221,913	$ 23.52	756.0
	Faro Camp (Grizzly / Dy)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Grum)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Swim)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Howard's Pass	$ -	-	$ -	-	$ -	$ -	$ -	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,535,674	182,818	$ 3,170,236	182,818	$ 3,170,236	$ 182,818	$ 17.34	420.0
	Finlayson L.D. (Wolverine)	$ 1,080,265	128,603	$ 2,230,093	128,603	$ 2,230,093	$ 128,603	$ 17.34	420.0
	Tulsequah Chief	$ 1,900,220	165,347	$ 2,535,817	165,347	$ 2,535,817	$ 165,347	$ 15.34	163.0
Tungsten	Mactung	$ 75,146	5,180	$ 100,428	5,180	$ 100,428	$ 5,180	$ 19.39	212.5
		$ 4,591,305	**481,948**	**$ 35,474,308**	**2,081,750**	**$ 35,474,308**	**2,081,750**	**$ 17.04**	**263.6**

E: Route 5 - Hazelton - Watson Lake - Carmacks - Ladue River

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ 2,124,530	221,913	$ 4,615,027	221,913	$ 4,615,027	$ 221,913	$ 20.80	615.5
	Faro Camp (Grizzly / Dy)	$ 3,433,642	223,423	$ 4,072,444	223,423	$ 4,072,444	$ 223,423	$ 18.23	316.5
	Faro Camp (Grum)	$ 6,225,705	405,099	$ 7,383,949	405,099	$ 7,383,949	$ 405,099	$ 18.23	316.5
	Faro Camp (Swim)	$ 890,973	57,975	$ 1,056,732	57,975	$ 1,056,732	$ 57,975	$ 18.23	316.5
	Howard's Pass	$ -	-	$ 14,166,076	726,931	$ 14,166,076	$ 726,931	$ 19.49	352.5
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,750,252	182,818	$ 3,562,672	182,818	$ 3,562,672	$ 182,818	$ 19.49	352.5
	Finlayson L.D. (Wolverine)	$ 1,231,209	128,603	$ 2,506,151	128,603	$ 2,506,151	$ 128,603	$ 19.49	352.5
	Tulsequah Chief	$ 2,211,049	165,347	$ -	-	$ 2,211,049	$ 165,347	$ 13.37	690.0
Tungsten	Mactung	$ 75,999	5,180	$ 100,952	5,180	$ 100,952	$ 5,180	$ 19.49	352.5
		$ 17,943,359	**1,390,358**	**$ 59,682,466**	**3,329,832**	**$ 61,893,515**	**3,495,179**	**$ 17.71**	**302.7**

F: Route 6 - Hazelton - Watson Lake - Whitehorse - Beaver Creek

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Coal	Division Mt.	$ -	-	$ 22,218,462	1,377,889	$ 22,218,462	$ 1,377,889	$ 16.13	161.3
Lead-Zinc	Cirque	$ 2,124,530	221,913	$ 3,848,168	221,913	$ 3,848,168	$ 221,913	$ 17.34	420.0
	Faro Camp (Grizzly / Dy)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Grum)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Faro Camp (Swim)	$ -	-	$ -	-	$ -	$ -	$ -	-
	Howard's Pass	$ -	-	$ -	-	$ -	$ -	$ -	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ 1,750,252	182,818	$ 3,170,236	182,818	$ 3,170,236	$ 182,818	$ 17.34	420.0
	Finlayson L.D. (Wolverine)	$ 1,231,209	128,603	$ 2,230,093	128,603	$ 2,230,093	$ 128,603	$ 17.34	420.0
	Tulsequah Chief	$ 2,211,049	165,347	$ 2,535,817	165,347	$ 2,535,817	$ 165,347	$ 15.34	0.0
Tungsten	Mactung	$ 91,008	5,180	$ 100,428	5,180	$ 100,428	$ 5,180	$ 19.39	212.5
		$ 7,408,048	**703,861**	**$ 34,103,204**	**2,081,750**	**$ 34,103,204**	**2,081,750**	**$ 16.38**	**214.9**

Net Ore Value = Median

A: Route 1 - Minaret - Watson Lake - Carmacks - Ladue River

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ 3,562,672	182,818	$ 3,562,672	182,818	$ 19.49	352.5
	Finlayson L.D. (Wolverine)	$ 1,260,309	128,603	$ 2,506,151	128,603	$ 2,506,151	128,603	$ 19.49	352.5
		$ 1,260,309	**128,603**	**$ 6,068,823**	**311,421**	**$ 6,068,823**	**311,421**	**$ 19.49**	**352.5**

B: Route 2 - Minaret - Watson Lake - Whitehorse - Beaver Crk

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ -	-	$ -	-	$ -	-
	Finlayson L.D. (Wolverine)	$ 1,260,309	128,603	$ 2,230,093	128,603	$ 2,230,093	128,603	$ 17.34	420.0
		$ 1,260,309	**128,603**	**$ 2,230,093**	**128,603**	**$ 2,230,093**	**128,603**	**$ 17.34**	**420.0**

C: Route 3 - Fort Nelson - Watson Lake - Carmacks - Ladue River

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ 3,562,672	182,818	$ 3,562,672	182,818	$ -	353
	Finlayson L.D. (Wolverine)	$ 1,080,265	128,603	$ 2,506,151	128,603	$ 2,506,151	128,603	$ 19.49	352.5
		$ 1,080,265	**128,603**	**$ 6,068,823**	**311,421**	**$ 6,068,823**	**311,421**	**$ 19.49**	**352.5**

D: Route 4 - Fort Nelson - Watson Lake - Whitehorse - Beaver Crk

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ -	-	$ -	-	$ -	-
	Finlayson L.D. (Wolverine)	$ 1,080,265	128,603	$ 2,230,093	128,603	$ 2,230,093	128,603	$ 17.34	420.0
		$ 1,080,265	**128,603**	**$ 2,230,093**	**128,603**	**$ 2,230,093**	**128,603**	**$ 17.34**	**420.0**

E: Route 5 - Hazelton - Watson Lake - Carmacks - Ladue River

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ 3,562,672	182,818	$ 3,562,672	182,818	$ -	353
	Finlayson L.D. (Wolverine)	$ 1,231,209	128,603	$ 2,506,151	128,603	$ 2,506,151	128,603	$ 19.49	352.5
		$ 1,231,209	**128,603**	**$ 6,068,823**	**311,421**	**$ 6,068,823**	**311,421**	**$ 19.49**	**352.5**

F: Route 6 - Hazelton - Watson Lake - Whitehorse - Beaver Creek

		A: Revenues and Tonnages							
		Pr. Rupert		Skagway		Net Tonnage and Revenue			
Group	Property	HighB$	Total	HighB$	Total	HighB$	Total	$ Per Ton	Haul
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	$ -	-	$ -	-	$ -	-	$ -	-
	Finlayson L.D. (Wolverine)	$ 1,231,209	128,603	$ 2,230,093	128,603	$ 2,230,093	128,603	$ 17.34	310.0
		$ 1,231,209	**128,603**	**$ 2,230,093**	**128,603**	**$ 2,230,093**	**128,603**	**$ 17.34**	**310.0**

APPENDIX C – Transportation Cost Sensitivity Analysis

Destination – Prince Rupert – Sensitivity to Increasing Transportation Costs – High Net Ore Value

		Route 1 - Minaret-Watson Lake-Carmacks-Ladue River						Route 2 - Minaret-Watson Lake-Whitehorse-Beaver Crk					
Group	**Property**	**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**		**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**	
Lead-Zinc	Cirque	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Grizzly / Dy)	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Grum)	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Swim)	-	-	-	-	-		-	-	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347		165,347	165,347	165,347	165,347	165,347	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180	
		481,948	**481,948**	**481,948**	**481,948**	**481,948**		**481,948**	**481,948**	**481,948**	**481,948**	**481,948**	
	Percentage Decline in Volume		**0%**	**0%**	**0%**	**0%**	**0%**		**0%**	**0%**	**0%**	**0%**	**0%**

		Route 3 - Ft Nelson-Watson Lake-Carmacks-Ladue River						Route 4 - Ft Nelson-Watson Lake-Whitehorse-Beaver Crk					
Group	**Property**	**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**		**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**	
Lead-Zinc	Cirque	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Grizzly / Dy)	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Grum)	-	-	-	-	-		-	-	-	-	-	
	Faro Camp (Swim)	-	-	-	-	-		-	-	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	165,347	-	-	-	-		165,347	165,347	165,347	165,347	165,347	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	-	
		481,948	**316,602**	**316,602**	**316,602**	**316,602**		**481,948**	**481,948**	**481,948**	**481,948**	**476,768**	
	Percentage Decline in Volume		**34%**	**0%**	**0%**	**0%**	**34%**		**0%**	**0%**	**0%**	**1%**	**1%**

		Route 5 - Hazelton-Watson Lake-Carmacks-Ladue River						Route 6 - Hazelton-Watson Lake-Whitehorse-Beaver Crk					
Group	**Property**	**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**		**Base**	**+ 5%**	**+ 10%**	**+ 15%**	**+ 20%**	
Lead-Zinc	Cirque	221,913	221,913	221,913	-	-		221,913	221,913	221,913	-	-	
	Faro Camp (Grizzly / Dy)	223,423	223,423	-	-	-		-	-	-	-	-	
	Faro Camp (Grum)	405,099	-	-	-	-		-	-	-	-	-	
	Faro Camp (Swim)	57,975	-	-	-	-		-	-	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347		165,347	165,347	165,347	165,347	165,347	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180	
		1,390,358	**927,284**	**703,861**	**481,948**	**481,948**		**703,861**	**703,861**	**703,861**	**481,948**	**481,948**	
	Percentage Decline in Volume		**33%**	**24%**	**32%**	**0%**	**65%**		**0%**	**0%**	**32%**	**0%**	**32%**

Destination – Prince Rupert – Sensitivity to Decreasing Transportation Costs – High Net Ore Value

		Route 1 - Minaret-Watson Lake-Carmacks-Ladue River						Route 2 - Minaret-Watson Lake-Whitehorse-Beaver Crk				
Group	**Property**	**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**		**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**
Lead-Zinc	Cirque	-	-	-	-	-		-	-	-	-	-
	Faro Camp (Grizzly / Dy)	-	223,423	223,423	223,423	223,423		-	-	-	-	-
	Faro Camp (Grum)	-	-	405,099	405,099	405,099		-	-	-	-	-
	Faro Camp (Swim)	-	-	57,975	57,975	57,975		-	-	-	-	-
	Howard's Pass	-	-	726,931	726,931	726,931		-	-	-	-	726,931
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Kutcho Creek	-	-	-	-	-		-	-	-	-	-
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		481,948	**705,371**	**1,895,377**	**1,895,377**	**1,895,377**		**481,948**	**481,948**	**481,948**	**481,948**	**1,208,880**
	Percentage Decline in Volume		**46%**	**169%**	**0%**	**0%**	**293%**		**0%**	**0%**	**0%**	**151%**

		Route 3 - Ft Nelson-Watson Lake-Carmacks-Ladue River						Route 4 - Ft Nelson-Watson Lake-Whitehorse-Beaver Crk				
Group	**Property**	**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**		**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**
Lead-Zinc	Cirque	-	-	-	-	-		-	-	-	-	-
	Faro Camp (Grizzly / Dy)	-	-	223,423	223,423	223,423		-	-	-	-	-
	Faro Camp (Grum)	-	-	-	405,099	405,099		-	-	-	-	-
	Faro Camp (Swim)	-	-	-	57,975	57,975		-	-	-	-	-
	Howard's Pass		-	-	726,931	726,931			-	-	-	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Kutcho Creek	-	-	-	-	-		-	-	-	-	-
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		481,948	**481,948**	**705,371**	**1,895,377**	**1,895,377**		**481,948**	**481,948**	**481,948**	**481,948**	**481,948**
	Percentage Decline in Volume		**0%**	**46%**	**169%**	**0%**	**293%**		**0%**	**0%**	**0%**	**0%**

		Route 5 - Hazelton-Watson Lake-Carmacks-Ladue River						Route 6 - Hazelton-Watson Lake-Whitehorse-Beaver Crk				
Group	**Property**	**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**		**Base**	**- 5%**	**- 10%**	**- 15%**	**- 20%**
Lead-Zinc	Cirque	221,913	221,913	221,913	221,913	221,913		221,913	221,913	221,913	221,913	221,913
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423		-	-	-	-	-
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099		-	-	-	-	-
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975		-	-	-	-	-
	Howard's Pass	-	726,931	726,931	726,931	726,931		-	-		726,931	726,931
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Kutcho Creek	-	-	-	-	145,505		-	-	-	-	145,505
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		1,390,358	**2,117,290**	**2,117,290**	**2,117,290**	**2,262,795**		**703,861**	**703,861**	**703,861**	**1,430,792**	**1,576,298**
	Percentage Decline in Volume		**52%**	**0%**	**0%**	**7%**	**63%**		**0%**	**0%**	**103%**	**10%**

Destination – Skagway – Sensitivity to Increasing Transportation Costs – High Net Ore Value

Route 1 - Minaret-Watson Lake-Carmacks-Ladue River

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%	
Coal	Division Mt.	1,377,889	-	-	-	-	
Lead-Zinc	Cirque	-	-	-	-	-	
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423	
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099	
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975	
	Howard's Pass	726,931	726,931	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	-	-	-	-	-	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180	
		3,107,919	**1,730,030**	**1,003,099**	**1,003,099**	**1,003,099**	
	Percentage Decline in Volume		**44%**	**42%**	**0%**	**0%**	**68%**

Route 2 - Minaret-Watson Lake-Whitehorse-Beaver Crk

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%
Coal	Division Mt.	1,377,889	-	-	-	-
Lead-Zinc	Cirque	221,913	221,913	-	-	-
	Faro Camp (Grizzly / Dy)	-	-	-	-	-
	Faro Camp (Grum)	-	-	-	-	-
	Faro Camp (Swim)	-	-	-	-	-
	Howard's Pass	-	-	-	-	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180
		2,081,750	**703,861**	**481,948**	**481,948**	**481,948**
	Percentage Decline in Volume		**66%**	**32%**	**0%**	**0%**

Route 3 - Ft Nelson-Watson Lake-Carmacks-Ladue River

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%	
Coal	Division Mt.	1,377,889	-	-	-	-	
Lead-Zinc	Cirque	221,913	221,913	221,913	221,913	-	
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423	
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099	
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975	
	Howard's Pass	726,931	726,931	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	-	-	-	-	-	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180	
		3,329,832	**1,951,943**	**1,225,011**	**1,225,011**	**1,003,099**	
	Percentage Decline in Volume		**41%**	**37%**	**0%**	**18%**	**70%**

Route 4 - Ft Nelson-Watson Lake-Whitehorse-Beaver Crk

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%
Coal	Division Mt.	1,377,889	-	-	-	-
Lead-Zinc	Cirque	221,913	221,913	221,913	221,913	221,913
	Faro Camp (Grizzly / Dy)	-	-	-	-	-
	Faro Camp (Grum)	-	-	-	-	-
	Faro Camp (Swim)	-	-	-	-	-
	Howard's Pass	-	-	-	-	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180
		2,081,750	**703,861**	**703,861**	**703,861**	**703,861**
	Percentage Decline in Volume		**66%**	**0%**	**0%**	**0%**

Route 5 - Hazelton-Watson Lake-Carmacks-Ladue River

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%	
Coal	Division Mt.	1,377,889	-	-	-	-	
Lead-Zinc	Cirque	221,913	221,913	-	-	-	
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423	
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099	
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975	
	Howard's Pass	726,931	726,931	-	-	-	
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818	
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603	
	Tulsequah Chief	-	-	-	-	-	
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180	
		3,329,832	**1,951,943**	**1,003,099**	**1,003,099**	**1,003,099**	
	Percentage Decline in Volume		**41%**	**49%**	**0%**	**0%**	**70%**

Route 6 - Hazelton-Watson Lake-Whitehorse-Beaver Crk

Group	Property	Base	+ 5%	+ 10%	+ 15%	+ 20%
Coal	Division Mt.	1,377,889	-	-	-	-
Lead-Zinc	Cirque	221,913	221,913	221,913		
	Faro Camp (Grizzly / Dy)	-	-	-	-	-
	Faro Camp (Grum)	-	-	-	-	-
	Faro Camp (Swim)	-	-	-	-	-
	Howard's Pass	-	-	-	-	-
Polymetalic	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180
		2,081,750	**703,861**	**703,861**	**481,948**	**481,948**
	Percentage Decline in Volume		**66%**	**0%**	**32%**	**0%**

Destination – Skagway – Sensitivity to Decreasing Transportation Costs – High Net Ore Value

		Route 1 - Minaret-Watson Lake-Carmacks-Ladue River						Route 2 - Minaret-Watson Lake-Whitehorse-Beaver Crk				
Group	Property	Base	- 5%	- 10%	- 15%	- 20%		Base	- 5%	- 10%	- 15%	- 20%
Asbestos	Slate Creek	-	-	116,845	116,845	116,845		-	-	116,845	116,845	116,845
Coal	Division Mt.	1,377,889	1,377,889	1,377,889	1,377,889	1,377,889		1,377,889	1,377,889	1,377,889	1,377,889	1,377,889
Lead-Zinc	Cirque	-	221,913	221,913	221,913	221,913		221,913	221,913	221,913	221,913	221,913
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423		-	-	-	223,423	223,423
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099		-	-	-	405,099	405,099
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975		-	-	-	57,975	57,975
	Howard's Pass	726,931	726,931	726,931	726,931	726,931		-	-	726,931	726,931	726,931
Polymetalic	Delta District (MID)	-	-	-	-	29,762		-	-	-	-	-
	Finlayson L.D. (Fyre (Kona))	-	-	196,101	196,101	196,101		-	-	-	-	-
	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	-	-	165,347	-	-		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		3,107,919	**3,329,832**	**3,808,125**	**3,642,778**	**3,672,541**		**2,081,750**	**2,081,750**	**2,925,527**	**3,612,024**	**3,612,024**
	Percentage Decline in Volume		**7%**	**14%**	**-4%**	**1%**	**18%**		**0%**	**41%**	**23%**	**0%**

		Route 3 - Ft Nelson-Watson Lake-Carmacks-Ladue River						Route 4 - Ft Nelson-Watson Lake-Whitehorse-Beaver Crk				
Group	Property	Base	- 5%	- 10%	- 15%	- 20%		Base	- 5%	- 10%	- 15%	- 20%
Asbestos	Slate Creek	-	-	116,845	116,845	116,845		-	-	116,845	116,845	116,845
Coal	Division Mt.	1,377,889	1,377,889	1,377,889	1,377,889	1,377,889		1,377,889	1,377,889	1,377,889	1,377,889	1,377,889
Lead-Zinc	Cirque	221,913	221,913	221,913	221,913	221,913		221,913	221,913	221,913	221,913	221,913
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423		-	-		223,423	223,423
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099		-	-		405,099	405,099
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975		-	-		57,975	57,975
	Howard's Pass	726,931	726,931	726,931	726,931	726,931		-	-	726,931	726,931	726,931
Polymetalic	Delta District (MID)	-	-	-	-	29,762		-	-	-	-	-
	Finlayson L.D. (Fyre (Kona))	-	-	196,101	196,101	196,101		-	-		-	-
	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	-	-	-	-	-		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		3,329,832	**3,329,832**	**3,642,778**	**3,642,778**	**3,672,541**		**2,081,750**	**2,081,750**	**2,925,527**	**3,612,024**	**3,612,024**
	Percentage Decline in Volume		**0%**	**9%**	**0%**	**1%**	**10%**		**0%**	**41%**	**23%**	**0%**

		Route 5 - Hazelton-Watson Lake-Carmacks-Ladue River						Route 6 - Hazelton-Watson Lake-Whitehorse-Beaver Crk				
Group	Property	Base	- 5%	- 10%	- 15%	- 20%		Base	- 5%	- 10%	- 15%	- 20%
Asbestos	Slate Creek	-	-	116,845	116,845	116,845		-	-	116,845	116,845	116,845
Coal	Division Mt.	1,377,889	1,377,889	1,377,889	1,377,889	1,377,889		1,377,889	1,377,889	1,377,889	1,377,889	1,377,889
Lead-Zinc	Cirque	221,913	221,913	221,913	221,913	221,913		221,913	221,913	221,913	221,913	221,913
	Faro Camp (Grizzly / Dy)	223,423	223,423	223,423	223,423	223,423		-	-		223,423	223,423
	Faro Camp (Grum)	405,099	405,099	405,099	405,099	405,099		-	-		405,099	405,099
	Faro Camp (Swim)	57,975	57,975	57,975	57,975	57,975		-	-		57,975	57,975
	Howard's Pass	726,931	726,931	726,931	726,931	726,931		-	-	726,931	726,931	726,931
Polymetalic	Delta District (MID)	-	-	-	-	29,762		-	-	-	-	-
	Finlayson L.D. (Fyre (Kona))	-	-	196,101	196,101	196,101		-	-		-	-
	Finlayson L.D. (Kudz Ze Kayah)	182,818	182,818	182,818	182,818	182,818		182,818	182,818	182,818	182,818	182,818
	Finlayson L.D. (Wolverine)	128,603	128,603	128,603	128,603	128,603		128,603	128,603	128,603	128,603	128,603
	Tulsequah Chief	-	-	-	-	-		165,347	165,347	165,347	165,347	165,347
Tungsten	Mactung	5,180	5,180	5,180	5,180	5,180		5,180	5,180	5,180	5,180	5,180
		3,329,832	**3,329,832**	**3,642,778**	**3,642,778**	**3,672,541**		**2,081,750**	**2,081,750**	**2,925,527**	**3,612,024**	**3,612,024**
	Percentage Decline in Volume		**0%**	**9%**	**0%**	**1%**	**10%**		**0%**	**41%**	**23%**	**0%**