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# Atrum Coal: A premium met coal developer

Carbon Forum, Vienna, 14 November 2018

Atrum Coal COAL FOR STEEL

# Important information

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## Forward Looking Statements

This presentation includes various forward looking statements which are identified by the use of forward looking words such as "may", "could", "will", "expect", "believes", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Statements other than statements of historical fact may be forward looking statements. Atrum believe that it has reasonable grounds for making all statements relating to future matters attributed to it in this presentation.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation. Investors should note that any reference to past performance is not intended to be, nor should it be, relied upon as a guide to any future performance.

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Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

## Competent Person Statement

**Exploration Results**

The information in this document that relates to Exploration Results of the Elan South project area is based on, and fairly represents, information and supporting documentation prepared by Mr. Brad Willis, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Palaris Australia Pty Ltd (Palaris). Mr. Willis has read and understands the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Mr. Willis is a Competent Person as defined by the JORC Code, 2012 Edition, having twenty years' experience that is relevant to the style of mineralisation and type of deposit described in this document.

Neither Mr. Willis nor Palaris have a direct or indirect financial interest in, or association with Atrum Coal, the properties and tenements reviewed in this report, apart from standard contractual arrangements for independent consulting work. In preparing this information, Palaris has been paid a fee for time expended. The present and past arrangements for services rendered to Atrum Coal do not in any way compromise the independence of Palaris with respect to this estimate. Mr. Willis has visited the Elan project area in September 2018 during the 2018 Elan South drilling program.

This announcement also relates to previously released information in an ASX Announcement made by the Company on 25 September 2018: "Substantial high-quality hard coking coal defined at Elan South" (Previous Announcement).

The Company confirms that it is not aware of any new information or data that materially affects the Previous Announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Prior Announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Prior Announcements

**Coal Resources**

The coal resources for Elan South documented in this report were estimated in accordance with the guidelines set out in the JORC Code, (2012). They are based on information compiled and reviewed by Mr. Brad Willis, who is a Member of the Australasian Institute of Mining and Metallurgy (#205328) and is a full-time employee of Palaris.

With more than 20 years of experience in open cut and underground coal mining, Mr. Willis has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify him as a Competent Person as defined in the JORC Code )2012 Edition).

Neither Mr. Willis nor Palaris has any material interest or entitlement, direct or indirect, in the securities of Atrum or any companies associated with Atrum.

Mr. Willis consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

# Large scale, world class met coal assets in Western Canada

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**1** **Elan Hard Coking Coal Project (100%-owned)**

- A large, high quality hard coking-coal deposit in Southern Alberta
- Bordering Riversdale's Grassy Mountain Project
- Coal quality work and updated JORC resources in Q4 2018

**2** **Groundhog Anthracite Projects (100%-owned, JV with JOGMEC in Panorama North)**

- The world's largest undeveloped high-grade anthracite deposit
- Huge potential – seeking further partnerships to explore and develop
- Panorama North Project is in funded JV exploration with Japan Oil, Gas and Metals National Corporation (JOGMEC)

**3** **Bowron River PCI Coal Project (100%-owned)**

- 3,821 hectares of land with known coal deposit
- Desktop study commenced this year

# Atrum Coal: A corporate snapshot

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## Board and management

| | |
|---|---|
| Non-Executive Chairman | Charles (Chuck) Blixt |
| Managing Director and CEO | Max Wang |
| Non-Executive Director | James Chisholm |
| Non-Executive Director | Charles Fear |
| Non-Executive Director | George Edwards |
| CFO | Jayram (Jay) Hosanee |
| VP Marketing and BD | Tayfun (Ty) Zehir |

## Share price (1 year basis)

## Capital structure

| | |
|---|---|
| ASX ticker | ATU |
| Share price (9 November 2018) | A$0.09 |
| Shares on issue | 360.8 M |
| Options and performance rights | 127.2 M |
| Market capitalisation (undiluted) | A$32 M |
| Cash (30 September 2018) | A$4.2 M |
| Debt | A$0.0 M |

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# Elan Hard Coking Coal Project

Immediate focus for development

- Large hard coking coal deposits
- Strategically located near rail and other infrastructure
- In a coal friendly community

# Elan hard coking coal project

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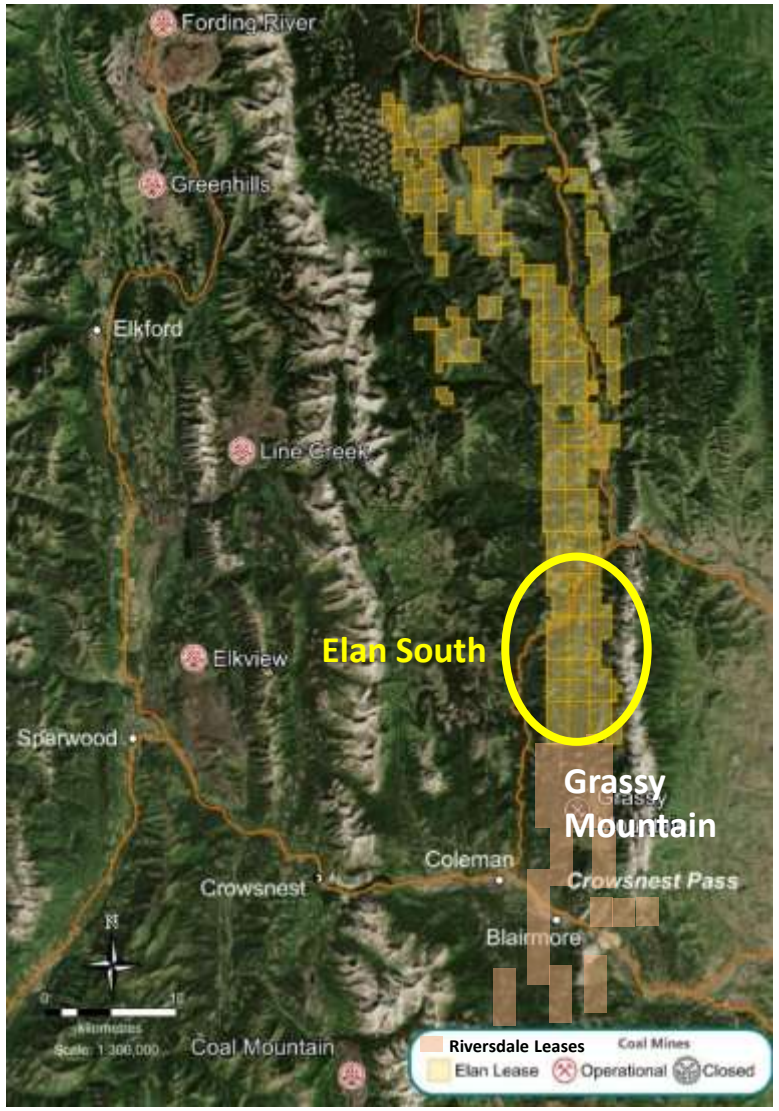
## Surrounding mines operated by Teck producing over 25Mtpa - the heart of coking coal production in Canada

- Teck Fording River
- Teck Green Hills
- Tech Line Creek
- Teck Elkview
- Teck Coal Mountain (suspended)
- Riversdale's Grassy Mountain Project of 4.5 Mtpa (progressing towards development) is immediately south of Elan South

## Excellent infrastructure and availability to services

- 150km south of Calgary and 13km north of Coleman
- Highway going through the property
- Rail is 13km south, leading to ports west in Vancouver, north at Prince Rupert and east at Thunder Bay
- 138kV powerline nearby




***Total 22,951ha (230km$^2$) of prospective tenements***

# Significant historical exploration work

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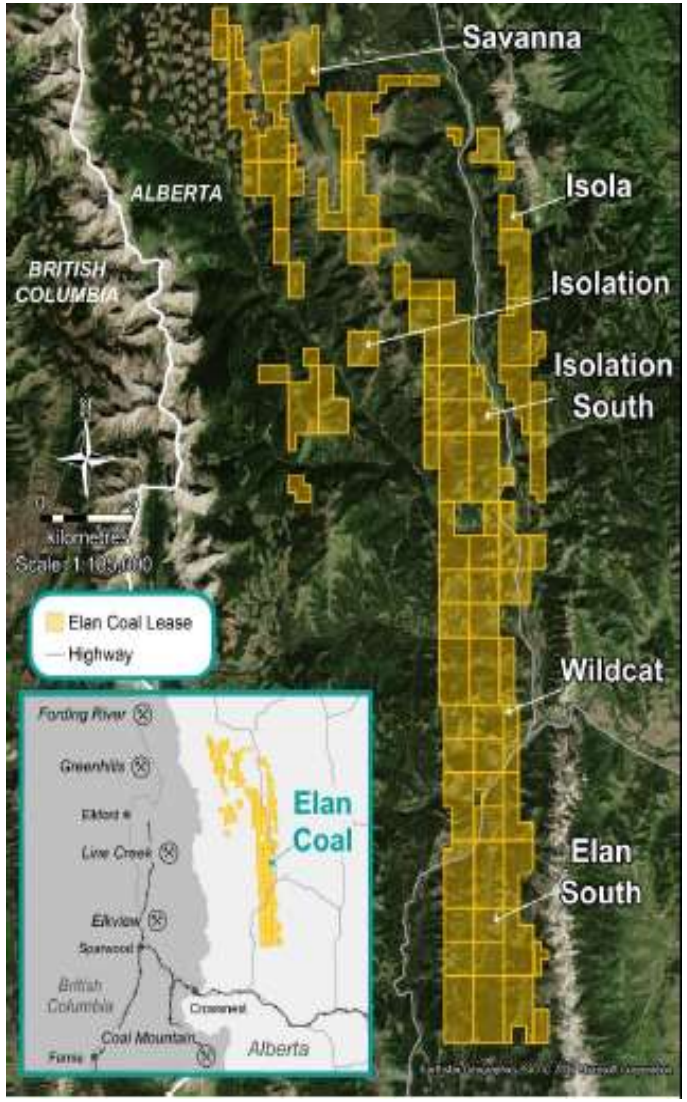
## Summary of Elan Coal historical exploration data (Dahrouge 2013)

| Area | Operator | Campaign | Core holes | Bore holes/ Wells | Adits | Trenches | Mapping | Access Trails (km) |
|---|---|---|---|---|---|---|---|---|
| OMR (Isolation South) | Scurry | 1970 | 19 | - | 3 | 24 | - | 22.5 |
| Savanna | Bralorne | 1969-72 | 8 | 57 | 5 | 15 | 1:4,800 ft | - |
| Savanna | CIGOL | 1971 | 2 | - | - | - | - | - |
| Isolation | CanPac | 1969-71 | 76 | 5 | 6 | 76 | 1:12,000 / 1:2,400 | ~117.5 |
| Isolation | Granby | 1974 | 18 | 9 | | 45 | 1:2,400 | |
| Regional-OMR | W.C.C | 1949-55 | - | - | - | 33 | 1:12000 | Extensive |
| Regional-Isola | CCL | 1971 | 3 | - | - | 15 | - | - |
| Regional-OMR | Consol | 1976 | - | - | - | - | 1:12,000 | - |
| Regional | CHE & Devon | 1989 | - | 1 | - | - | - | - |
| Regional | NEC | 2001-02 | - | 20 | - | - | - | - |
| **Total** | | | **126** | **92** | **14** | **208** | | |



# High-quality Elan resource parameters

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Top tier HCC quality – expected

Similar to Teck's mid vol HCC products; also a replacement for ageing Australian HCC mines

Low in S and P; ideal blending stock with new Chinese production of high S, soft coking coal

Western Canadian HCC favoured by global steelmakers for ranking, ash chemistry & CSR

| | Platts Australian HCC 64 | Elan Coal | Riversdale (Grassy Mountain) | IHS Australian Prime HCC |
|---|---|---|---|---|
| Total Resource (R) and Exploration Target (ET)[1] | - | R: 183Mt[2]<br>ET: 200Mt[3] +<br>ET: 490Mt[4] | R: 200Mt (Grassy Mountain only) | - |
| HCC Tier for Pricing | - | 1 | 1 | - |
| CSR[5] | 64 | TBD | 65 | 67 Min |
| Coal Rank Ro Max (%) | - | 1.27 | 1.2 | 1.15 – 1.55 |
| Yield[6] (%) | - | 55 – 70 | 55 | - |
| Volatile matter (%) | 25 – 26 | 22.5 | 23.5 | 26 Max |
| Total moisture (%) | 9 – 10 | - | 10 | 10 Max |
| Sulfur (%) | 0.5 – 0.7 | 0.6 | 0.5 | 0.7 Max |
| Phosphorus (%) | 0.05 | 0.02 | 0.04 | 0.05 |
| Fluidity[5] (ddpm) | 1,500 – 1,700 | TBD | 150 | 100 Min |

1. **The Exploration Target potential quantities and grades are conceptual in nature and there has been insufficient exploration to date to define a mineral resource. It is not certain that further exploration will result in the determination of a Mineral Resource under the "Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves, the JORC Code" (JORC 2012). The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve.**
2. Combined Global Elan resources - Elan South by Tamplin Resources Pty Ltd as of 30 September 2017 (36Mt) and the rest by Dahrouge Geotechnical Consulting as of September 2013 (146.5Mt). Coal quality estimates completed by Dahrouge Geotechnical Consulting as of September 2013
3. Elan South exploration target by Tamplin Resources Pty Ltd as of 30 September 2017
4. Global Elan exploration target as of September 2013 excluding Elan South (Elan South changed from 250Mt to 200 Mt by Tamplin Resources in September 2017)
5. Not yet determined
6. The 70% yield was estimated by Dahrouge Geotechnical Consulting as of September 2013 however given the nearology of Atrum's core project, Elan South, to Grassy Mountain which has a yield of 55%, a range has been stated

# 2018 Elan exploration program

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1. Field survey, hand trenching and road cutting through coal at Elan South and other areas
2. Review of historical exploration data and models
3. **Major drilling in Elan South area** – RC and open hole drilling, and large diameter cores for further coal quality testing – 7,000m of drilling completed
4. Significant coal intersections; initial testing indicated high quality hard coking coal.
5. JORC resource estimates and coal quality testing underway - fully results by year end

*Significant coal intersections in most drill holes and exposed in road cuttings, with apparent cumulative intersections of up to 42.8m (hole ESRAB18-14)*

# Field survey and trenching

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# Site exploration activities

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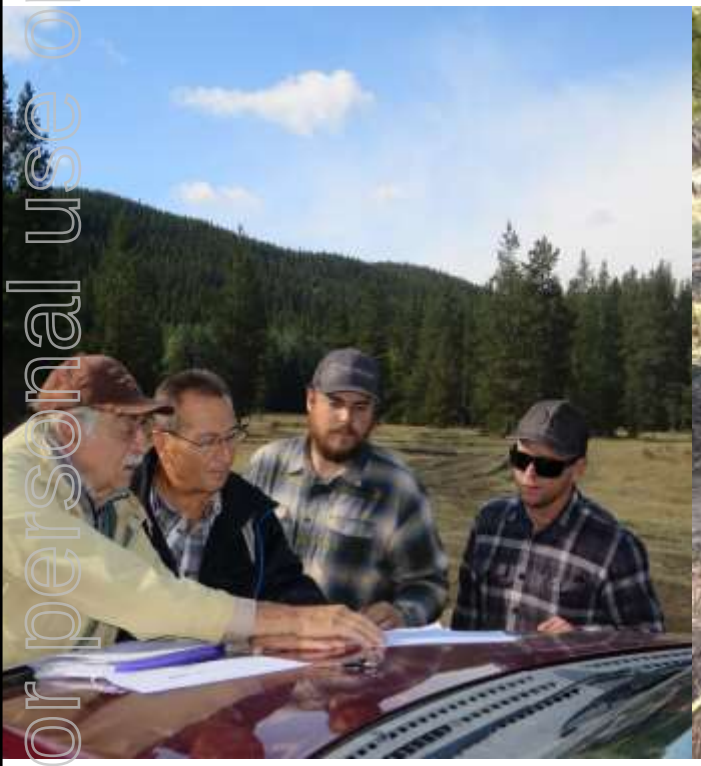

# Site exploration activities

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# Large diameter coring at Elan South for coal quality testing

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# Environmental Baseline Study started in June 2018

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Wildlife monitoring

Stream flow monitoring

Surface water quality sampling

Core rock sampling and testing

Groundwater monitoring

***To prepare for permit application***

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# Groundhog and Panorama Anthracite Projects

- Largest undeveloped high-grade anthracite deposit globally
- Funded Panorama North JV with JOGMEC
- Multiple large-scale JV development opportunities

# Groundhog and Panorama Projects

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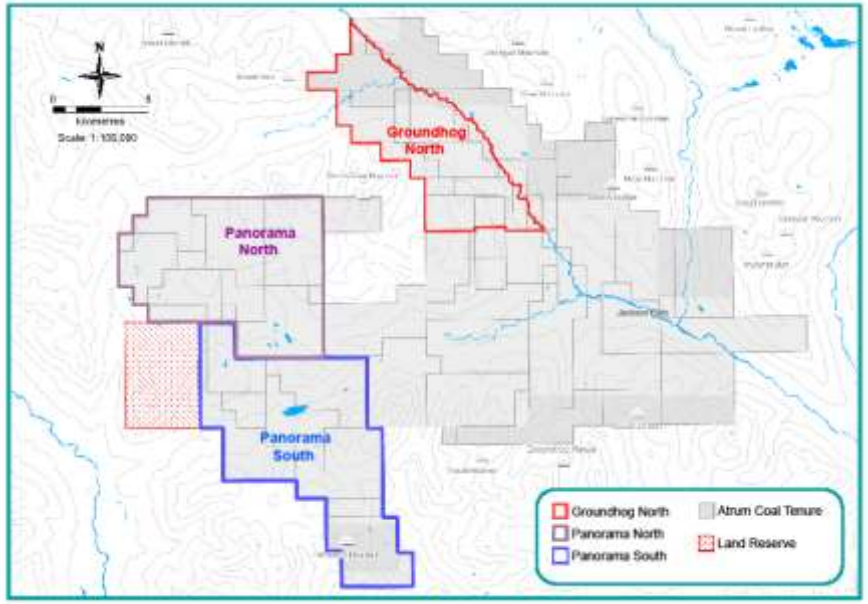
- Massive Groundhog coalfield with more than 1Bt of JORC resources
- High grade anthracite
- Series of historical exploration work dated back many decades
- Several large project areas suitable for multiple JV development opportunities



## JORC Resources for Groundhog North & East areas only

| Area | Measured | Indicated | Inferred | Total |
|---|---|---|---|---|
| Western Domain | 156 | 193 | 260 | 609 |
| Eastern Domain | - | 260 | 147 | 407 |
| **Total** | **156** | **453** | **407** | **1,016** |

# Groundhog and Panorama projects site

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# Groundhog Duke E seam: high quality anthracite

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Over 140 drillholes in Groundhog since 2012

Identified three economically viable seams

Primary initial target seam is Duke E:
low-ash, high-yield (>75%), high-grade anthracite

Plan for PCI mining economics and market as both PCI and anthracites

| Duke E Seam General Product (washed at maximum density with 60%-75% Yield) | |
|---|---|
| Inherent Moisture (ad) | 1.5% |
| Ash (ad) | 10% |
| Volatile Matter (ad) | 5% |
| Fixed Carbon (ad) | 83.5% |
| Sulphur (ad) | 0.6% |
| SE kcal/kg (gad) | 7,300 |
| SE kcal/kg (gar) | 6,820 |
| HGI | 55 |

**JORC Resources of the Duke E seams in the Groundhog areas**

| Area | Measured | Indicated | Inferred | Total |
|---|---|---|---|---|
| Duke E: West Side | 34 | 40 | 50 | 124 |
| Duke E: East Side | - | 64 | 30 | 94 |
| **Total** | **34** | **104** | **80** | **218** |

**Note:** JORC resources and coal quality for Groundhog areas were completed by Gordon Geotechniques of Queensland, Australia, 2015

# Panorama North: Fully funded exploration with JOGMEC

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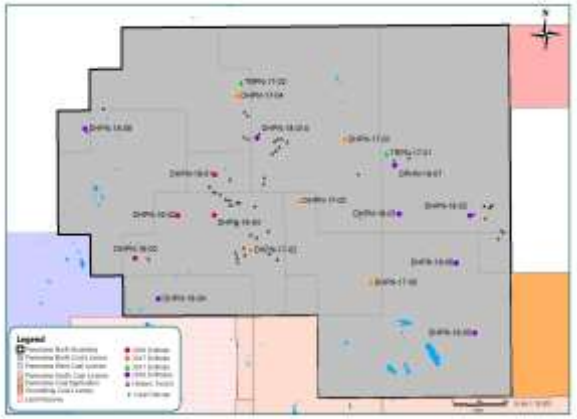
Japan Oil, Gas and Metals National Corporation (JOGMEC) earning up to 35% in Panorama North by spending C$5.0M over 3 years

Fully funded 2018 program (C$1.9M) recently completed with excellent results

Significant coal seam intersections with drill cores submitted for coal quality analysis

Initial JORC resource estimate targeted Q1 2019

Exclusivity with JOGMEC until 2021 to negotiate JV exploration for Panorama South



# Panorama North field activities

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# The Canadian advantage

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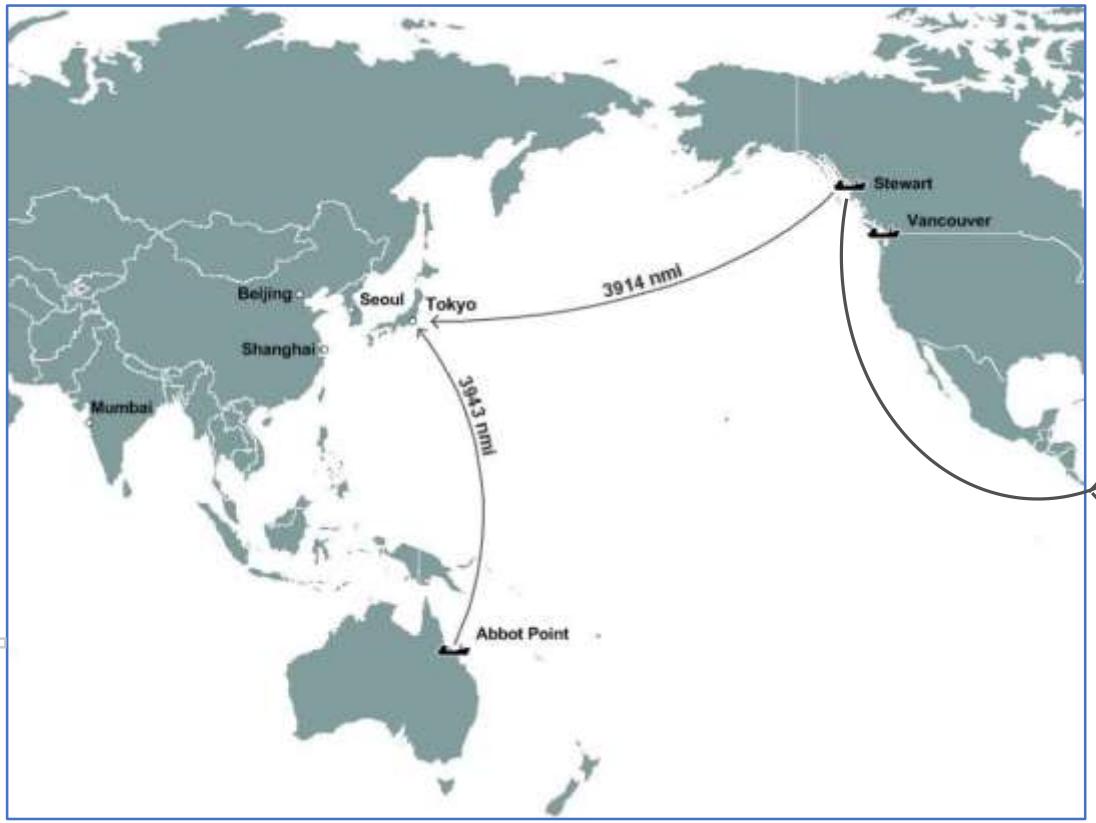


**Low sovereign risk**

**Government and regulatory environment encourages mine development**
- Mine exploration rebate program in BC
- Very low coal royalty

**Extensive and regulated infrastructure**
- Direct rail access to ample port capacities
- Low electricity and natural gas costs

**Comparable Asian shipping distance as Australia**
- Australia-to-Japan and BC-to-Japan are equidistant

**Less major weather disruption (winter is beneficial to open cut mining)**

**Recent global investment activity in southwest Alberta HCC projects**

# Large-scale, high-quality metallurgical coal exposure

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**Flagship Elan HCC Project**

1. **Substantial potential strike extent with impressive downhole thicknesses**
2. **Preliminary quality analysis indicates high-quality hard coking coal**
3. **Updated JORC resources and detailed coal quality work expected Q4 2018**
4. **Recent Hancock Prospecting acquisition of 19.9% of Riversdale Resources for A$69M (Riversdale's Grassy Mountain Project abuts Elan South)**

**Groundhog & Panorama Projects**

1. **Massive anthracite coalfields with multiple large JV potential**
2. **Fully funded JV exploration at Panorama North via JOGMEC earn-in with coal quality results and initial JORC resource expected in Q1 2019**

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