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3D Render of mine entries to underground



GROUNDHOG NORTH UNDERGROUND
Supplementary Pre-Feasibility Study

 **Atrum Coal**
COAL FOR STEEL



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Competent Person Statement

Exploration Results

The information in this document that relates to Exploration Results is based on information compiled by Mr Nick Gordon, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Gordon Geotechniques Pty Ltd. Mr Gordon 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 Gordon is a Competent Person as defined by the JORC Code, 2012 Edition, having twenty eight years' experience that is relevant to the style of mineralisation and type of deposit described in this document.

Neither Mr Gordon nor Gordon Geotechniques Pty Ltd have any material interest or entitlement, direct or indirect, in the securities of Atrum or any companies associated with Atrum. Fees for the preparation of this report are on a time and materials basis. Mr Gordon recently visited the Groundhog project area on 21st March 2014 whilst exploration personnel were preparing for the next drilling program. Two days were also spent with Atrum geological personnel in Victoria, British Columbia evaluating the geological, coal quality and geotechnical information relevant to the Groundhog project area.

Coal Resources

The coal resources 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 Nick Gordon, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Gordon Geotechniques Pty Ltd.

With more than 28 years of experience in open cut and underground coal mining, Mr Gordon 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 of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves."

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

PFS COMPARISON

SPFS enabled by resource upgrade and value engineered mine planning

	PFS (MAY)	SPFS (OCTOBER)	
Mining Method	Underground	Underground	
Life of Mine	16yrs	38yrs	+138%
JORC Coal Resource	305Mt	609Mt	+100%
Mineable ROM	75Mt	176Mt	+135%
Annual Saleable Production (LOM Average)	3.2Mtpa	3.2Mtpa	
FOB Production Cost (average LOM / inc royalties)	\$89/t	\$86/t	-3.4%
All-in Capital Cost (owner operator / excluding sustaining)	\$631M	\$596M	-5.5%
Max. Capital Drawdown to Operational Cash Flow	\$229M	\$171M	-25.3%
Projected off Balance Sheet Capital	\$377M	\$293M	
Minimum Capital to Small Scale Production	\$77M	\$58M	-24.7%
Projected First Coal Sales	H2 2015	H2 2015	
Post-tax NPV10 (nominal)	A\$1,040M	A\$1,685M	+62%
Post-tax IRR (nominal)	39%	42%	
Post-tax LOM Free Cash Flow (nominal)	A\$3,360M	A\$11,159M	+232%

All figures expressed in USD unless otherwise stated.



GROUNDHOG NORTH UNDERGROUND MINE

Optimised PFS has yielded further compelling results

Asset Description	
Ownership	100%
Location	British Columbia, Canada
JORC Resources	1.57Bt (609Mt at Groundhog North)
Coal Type	High Grade and Ultra-high Grade Anthracite
Groundhog North Underground Mine	
Mining Method	Underground <small>(adit into bord & pillar and mini-wall)</small>
Mine Life	38 years
ROM production (avg)	5.4Mtpa
Saleable Production (avg)	3.2Mtpa
Products	52% sized products (avg. 10% ash) 48% non-sized product (avg. 10% ash)
Costs	
Max Capital Drawdown to Operating Cash Flow	\$171M
Operating (avg LOM)	\$86/t FOB cash (including royalties)
Revenue	
Sales Price	Wood Mackenzie \$186/t FOB (2014 real) <small>(average received across all products)</small>
Lump Products	Premium to HCC / Discount to export Coke
Non-sized Products	ULV PCI, sinter, breeze and specialty
Margin	Average margin \$100/t real (average for all products)

Highlights

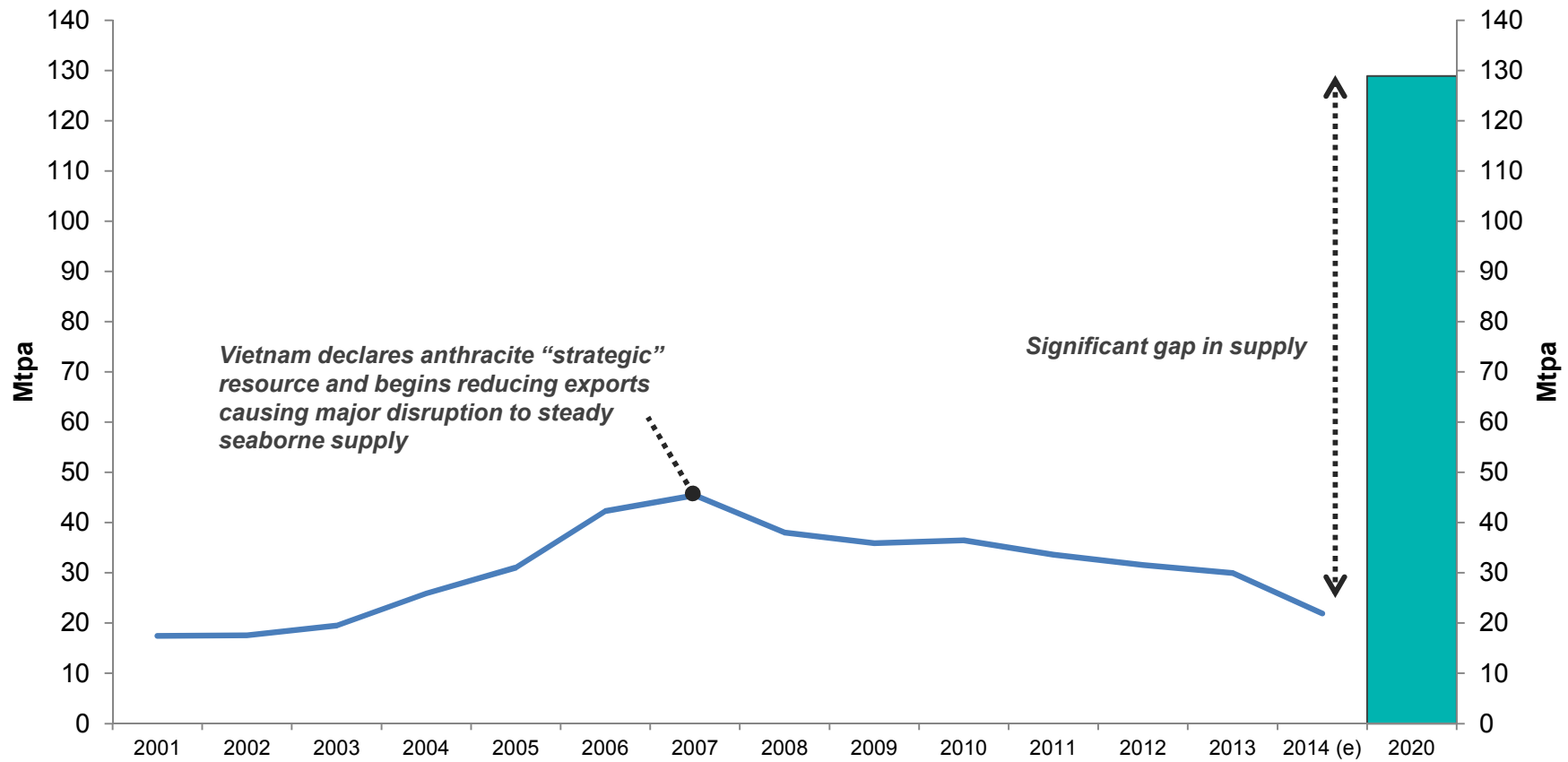
- ▶ Worlds largest undeveloped anthracite deposit 1.57Bt
- ▶ Low capital intensity (\$110/tac)
- ▶ Globally competitive operating costs
- ▶ Very low capital cost (\$58m) entry into development mining in 2H 2015
- ▶ Highest value metallurgical coal products
 - > Lump products currently selling in Japan and Korea at significant premium to hard coking coal
- ▶ Existing infrastructure enables export on non take-or-pay terms
 - > Road to Stewart Port
 - > Dedicated terminal available at Stewart Port
 - > Existing railhead 30km from mine
 - > Option to utilise Ridley &/or Westshore Terminals
- ▶ Capital requirements funded through minority asset stake sale in Groundhog North (GHN).
 - ▶ Completion in H1 2015



SHRINKING ANTHRACITE SUPPLY

Pricing swinging to demand driven market

Seaborne Anthracite Exports v Potential Demand Forecast



Export data: Resource Net
Demand data: Wood Mackenzie

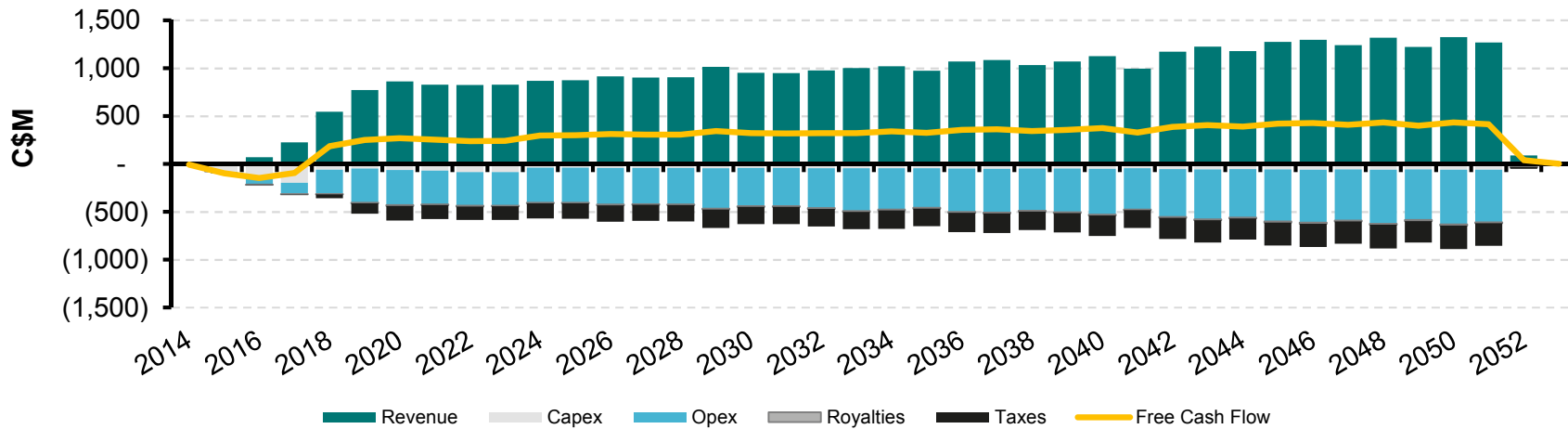
Forecast Demand at Substitution Rates Seaborne Exports



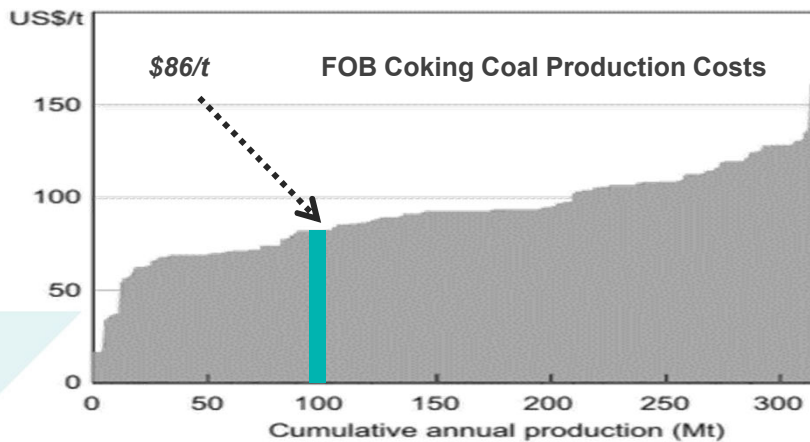
LOW COST COMPARED TO GLOBAL PEERS

Low cash costs, fast pay-back and long life asset

Groundhog North Cash Flow (nominal)



OPEX v Global Peers



Source: AME Group; RBA 2014

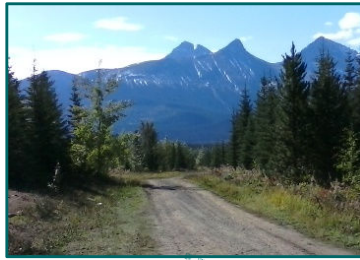
Highlights

- ▶ Optimised PFS based on:
 - ▶ Low entry CAPEX
 - ▶ Optimised LOM free cash flow under owner operator model
 - ▶ Low OPEX with average LOM operating profit of \$100/t (real)
 - ▶ Mine life extended to 38 years with total ROM production of 176Mt
- ▶ Cash costs in the bottom third globally
- ▶ First coal sales in 2015



PROJECT LOCATION

Strategically located with infrastructure secured



Highlights

- ▶ 219km route from Groundhog North to Stewart Port
- ▶ Forest service roads + State Highway
- ▶ Non take-or-pay contract at port
- ▶ Possible additional route via rail to Prince George



CAPITAL COSTS

Low capital due to efficient mine planning, owner operator model, and simple logistics upgrades

All-in Capital Expenditure (excl. sustaining, US\$)	
Underground Mine Equipment & Development	\$395M
Surface Infrastructure	\$14M
Camp & Site Office	\$13M
CHPP	\$54M
Power (BC Hydro connection)	\$52M
Road	\$60M
Port Upgrade	\$8M
TOTAL	\$596M
ROM Capacity	5.4Mtpa
CAPEX per tonne annual capacity (tac)	\$110 /tac

Highlights

- ▶ Installed capacity at \$110/tac
- ▶ Total required capital: \$596M, with maximum drawdown of \$171M before operating cashflow on owner operator basis
- ▶ SPFS includes entire capital envelope:
 - ▶ Estimated 49% of total capital expenditure may be funded through leasing and other off balance sheet structures
 - ▶ Potential to increase to 59% depending on current negotiations with equipment suppliers
- ▶ Major underground mining equipment to provide:
 - ▶ Roadway development, mini-wall extraction, coal conveyance and piped services equipment.
- ▶ Modular CHPP includes static bath, dense medium cyclone and Reflux classifier, and belt press for dewatering fines
- ▶ A mains aerial power line will be constructed to connect Groundhog to the Eastern Transmission Line. Genset interim.
- ▶ Unsurfaced road for trucking access to Stewart via Highway 37. The road will be weatherproofed.
- ▶ Port upgrades at Stewart and appropriate storage facilities built proximal to the existing Stewart Port. Agreement in place to upgrade to 3Mtpa to match Groundhog North saleable tonnage



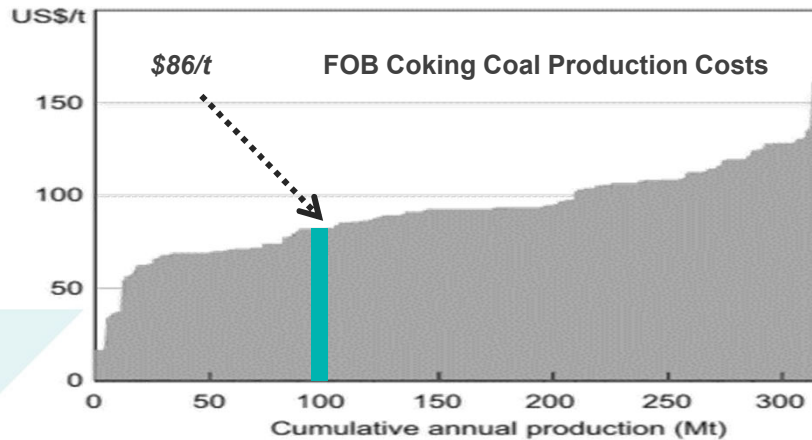
OPERATING COSTS

Cash costs in the lowest third of global peers

Forecast Operating Costs (LOM / US\$/t)	
Mining	\$25
Processing	\$5
Yield	60%
Ex-mine (FOB/t)	\$50
Transport & Port	\$25
Other	\$11
Total Cash Cost (FOB/t)	\$86

FOB cash costs including Royalties

OPEX v Global Peers



Source: AME Group; RBA 2014

Highlights

- ▶ Mining costs are in lowest third, as simple mine layout with shallow access to surface enables efficient low cost operations
- ▶ CHPP will be modular, and employ DMC and static bath to enable beneficiation of multiple size products at different densities and ashes
- ▶ Yield is expected to improve above current model of 60% yield for premium products, as middlings products are investigated
- ▶ Transport via truck on dedicated 130km unsurfaced haul road to join paved highway approximately 90km from port. High capacity dedicated fleet of trucks will be operated under contract
- ▶ Port rates are low, and are contractually agreed
- ▶ Other costs include corporate overheads, site administration costs and royalties
- ▶ FOB costs to fall significantly if a dedicated rail option from GHN to Stewart Port is constructed



CAPITAL REQUIREMENTS

Project development capital to be funded through sell down of minority stake in Groundhog North U/G mine project.

Funding Options

- ▶ Sell down equity in Groundhog North H1 2105
- ▶ Lease finance equipment from suppliers

Capital Schedule & Revenues						
	2014	2015	2016	2017	2018	2019
Annual Total Capital Expenditure	\$7M	\$82M	\$160M	\$198M	\$60M	\$48M
Total Operating Expenditure	-	-	\$54M	\$112M	\$234M	\$324M
Projected Sales (Mt)	-	0.1	0.34	1.06	2.25	3.34
Projected Sales Revenue	0	\$5	\$69M	\$226M	\$545M	\$772M
Project Sell Down	-	\$40M - \$70M	\$60M - \$180M	-	-	-
Leasing / Debt / Facility		\$30M - \$60M	\$60M - \$180M			



ANTHRACITE QUALITY & UTILISATION

High Grade and Ultra-high Grade Anthracite favoured for use in steel making

Indicative GHN Anthracite (washed 60% Yield)

Inherent Moisture (ad)	1.5%
Ash (ad)	10.0%
Volatile Matter (ad)	5.0%
Fixed Carbon (ad)	83.5%
Sulphur (ad)	0.60%
SE kcal/kg (gad)	7,350
SE kcal/kg (daf)	8,300
HGI	65

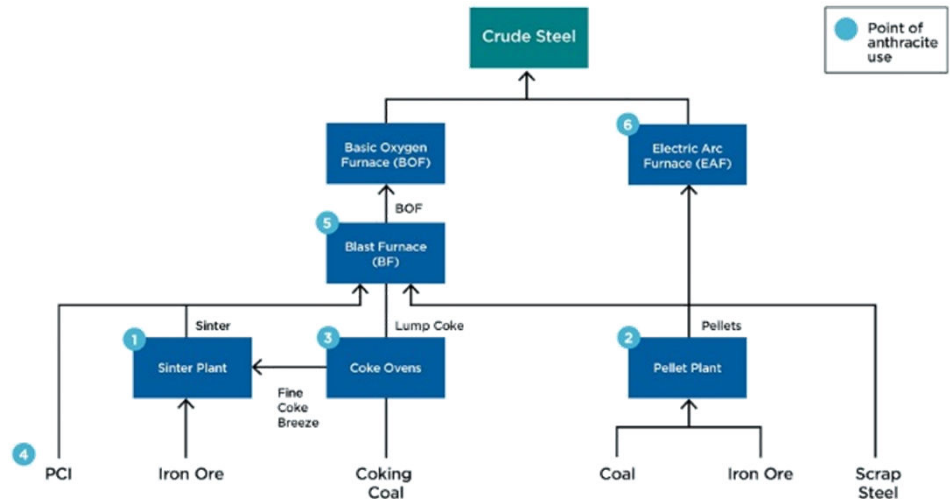
Highlights

- ▶ High Grade and Ultra-high Grade Anthracite with low ash, very high fixed carbon, and very low volatile matter
- ▶ Premium product sought by steel makers as carbon input
 - ▶ HG/UHG anthracite can replace up to 20% coke in BF/BOF with implied demand of 180Mtpa HG/UHG Anthracite
 - ▶ Can replace ULV PCI, and is a preferred reductant binder in sinter and pellet plant
- ▶ Other uses: charge carbon and foamy slag in electric arc furnaces and ilmenite production; feedstock in chemical plants, to make urea for fertilizers; as water filter media; as a reductant in specialty metals manufacture; home heating

Anthracite Replacement Ratio's

Anthracite as Input / Replacement	Carbon Substituted	Potential Substitution
1. Sinter plant fuel	Coke breeze	70%
2. Pellet plant fuel	Coke breeze; thermal coal	100%
3. Coking Coal	Suitable bituminous coals	5%
4. PCI	Other HV and LV coals	100%
5. Direct Blast Furnace charge	Coke	10%
6. EAF carbon additive	Coke / Petroleum coke	100%

Source: Wood Mackenzie





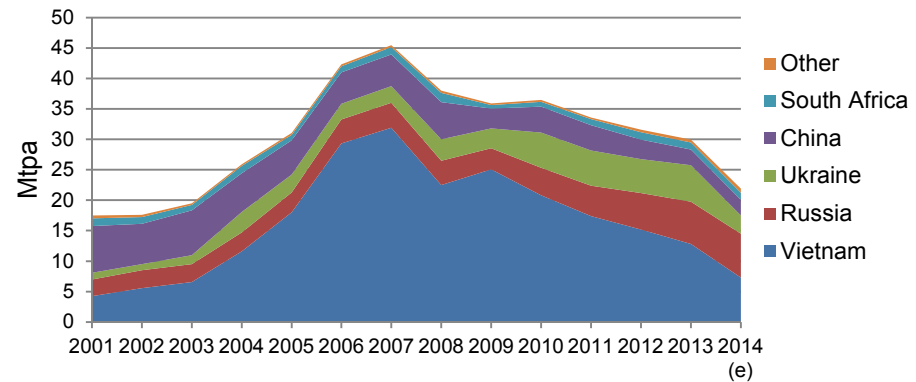
SHRINKING ANTHRACITE SUPPLY

Unlike other coals, anthracite supply is rapidly declining and demand is growing

Highlights

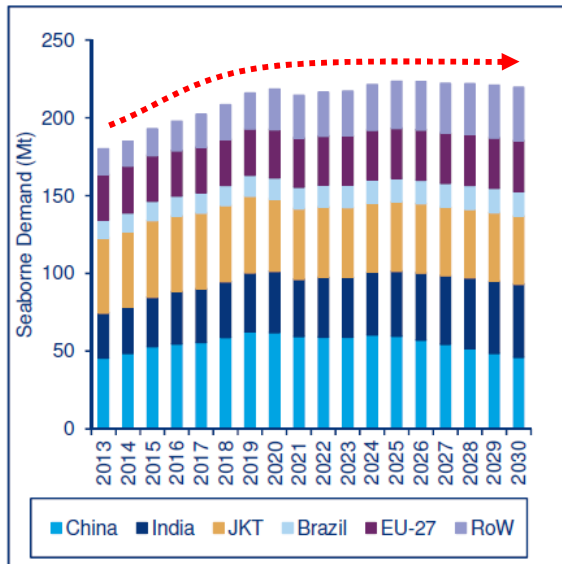
- ▶ Anthracite market supply is in rapid decline, with major suppliers Vietnam and China decreasing supply by over 70% in past 5 years
- ▶ Other major suppliers Russia and Ukraine are struggling to fill the void, with the war in eastern Ukraine making supply side very tight in 2014
- ▶ Continued scarcity of quality anthracite is likely to continue, as “carbon poor” countries realise the strategic value of this high carbon material

Global Seaborne Anthracite Supply



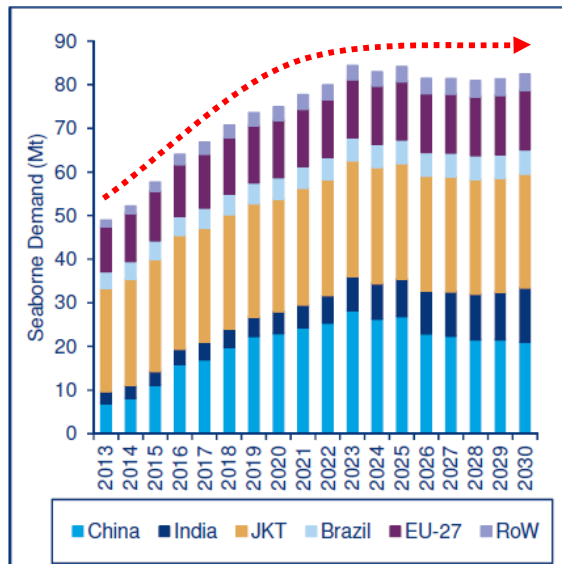
Source: Resource Net

Forecast HCC Demand



Source: Wood Mackenzie

Forecast PCI Demand



Source: Wood Mackenzie

Highlights

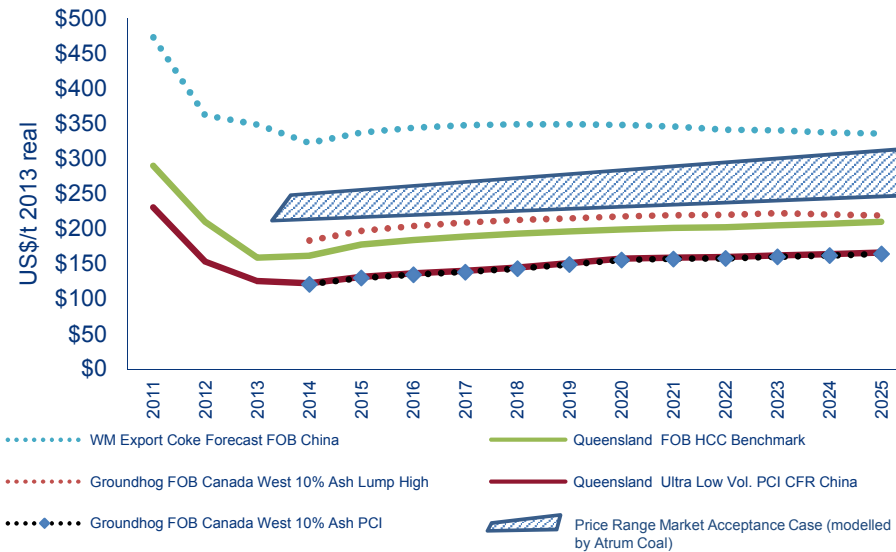
- ▶ Seaborne met coal markets are changing fast
- ▶ As Blast Furnace & Blast Oxygen Furnace technology advances, less coke is being used, and PCI rates are increasing rapidly (35% in last 5 years)
- ▶ Seaborne HCC to rise at 1.1% CAGR to 220Mtpa by 2030, with PCI to rise at 2.9% CAGR to reach 82Mtpa by 2030
- ▶ GHN's very high fixed carbon, low ash and very low volatile matter makes it attractive to steel makers and industrial businesses worldwide



PRICES & MARGINS

GHN operating cash costs are low. If operating in current market GHN would be the highest margin Canadian met coal producer

Wood Mackenzie Price Forecast - Groundhog Anthracite

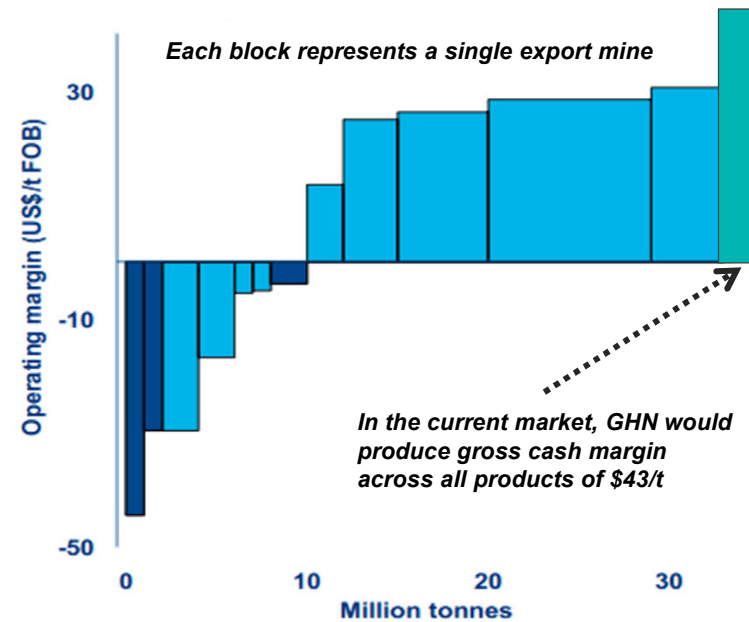


Source: Wood Mackenzie

Highlights

- ▶ Even in this market, GHN margins are strong
- ▶ Anthracite lumps currently trading at premium to hard coking coal (HCC):
 - ▶ 20% premium to HCC in Japan (\$140/t Tex Report)
 - ▶ 18% premium to HCC in Europe (\$150/t Resource Net)
 - ▶ 16% premium to HCC in China (950RMB/t Sxcoal.com)

2014 Canada metcoal margin @ HCC = US\$129.80/t



Source: Wood Mackenzie as presented at 2014 Canadian Coal Conference & Atrum Coal

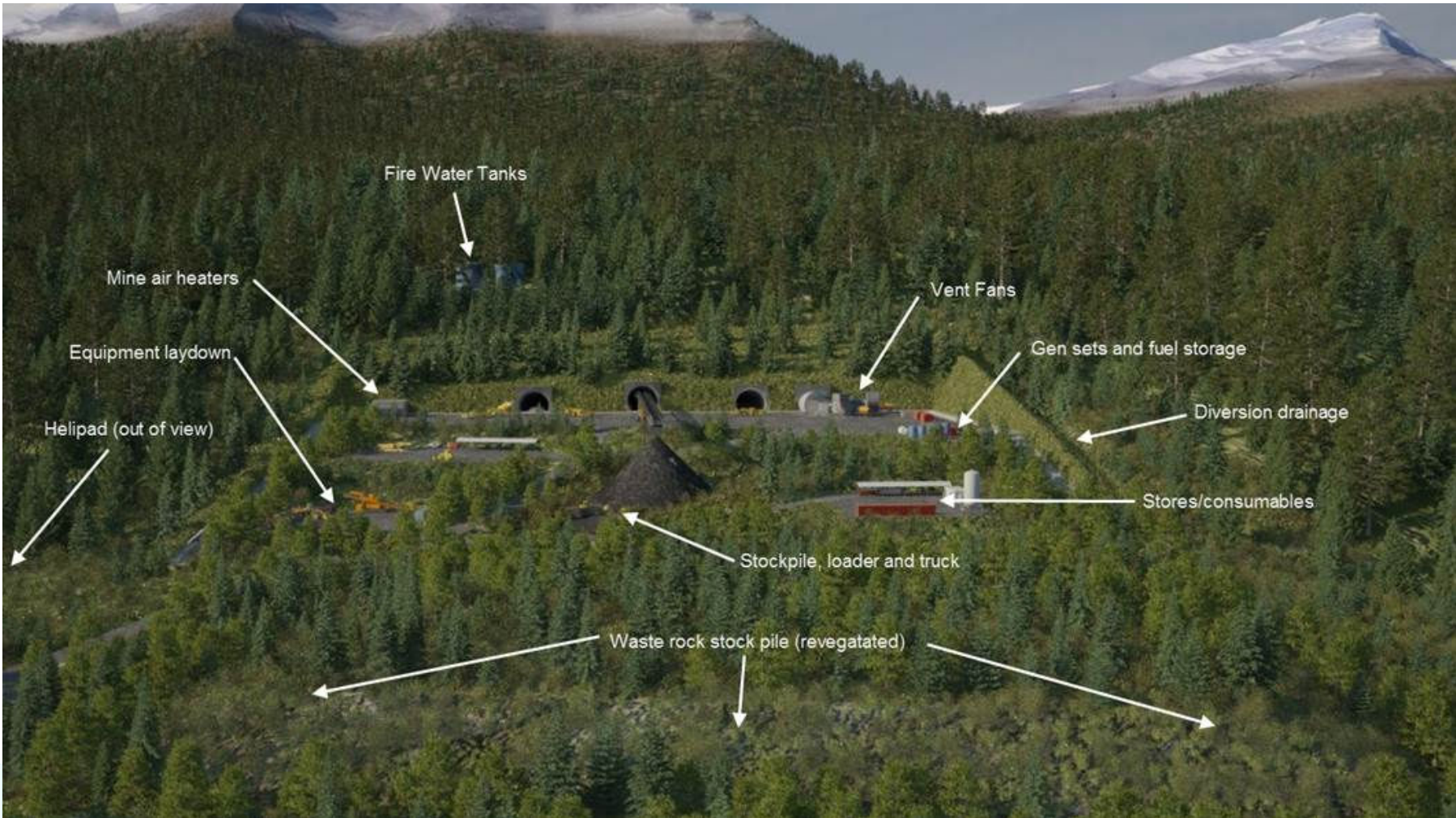
Atrum margin hypothetical assessment assumes GHN mine in operation in 2014, with operating costs of \$86/t, and Lump price at 20% premium to HCC, and ULV PCI at 20% discount to HCC

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LOW IMPACT MINE DESIGN

A low-risk adit entry, efficient underground mining by mini-wall



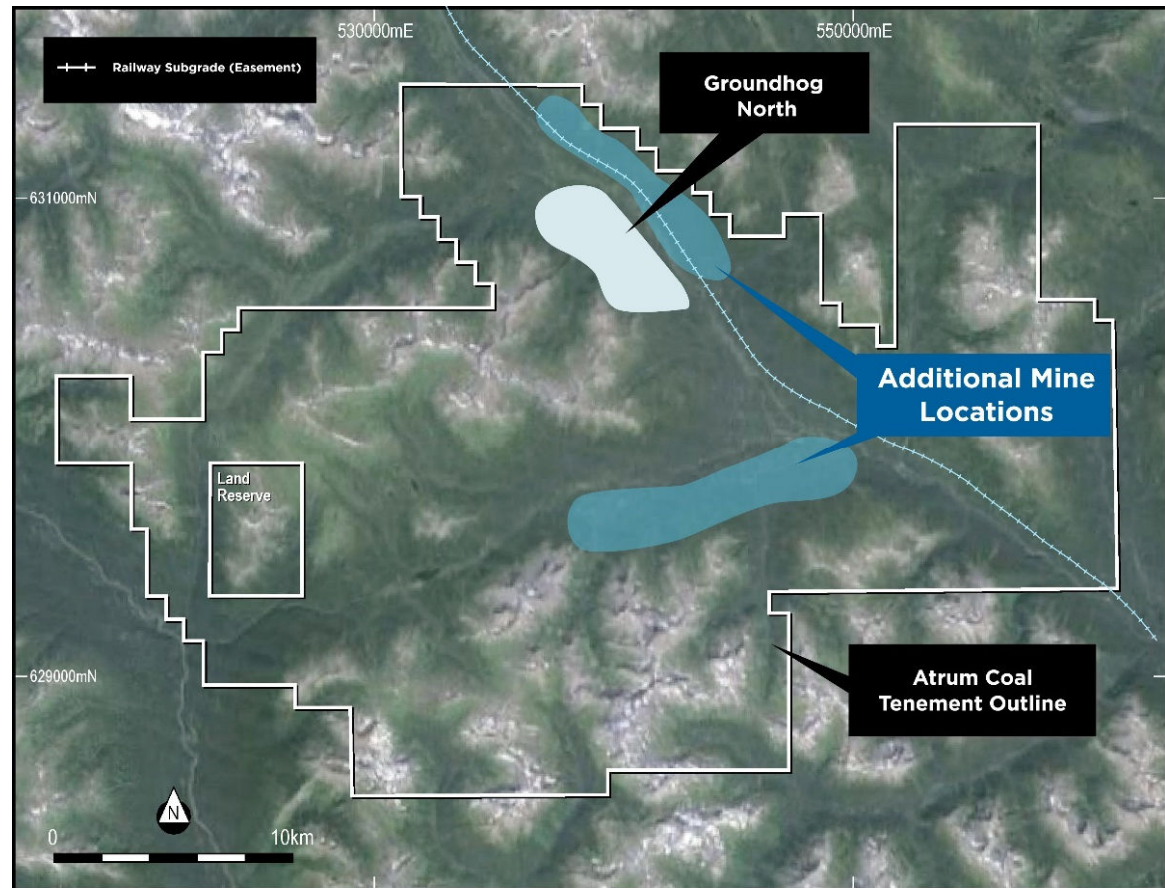


DEVELOPMENT OVERVIEW

Groundhog North Underground Mine is the first mine planned in the Groundhog Coalfield

Highlights

- ▶ Atrum is developing the world's largest high grade/ultra high grade anthracite resource
- ▶ 800km² total lease area
- ▶ 1.57Bt total JORC resources
- ▶ Staged development approach
 - ▶ Stage 1: Groundhog North (609Mt)
- ▶ Multi-mine long-term vision for follow-on stages over the coming decades:
 - ▶ Groundhog North East
 - ▶ Groundhog East
 - ▶ Groundhog Central
 - ▶ Groundhog South
- ▶ Develop appropriate low cost infrastructure to transport product to port, significantly reducing OPEX



Additional mine potential discovered at Groundhog



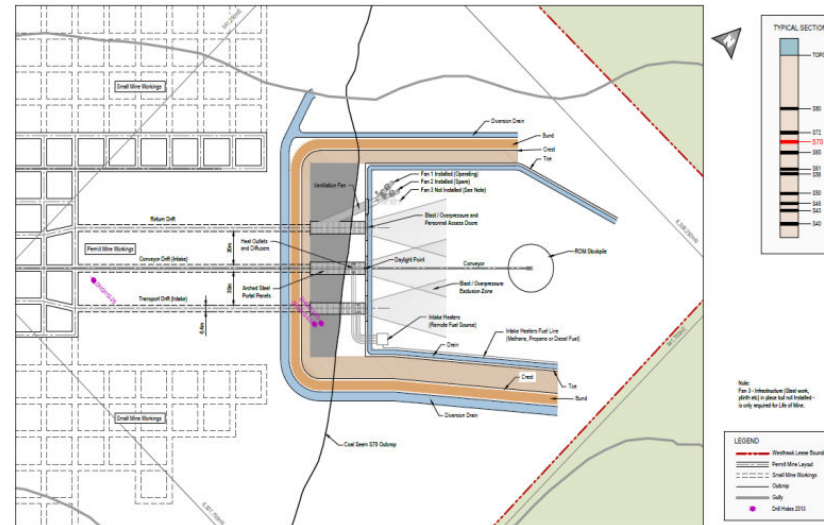
OPTIMISED MINE PLANS

Single mine entry via low cost adit; staged development of upper S70 seam followed by lower S40 seam

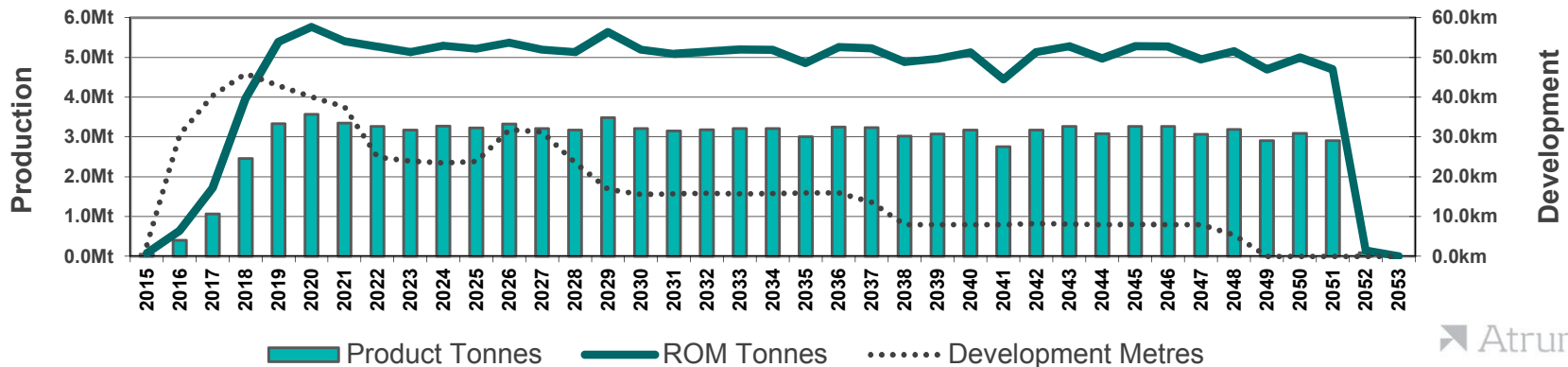
Highlights

- ▶ Easy, quick entry into anthracite seams
- ▶ Mining: S70 and S40 will operate mini walls and bord & pillar extraction
- ▶ Fast payback of capital
- ▶ Beneficiation: A single CHPP located at the mine head will beneficiate ROM anthracite to produce specialised lump products, sinter and ULV PCI
- ▶ Transportation: Products will be transported 219 km from the CHPP by private haul road to a stockyard at Stewart Port for cargo assembly
 - ▶ Options remain open to access Canadian National Railway line and sell coal at Prince George, or export via Ridley Port
- ▶ Only one other export coal mine in North America is closer to a deep sea port

Groundhog North Portal Entry



Production Profile





INFRASTRUCTURE ADVANTAGE

The Groundhog Coalfield has access to multiple ports via road and rail routes; PFS models 100% exports via Stewart Port



ROAD & RAIL

- ▶ Multiple routes by road to Port of Stewart (219km direct distance)
- ▶ Optional/Alternate route: 30km of rail easement with an upgrade required to link to existing rail
- ▶ Direct rail link to Ridley Coal Terminal at Port of Prince Rupert or Vancouver Metro; or sale at Prince George to Peace River coal mines who are seeking blending products to upgrade their coals



PORT

- ▶ Port Agreements in place with Stewart Bulk Terminal
- ▶ Attractive port handling charges on non 'take or pay' terms for 3.0Mtpa
- ▶ Further MOU with second loading option at Stewart World Port for a further 5Mtpa
- ▶ Negotiations with additional terminals continuing
- ▶ Reviews underway to transport product to Prince George as an expansion alternative



POWER

- ▶ Gensets preferred in early stages of production
- ▶ PFS models permanent power in place by 2018



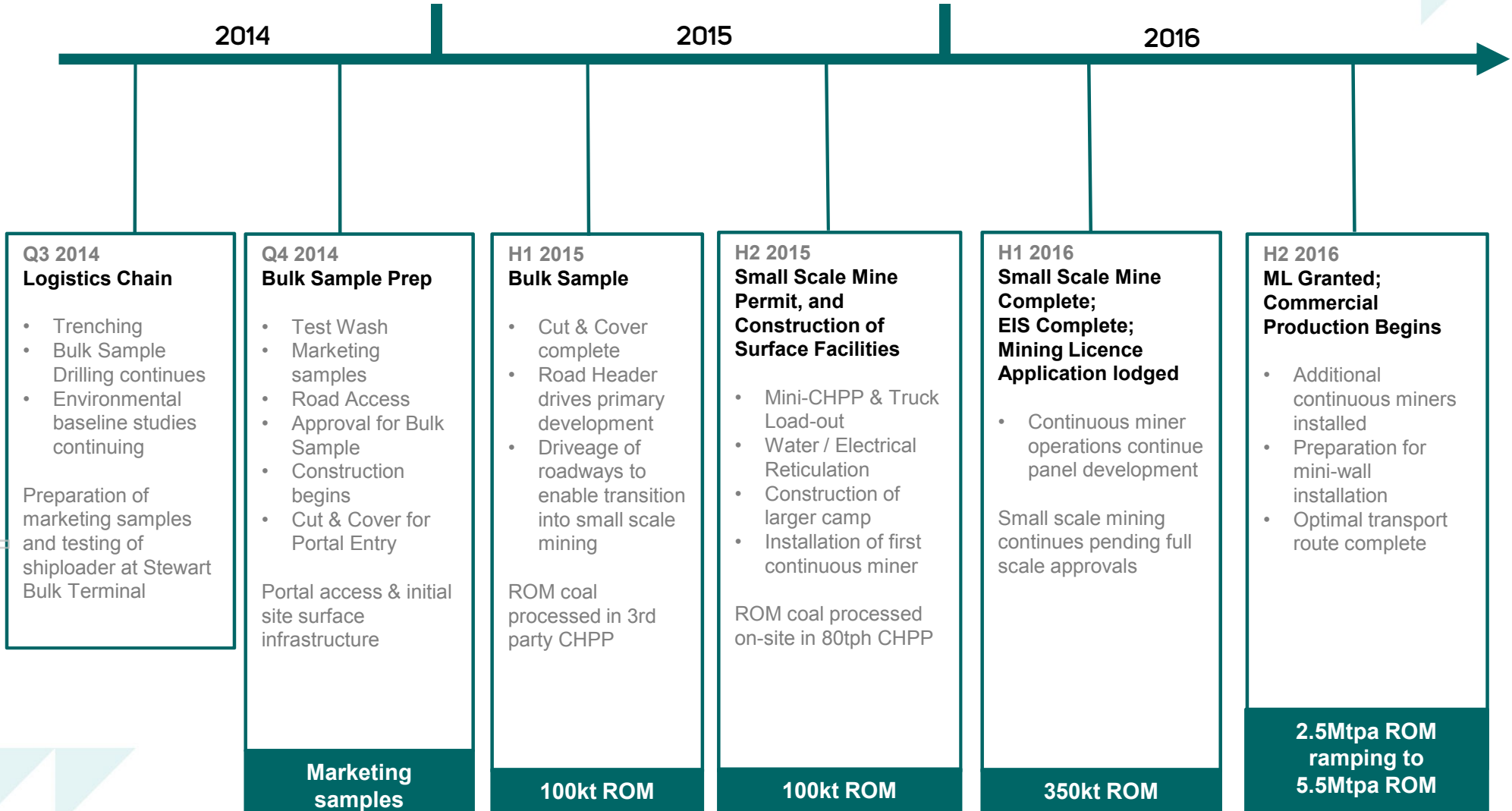
WATER

- ▶ Local tributaries and creeks are in close proximity for year round water supply

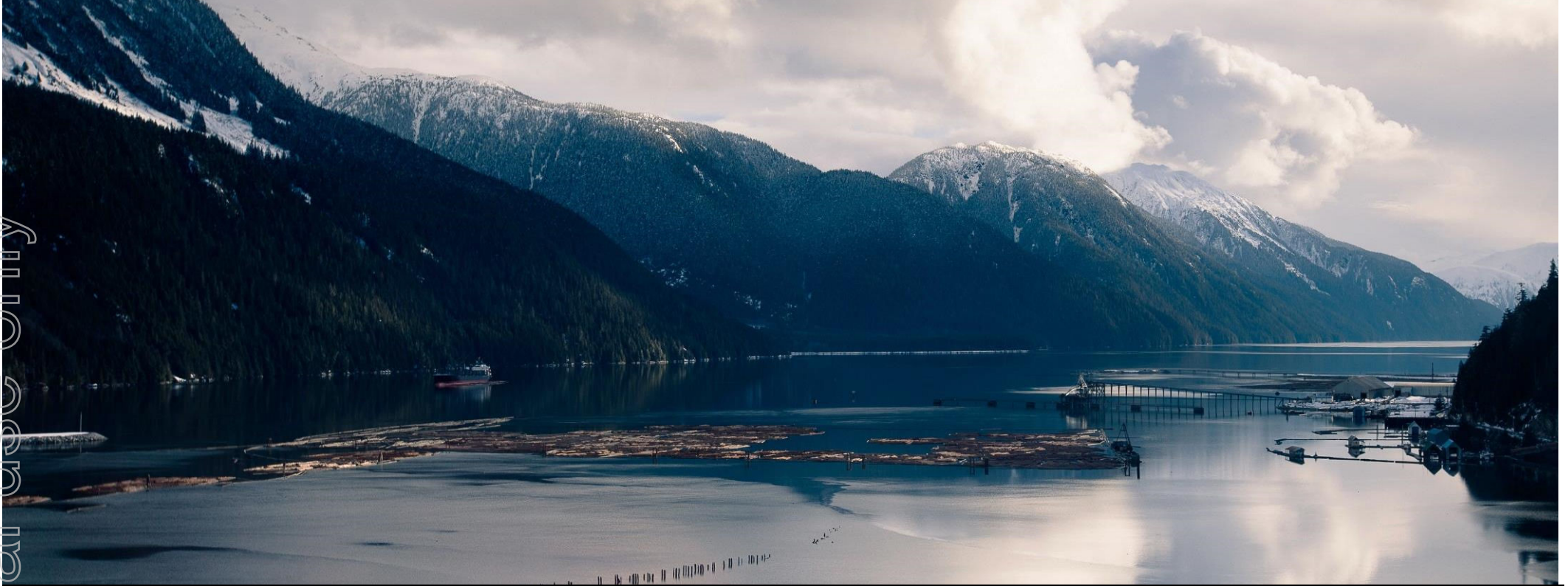
"Clear path to production"



DEVELOPMENT TIMELINE



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COAL FOR STEEL

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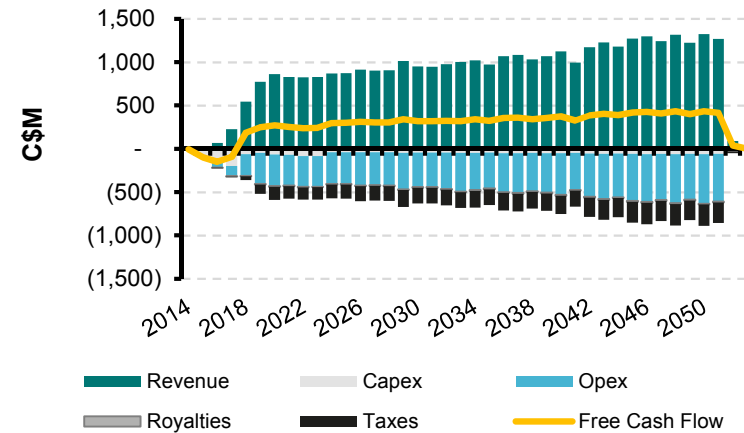


SUMMARY SNAPSHOT

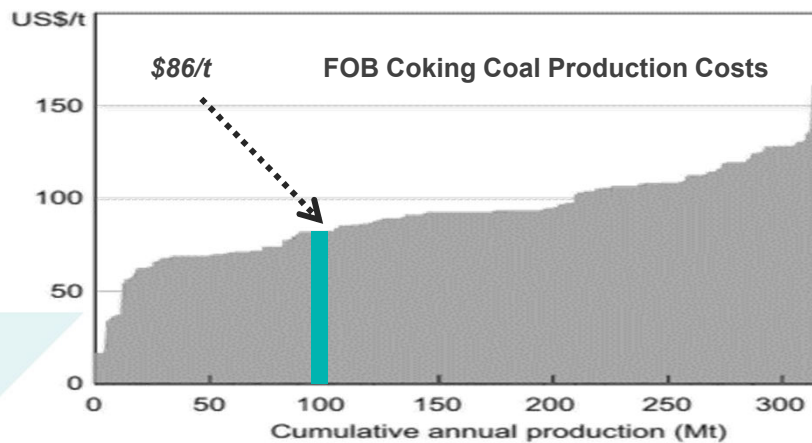
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Groundhog North Cash Flow



OPEX v Global Peers



Source: AME Group; RBA 2014

Seaborne Anthracite Exports v Potential Demand Forecast

