Atrum Coal

COAL FOR STEEL

Investor Presentation

September 2020

Important notices

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.

Forward looking statements are based on the Company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company’s business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company’s control.

Although the Company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Actual results, values, performance or achievements may differ materially from results, values, performance or achievements expressed or implied in any forward looking statement. None of Atrum, its officers or any of its advisors make any representation or warranty (express or implied) as to the accuracy or likelihood of fulfilment of any forward looking statement, or any results, values, performance or achievements expressed or implied in any forward looking statement except to the extent required by law.

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 and Coal Resources

The results of the Scoping Study and Coal Resources that underpin the production target are based on, and fairly represent, information and supporting documentation compiled by Mr Brad Willis, who is a Member of the Australasian Institute of Mining and Metallurgy (205328).

Brad Willis is Principal Geologist at Palaris Australia Pty Ltd (Palaris). He has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person, as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Willis has 20 years’ experience in exploration and mining of coal deposits. Mr Willis consents to the inclusion of the Scoping Study results disclosed by the Company in the form in which it appears.

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 statement, apart from standard contractual arrangements for the preparation of this report and other previous independent consulting work. In preparing this Annual Coal Resource and Reserve Statement, Palaris has been paid a fee for time expended on this report. 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.

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

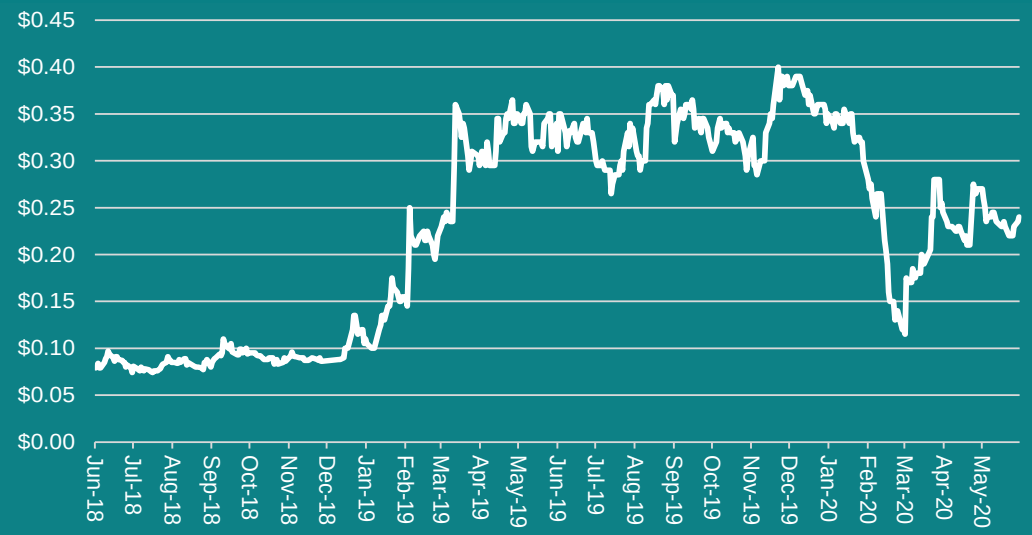
Mr. Willis consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

Atrum corporate snapshot

Capital structure	
ASX ticker	ATU
Share price (10 September 2020)	A$0.24
Shares on issue	574.3 M
Options and performance rights	144.3 M
Market capitalisation (undiluted)	A$138 M
Cash (30 June 2020)	A$16.7 M*
Debt (30 June 2020)	Zero

Major shareholders	
Tim Roberts (Warburton Group)	19.3%
Nero Resource Fund	5.6%
Regal Funds	5.0%
Perennial Value	4.5%

Share price (A$ per share, 2 year basis)



Board and CEO	
Non-Executive Chairman	Charles (Chuck) Blixt
Managing Director and CEO	Andrew Caruso
Non-Executive Director	Richard Barker
Non-Executive Director	George Edwards
Non-Executive Director	Charles Fear
Non-Executive Director	William (Bill) Fleming

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* Excludes A$6.7M of Tranche 2 placement proceeds received in July 2020

The team to deliver

Deep Canadian hard coking coal development and operational experience

Andy Caruso (Managing Director & CEO)

- Mining engineer with 30 years of global experience across a range of operational, management and key executive roles
- Direct mine operations roles in iron ore, coal and nickel, including six years in technical and management roles at substantial coal operations in Australia
- Senior positions at both BHP and Alcoa and substantial experience with bulk commodity project evaluation, development and operations including almost nine years as the MD & CEO of several Australian iron ore and coal development companies

Ross Melville (Study Director)

- 40 years of diversified experience in multi-national engineering, procurement, feasibility, EPCM contracting and owner environments; includes 17 years of managing plant operations and maintenance at operating mines in Canada and the United States
- Project Director, Teck Resources, for all owner activities and consultant services within the Feasibility Study of the Quintette Re-Start Project (C$858M, 3.5Mtpa met coal project)
- More recently Project Manager supporting Teck Resources in the execution and construction of the Fording River Active Water Treatment Facility

Tony Mauro (Senior Director, Regulatory / Stakeholder)

- Over 25 years of experience in resource project permitting, stakeholder engagement, regulatory affairs and BD
- Led the permitting of a greenfield metallurgical coal mine and several large energy and power projects in Alberta
- VP Corporate Development at Maxim Power and Inter Pipeline Ltd (both in Alberta); BSc in Geophysics and MBA

Jayram Hosanee (Chief Financial Officer)

- 30 years experience as a finance professional across a wide range of industries in Europe, Africa and North America
- Served as a director and Chief Financial Officer for a number of mining companies in Canada
- CPA and FCCA; Masters degree from University College, London

Ty Zehir (VP, Marketing & Business Development)

- Over 30 years of global marketing experience for especially Western Canadian hard coking coal, PCI coal and anthracites
- VP Marketing for Walter Energy and for Smoky River Coal, GM of Technical Marketing for Teck Coal
- Registered prof. mining engineer in Canada, previous senior mining design and operations roles in Canada and Europe

Daniel Campbell (Chief Geologist & Expl. Manager)

- Seasoned in geology and exploration management in Western Canada, including 7 years in metallurgical coal
- Extensive experience in field mapping, exploration planning, drilling supervision and logging, as well as coal quality testing
- Supervised exploration programs of Elan since 2014; lives in Crowsnest Pass and closely engaged with local communities

Judy Matkaluk (Stakeholder Relations Manager)

- Reg. Prof. Geoscientist (BC & Alberta) with 30 years in exploration, permitting, First Nations & government relations
- Extensive background in aboriginal engagement and negotiation for coal and other energy projects
- Previous coal exploration roles incl. permitting, environmental assessment (Provincial and Federal) and engagement

Darren Cowan (Environmental Manager)

- Over 15 years of experience in environmental management, including operating coal mines in BC, Canada
- Past Environment Manager for Walter Energy (Canadian OP met coal ops) and EHS Director for Hillsborough (UG mine)
- Consulting environmental portfolio manager for permitting and environmental studies for various clients

01
A PRIMED MARKET

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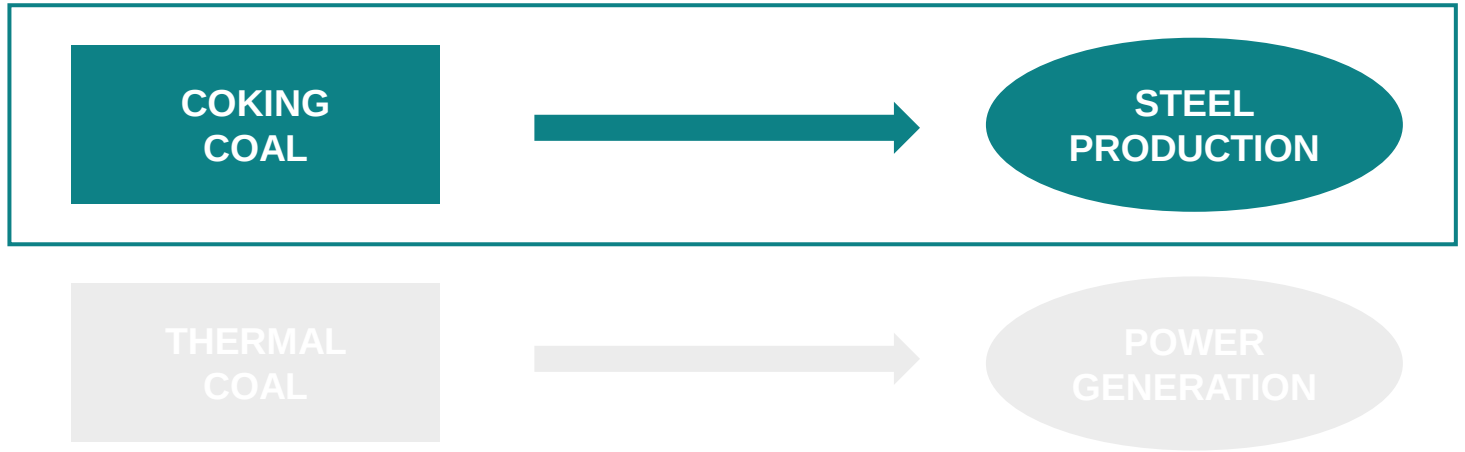
The value of Tier 1 hard coking coal

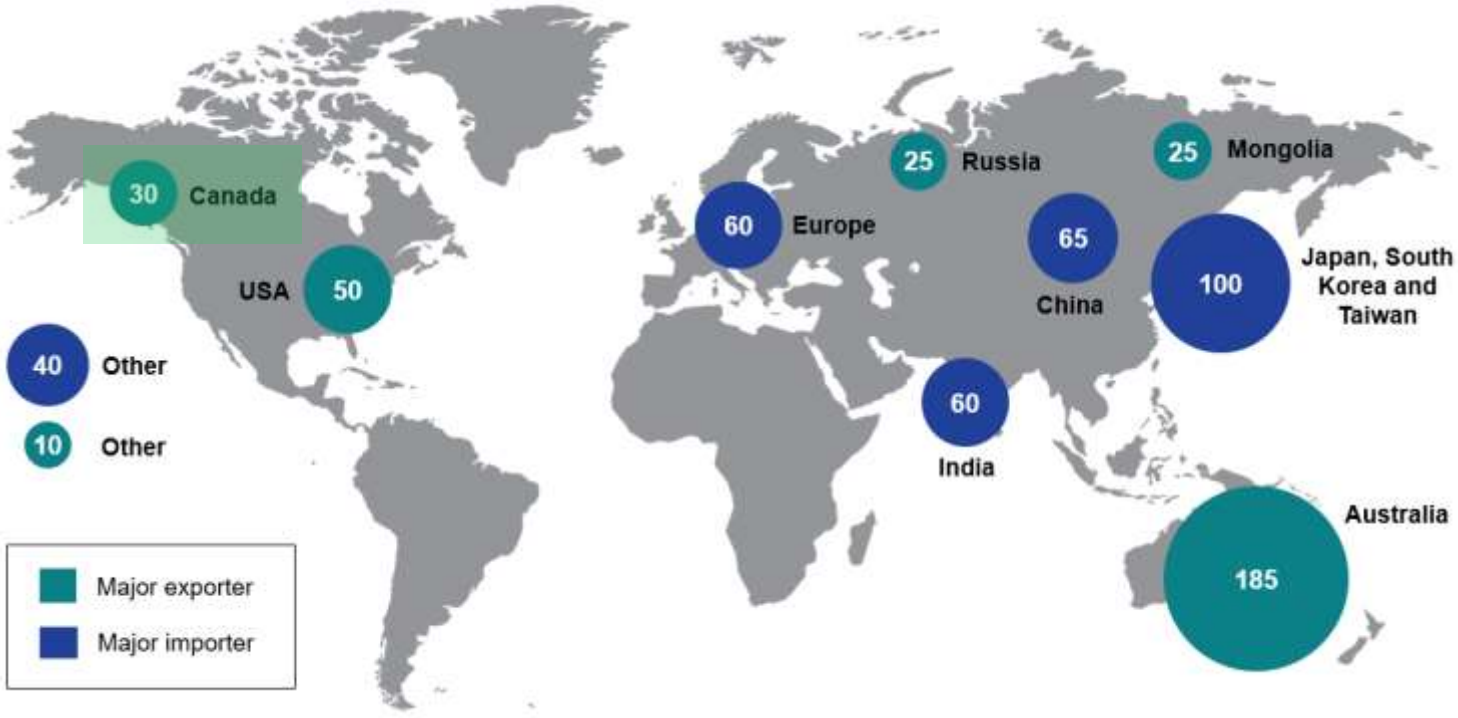
HCC delivers the highest blast furnace efficiency

- Coking coal is used in the blast furnace process to produce steel – it is not burned for electricity generation
- Blast furnace efficiency is directly impacted by the quality of the coking coals used to make the coke fed into it
- An increase in coke strength and/or reduction in coke impurities:
  - Increases blast furnace productivity (higher iron output per day)
  - Decreases total coke requirements and allows higher PCI usage (lower coke cost)
- Due to its premium coking properties, **hard coking coal is not substitutable in any baseload sense** – it is the majority foundation of any coke blend and, therefore, every blast furnace operation



A highly concentrated export market

Perennial Queensland wet season supply risk



Metallurgical coal export trade (2019 estimates)

Growing challenges to net new supply

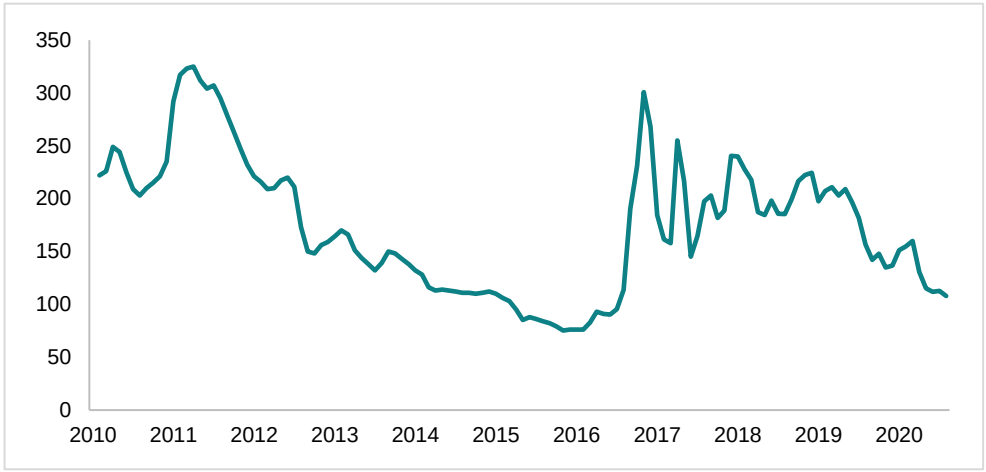
- Diminishing resource quality in existing production basins
- Rail and port infrastructure constraints
- Sovereign risk (eg Mozambique, Mongolia)
- Chinese domestic supply rationalisation
- Sulphur content restrictions
- More onerous permitting requirements

Strong market outlook

New future HCC supply sources needed

- HCC prices near historical low point in cycle
- Potential rebound over next 12 months from reversal of COVID-19 lockdown demand decline
- Longer term fundamentals remain robust, with India dominating global seaborne demand growth
- Substantial new HCC projects needed to meet forecast demand growth in seaborne market
- Canada (along with Australia) expected to be a key supplier of premium metallurgical coals

Premium spot HCC price (US$/t FOB Qld)



02
A WORLD-CLASS HCC PROJECT

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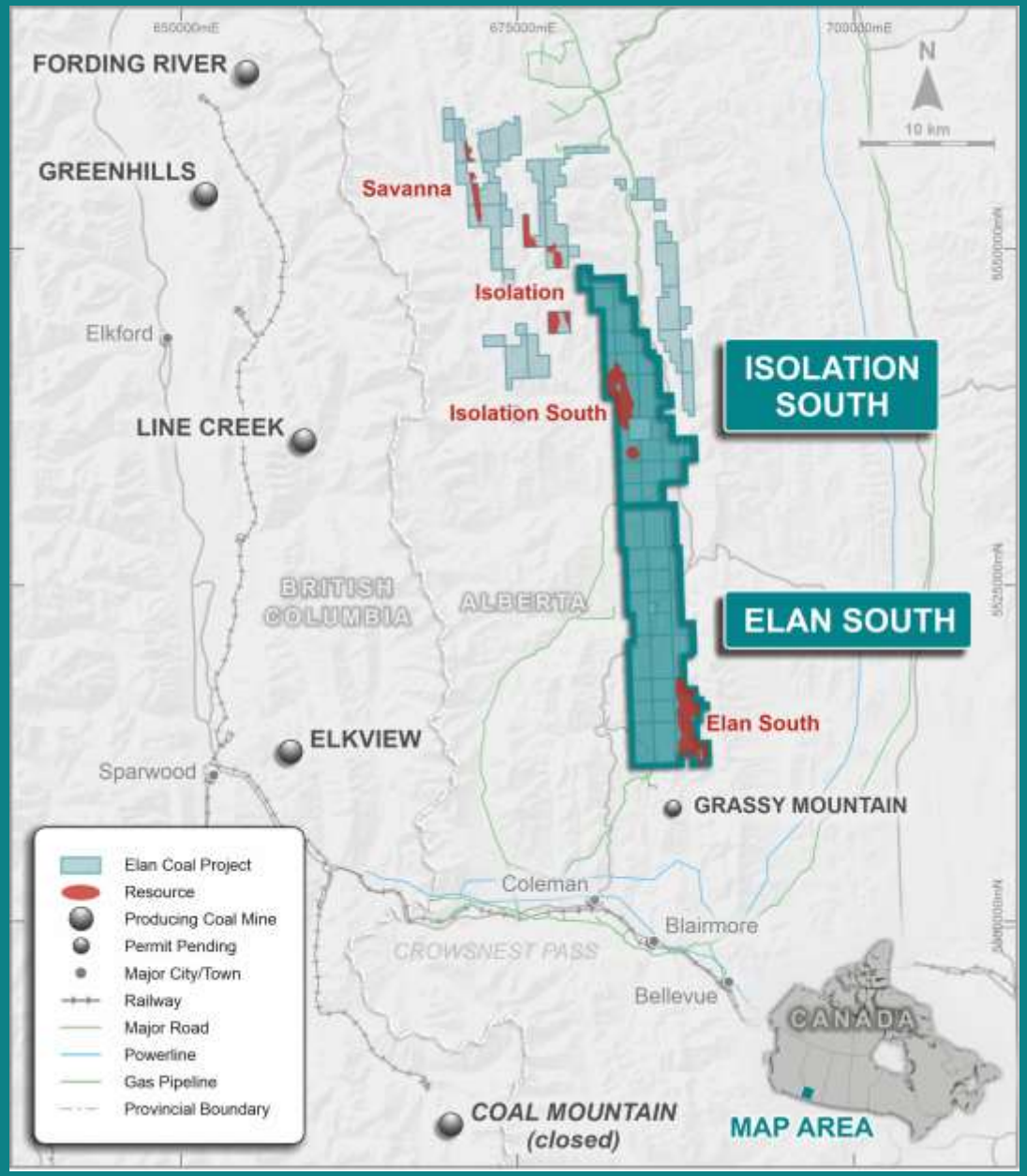
Elan presents a rare opportunity

Clear scarcity value

- Large-scale tenement holdings (230 km^2) in a major HCC basin
- 454 Mt total resources[1] and growing
- Shallow, thick seams; low-strip open pit mining
- Tier 1 hard coking coal quality
- Located in a proven low cost mining region
- Proximate rail access to key West Coast ports with surplus capacity
- Clear potential for multiple, large Tier 1 HCC developments
- Expected PFS completion in mid-2021

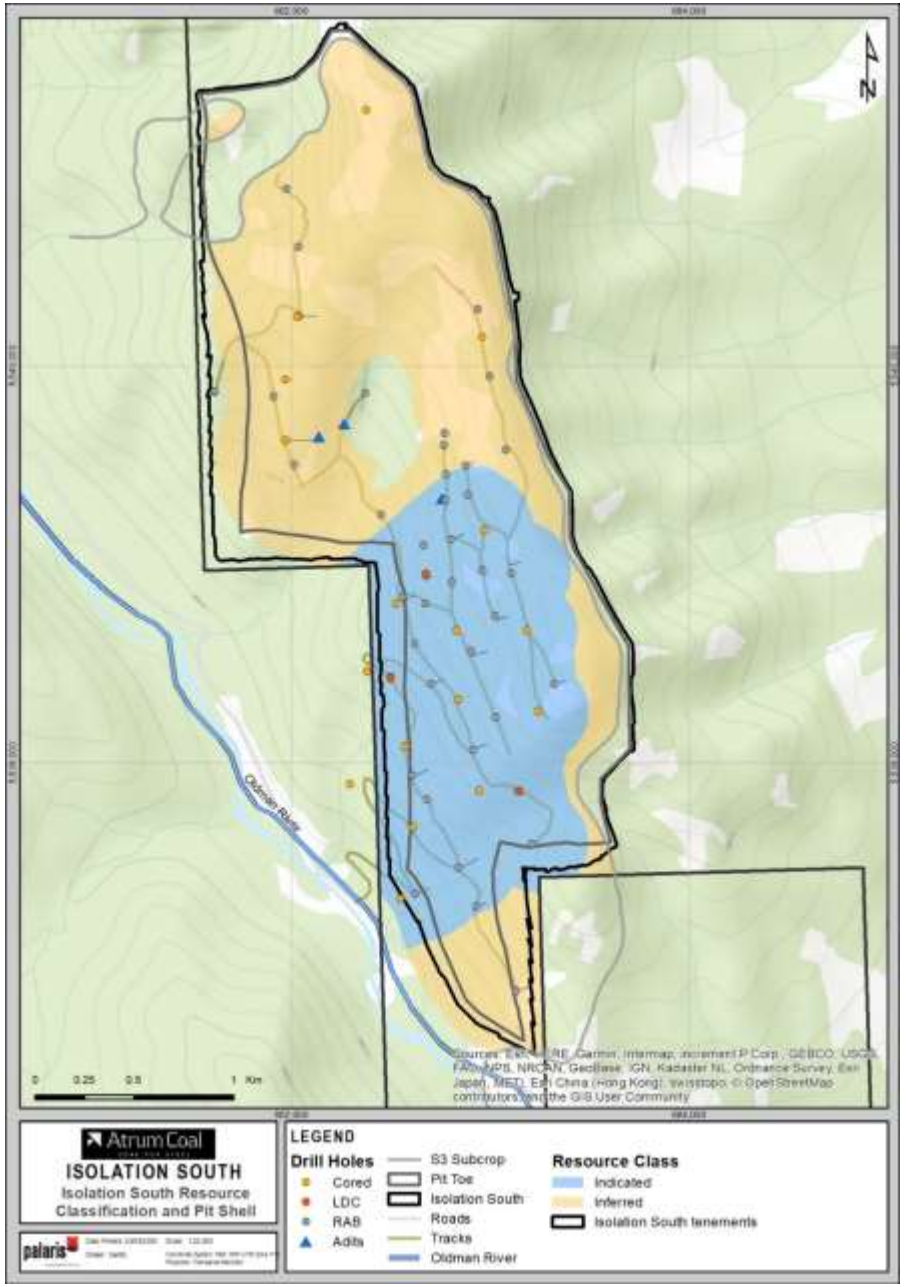


[1] See total Elan Project Coal Resource estimate disclosures on next slide

Large resource base

Total Elan Project coal resources of 454 Mt

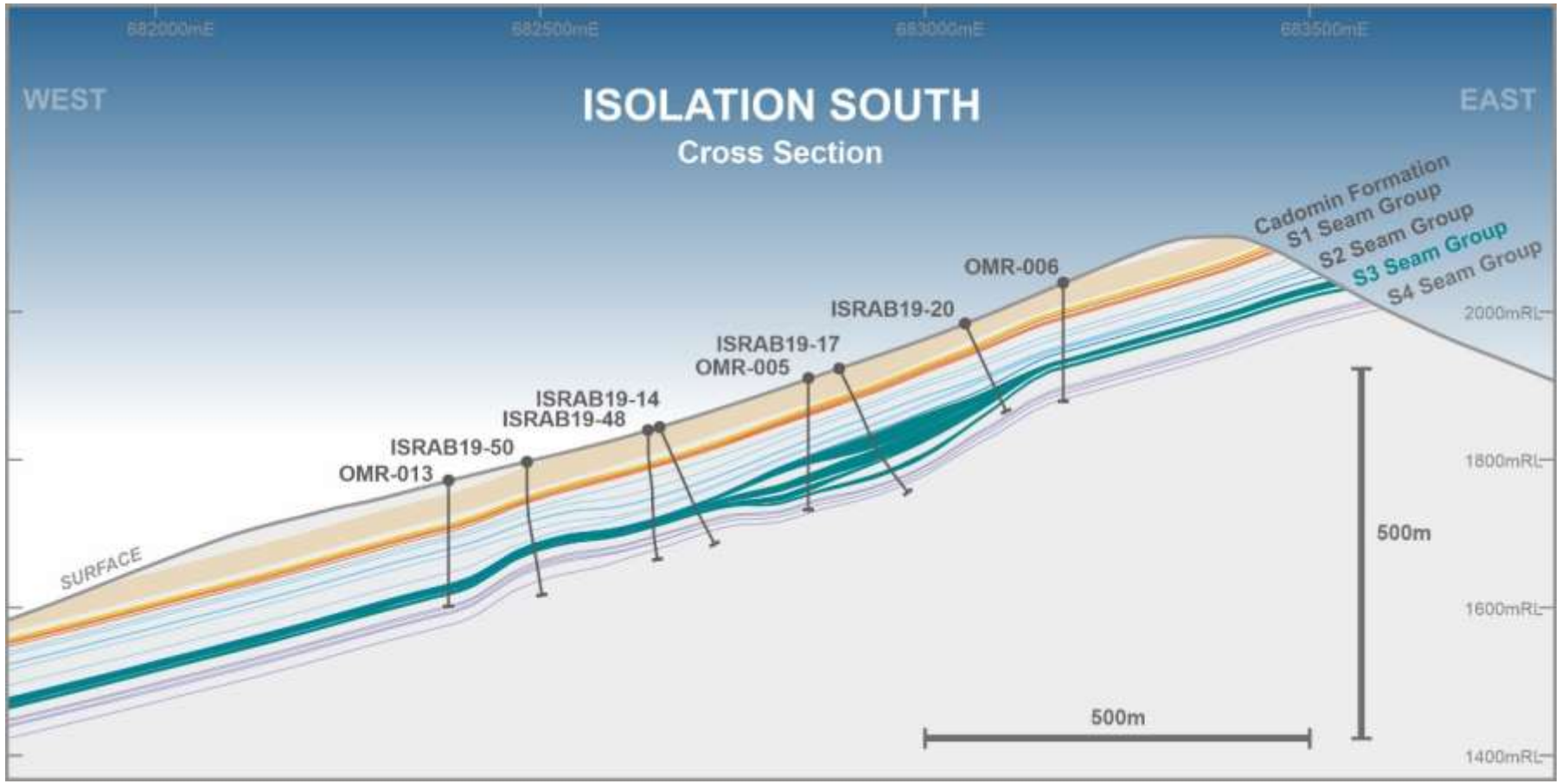
Area	Project	Indicated (Mt)	Inferred (Mt)	Total (Mt)	Date of Announcement
Elan Northern Tenements	Isolation South	82	148	230	10-Feb-20
	Isolation	-	51	51	22-Jan-19
	Savanna	-	30	30	22-Jan-19
Elan South	South East Corner	16	22	38	10-Feb-20
	Fish Hook	15	11	26	10-Feb-20
	Oil Pad	29	50	80	10-Feb-20
TOTAL		**142**	**312**	**454**	



Other than new drilling results from the 2020 field program subsequently released to the ASX, Atrum confirms that it is not aware of any new information or data that materially affects the information included in its ASX releases dated 10 February 2020 (*Total Elan Project Resources Exceed 450 Mt*) and 22 January 2019 (*Additional 201 Mt JORC Resources Defined for Elan Project*). All material assumptions and technical parameters underpinning the estimates in these releases continue to apply and have not materially changed.

Attractive geology

Thick, shallow coal seams



5 – 50m
Coal starting depth

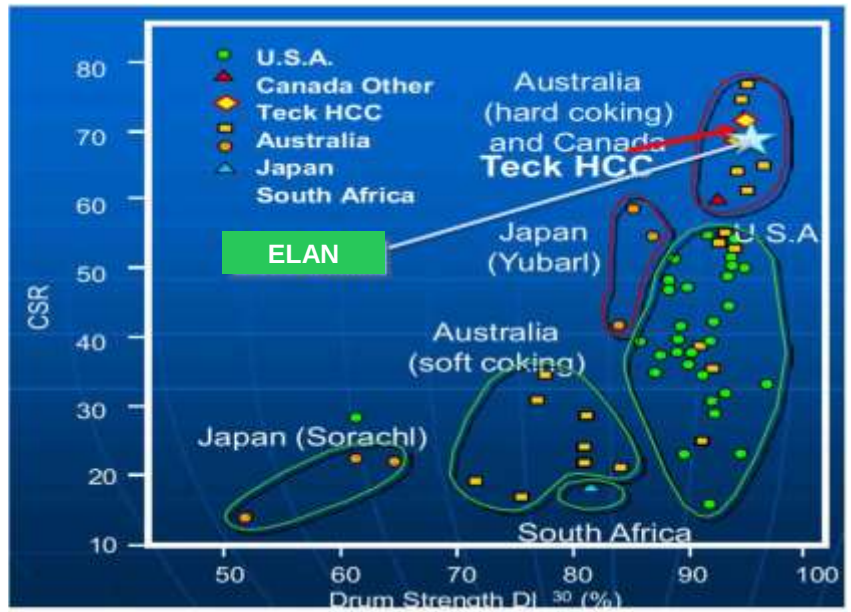
+100m
Max. total thickness

Tier 1 hard coking coal

Bound for premium seaborne HCC markets

- Premium mid-to-low-volatile HCC with favourable ash content, and low total S and P
- Rank (RoMax) of 1.16 - 1.20% and CSR of 69 - 71%
- Comparable to Tier 1 HCC products currently exported from Teck's nearby Elk Valley mines
- Value-in-use assessment indicates price levels similar to Platts Qld premium low-vol HCC index

	Elan Project (Atrum) (adb)	Elk Valley (Teck Premium)[1]	Grassy Mount. (Riversdale)[2]	Platts Premium Low Vol Index[3]	Platts Peak Downs Index[3]
CSR	**69 – 71**	70	65	71	74
Coal Rank R_oMax (%)	**1.16 – 1.20**	1.14	1.18 - 1.20	1.35	1.42
Yield (%)	**60**	(est 60 – 70)	55	-	-
Ash Content (%)	**8 - 9**	8.8	9 - 9.5	9.3	10.5
Volatile Matter (%)	**22 – 26**	25.5	23.5	21.5	20.7
Total Moisture (%)	**10**	10	10	9.7	9.5
Total Sulphur (%)	**~ 0.60**	0.65 – 0.70	0.50	0.50	0.60
Phosphorus (%)	**< 0.050**	0.075	0.040	0.045	0.03
CSN	**7 - 8**	7.5	-	8	8.5
Fluidity (ddpm)	**100 – 300**	200 – 500	150	500	400



Source: Teck Resources, January 2019

1 S&P Global Platts Coal Trader International (pg8), 3 August 2018.
2 Riversdale Resources Targets Statement, Grassy Mountain Technical Report by RPM Global (pg21), 28 March, 2019.
3 S&P Global Platts. Specifications Guide, Metallurgical Coal, April 2020.

Ready transport logistics

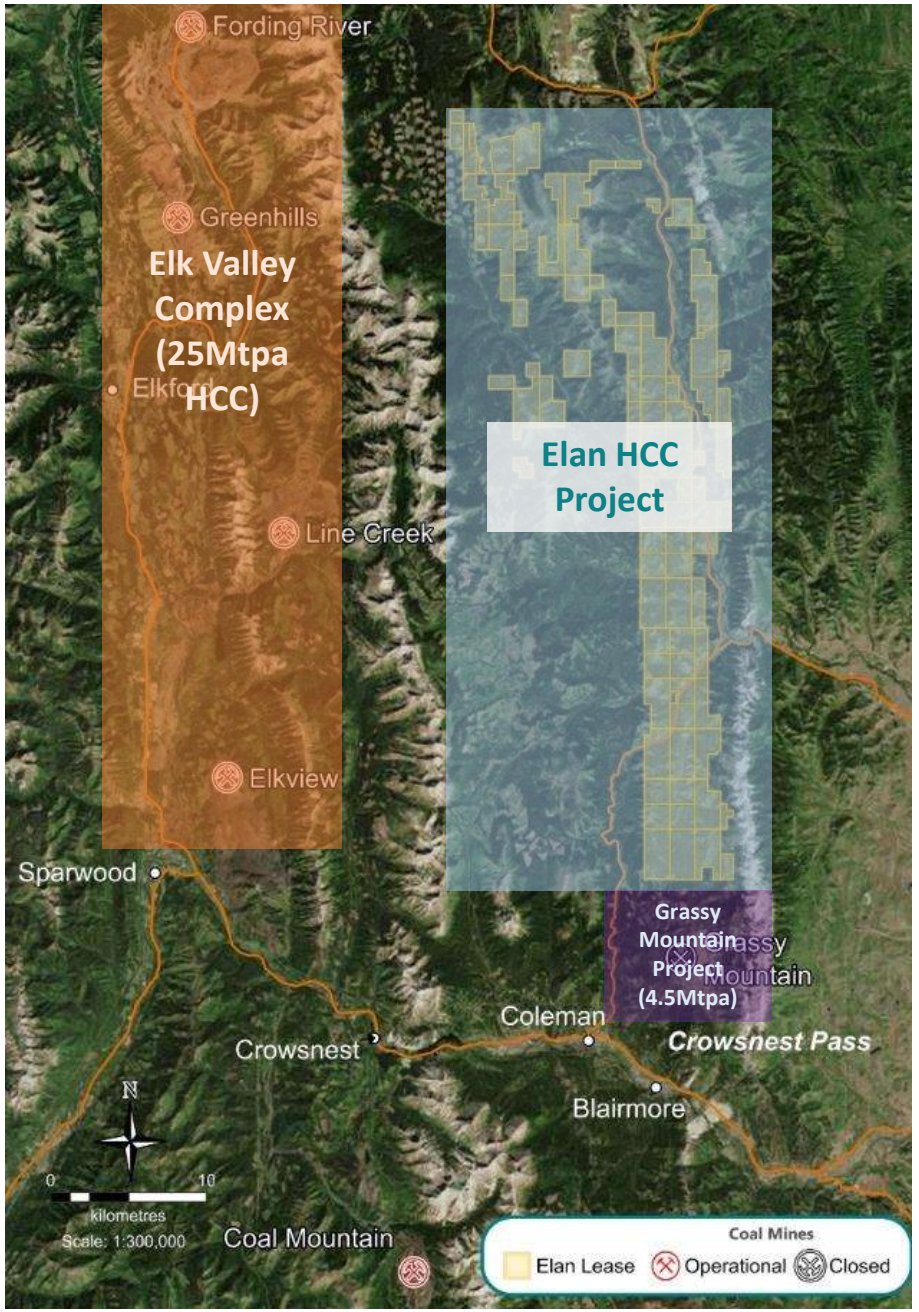
Ample available rail and port capacity

- Planned construction of new 5 km spur line to the proposed Elan train loadout area
- Product coal to be railed to Vancouver (~1,100 km)
- Discussions with CPR have indicated ample track capacity, in addition to Grassy Mountain output
- Current assessment indicates comfortable future Vancouver port capacity to handle full Elan output
- Westshore coal terminal most attractive option in terms of relative proximity and expected availability

Basin scale upside

Clear potential for multiple, large Tier 1 HCC mines

- Substantial resource upside across entire Elan tenement base
- Over 40km of delineated coal strike extent
- Significant swathes of Elan tenure undrilled or under-drilled
- Mapped coal extents stretch well beyond resource envelopes
- Teck Resources' proximate Elk Valley complex produces over 25Mtpa premium HCC from four operating mines[1]
- Total areal footprint and nature of coal deposition (shallow and thick) evidences clear potential to host multiple, large Tier 1 developments



1 Teck Resources Q4 2019 Financial Report (p46), 20 February 2020.

03 KEY SCOPING STUDY OUTCOMES

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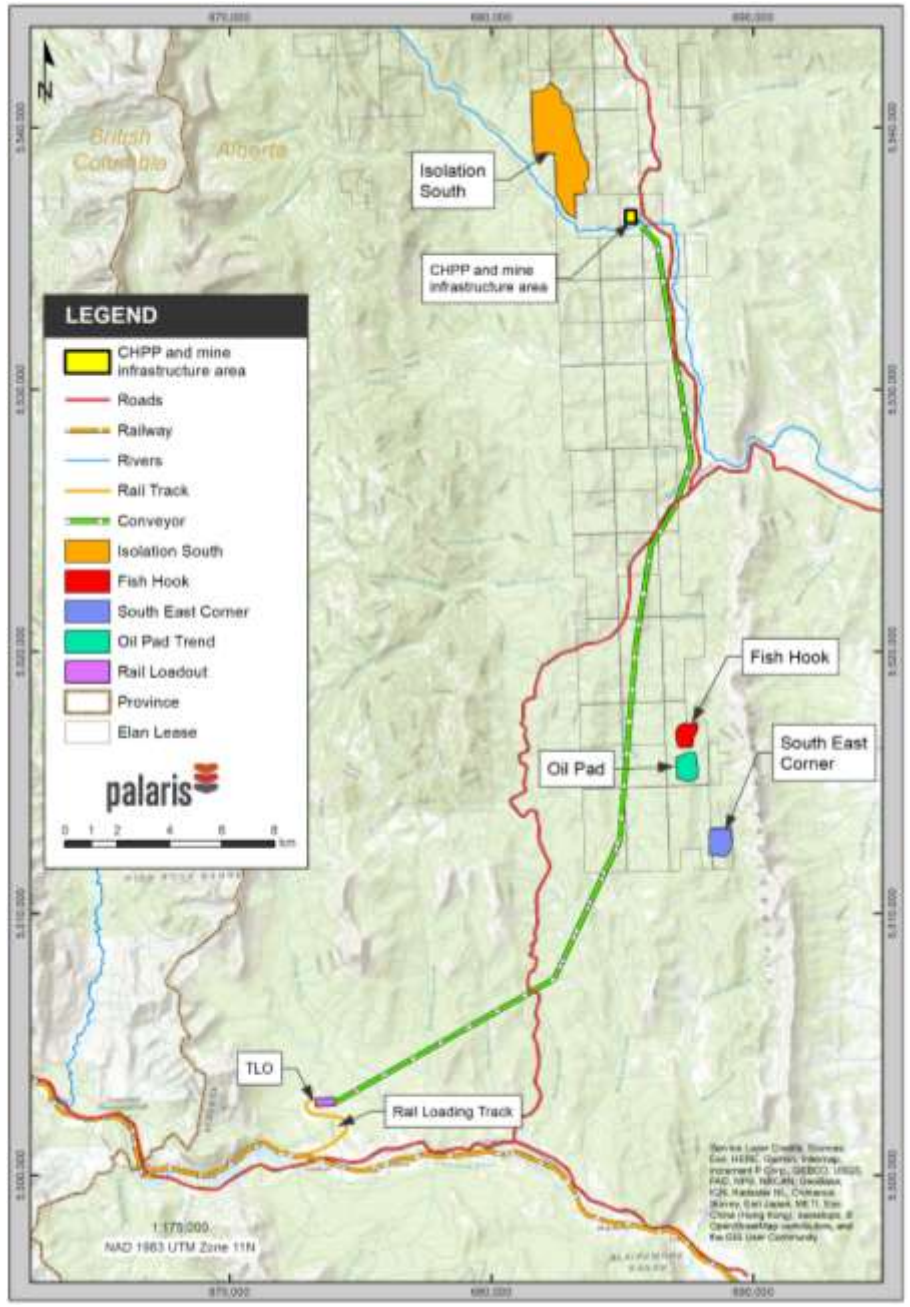
Core project design

Robust technical parameters

- Two development scenarios evaluated in Scoping Study
  - Case 1: 10 Mtpa ROM (for 6 Mtpa product HCC)
  - Case 2: 7.5 Mtpa ROM (for 4.5 Mtpa product HCC)
- Open pit mining with conventional coal handling and preparation plant
- Single large pit at Isolation South and three discrete pits at Elan South
- Product HCC transported 36km via dedicated covered conveyor
- New train loadout area located close to CPR's Crowsnest mainline
- Railed approx. 1,100 km via existing tracks operated by CPR / CN
- Preferred export terminal of Westshore in Vancouver



For full details refer to Atrum ASX release dated 16 April 2020, Elan Project Scoping Study. Atrum confirms that all material assumptions underpinning the production target and forecast financial information within the Scoping Study continue to apply and have not materially changed. The Scoping Study mine schedule and production target contain approximately 70% Indicated Resources and 30% Inferred Resources. There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will result in the determination of Indicated Resources or that the production target itself will be realised. Atrum confirms that the financial viability of the Elan Project is not dependent on the inclusion of Inferred Resources in the mine schedule.

Key physical outcomes

Strong operational base

15 – 19 years
Initial mine life

7.5 – 10 Mtpa
Nameplate ROM capacity

4.3 : 1
ROM strip ratio (bcm:t)

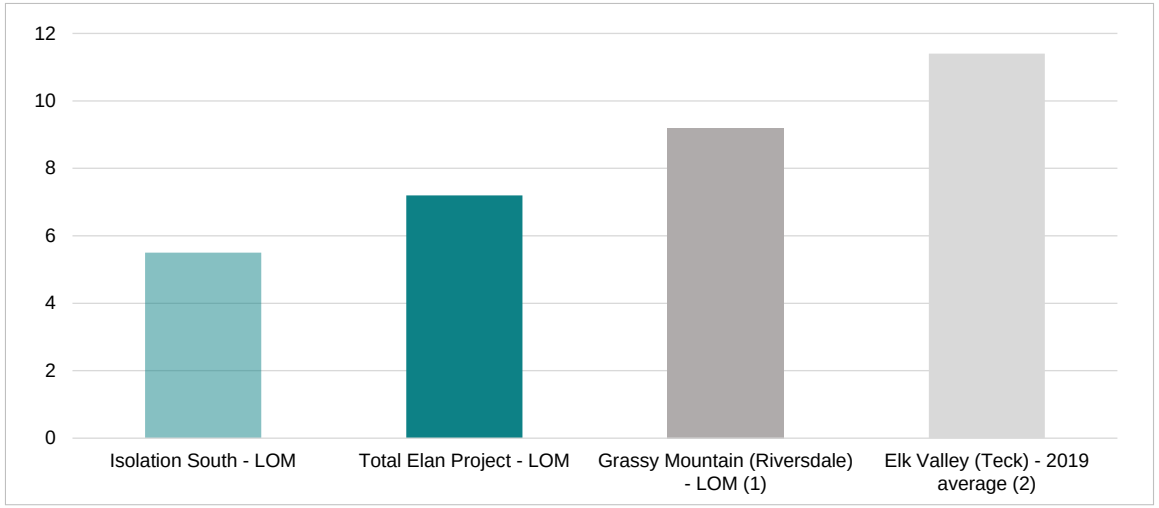
60%
Processing yield

4.5 – 6.0 Mtpa
Nameplate HCC capacity

76 Mt
Total HCC product

- Product LOM strip ratio is 7.2 bcm / tonne HCC
- Isolation South product strip ratio particularly low at 5.5

Product LOM strip ratio (bcm waste / tonne HCC)



1 Riversdale Resources Targets Statement, Grassy Mountain Technical Report by RPM Global (pg8), 28 March, 2019
2 Teck Resources Q4 2019 Financial Report (pg46), 20 February 2020

Key financial outcomes

Excellent projected returns with further upside potential

- Attractive upfront capital intensity of US$114 – 130 per tonne of annual HCC capacity
- Lower 2nd quartile of export coking coal cash cost curve
- Benchmark HCC price of US$141/t FOB Qld – versus average quarterly price of ~US$180/t over past decade
- Price discount of 2% to Qld premium low-vol HCC

US$138/t
Realised HCC price (FOB)

US$790 – 860M
Post-tax $NPV_{9\%}$

US$81 – 84/t
Cash opex (FOB Vanc.)

3.9 – 4.4 yrs
Payback (post-tax)

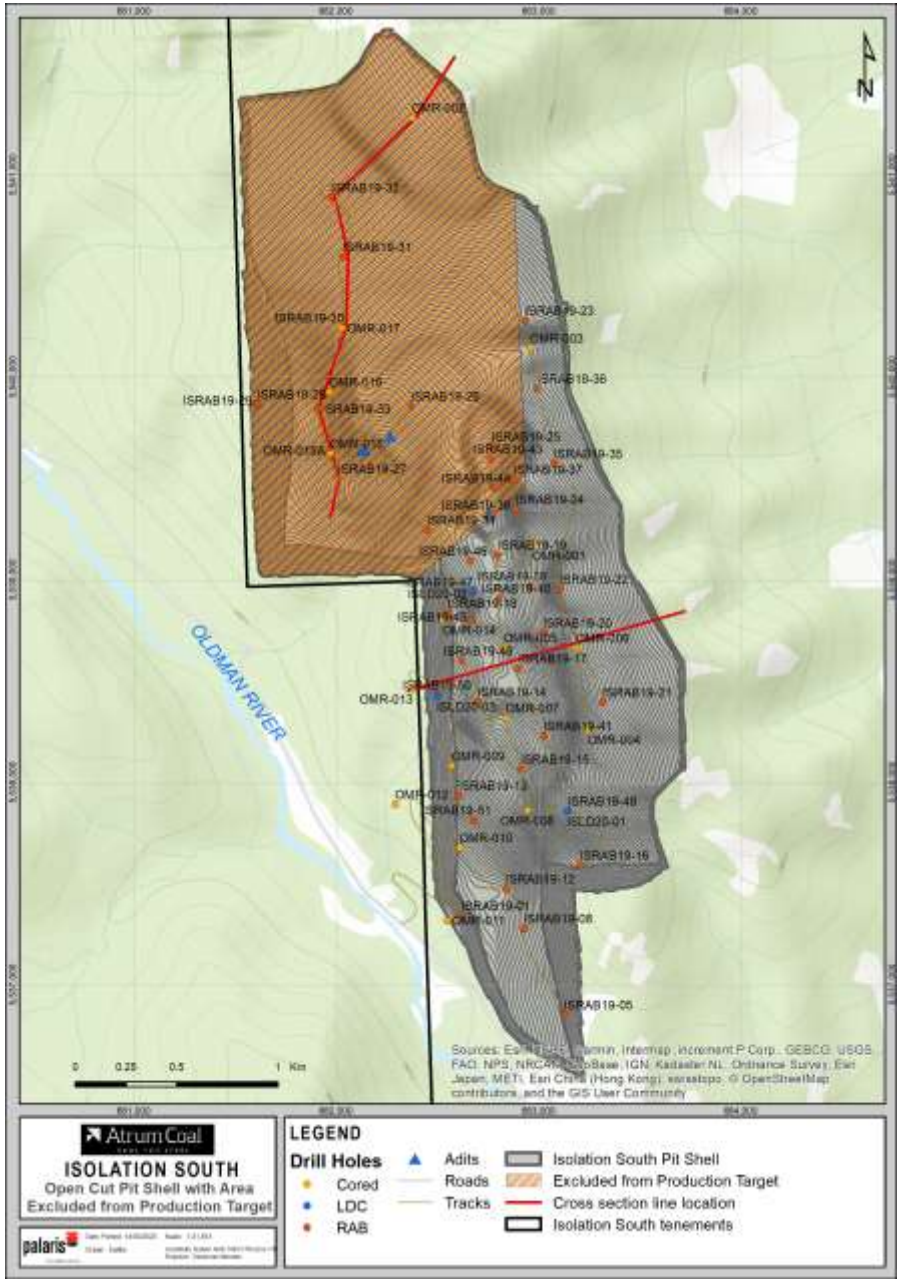
US$587 – 683M
Pre-production capex

25 – 26%
Post-tax IRR

Key upside scenarios

1 Isolation South pit expansion

- Practical pit shell at Isolation South containing 188 Mt ROM
- 108 Mt ROM coal of in-pit Inferred resources excluded from mine schedule (leaving 80 Mt; 74% of which is Indicated)
- Incorporation of excluded in-pit Inferred resources, via targeted upgrade into M&I, offers substantial upside:
  - Mine life extension
  - Lower average strip ratio and operating costs
  - Future output expansion
- Further opportunity to defer commencement of Elan South; sole sourcing from Isolation South in early years allows:
  - Greater development and operating simplicity
  - Lower pre-production capital
  - Lower strip ratios (and operating costs) in early years



Key upside scenarios

Further substantial value drivers

2. **Broader exploration and resource growth:** basin scale
3. **Asset financing options:** BOOT
4. **Higher processing yield:** regional experience +60%
   - Every +1% yield equates to + ~US$40M NPV
5. **HCC price & C$/US$ inputs:** conservative

Post-tax NPV (US$M)		C/US$ rate				
		0.95	0.87	0.79	0.71	0.63
HCC price (US$/t)		*20%*	*10%*	*0%*	*-10%*	*-20%*
113	*-20%*	-226	27	257	462	670
127	*-10%*	132	351	558	763	972
141	*0%*	442	653	**860**	1,062	1,264
155	*10%*	736	947	1,153	1,376	1,572
169	*20%*	1,040	1,243	1,466	1,661	1,881
183	*30%*	1,334	1,557	1,750	1,969	2,189

Post-tax NPV sensitivities (10 Mtpa ROM case)

04
2020 DRILLING AND PFS

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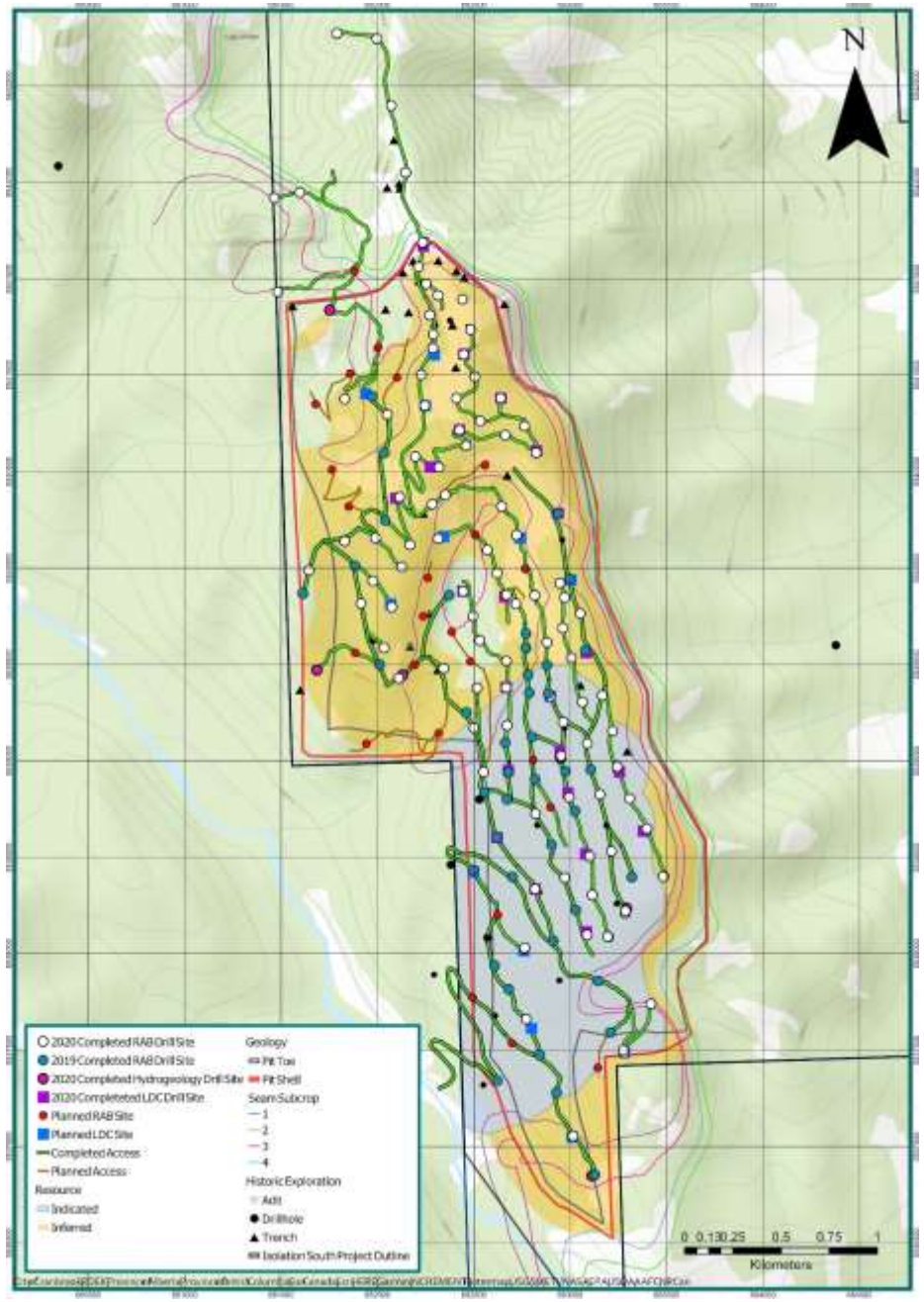
Key deliverables

Elan 2020 field program objectives

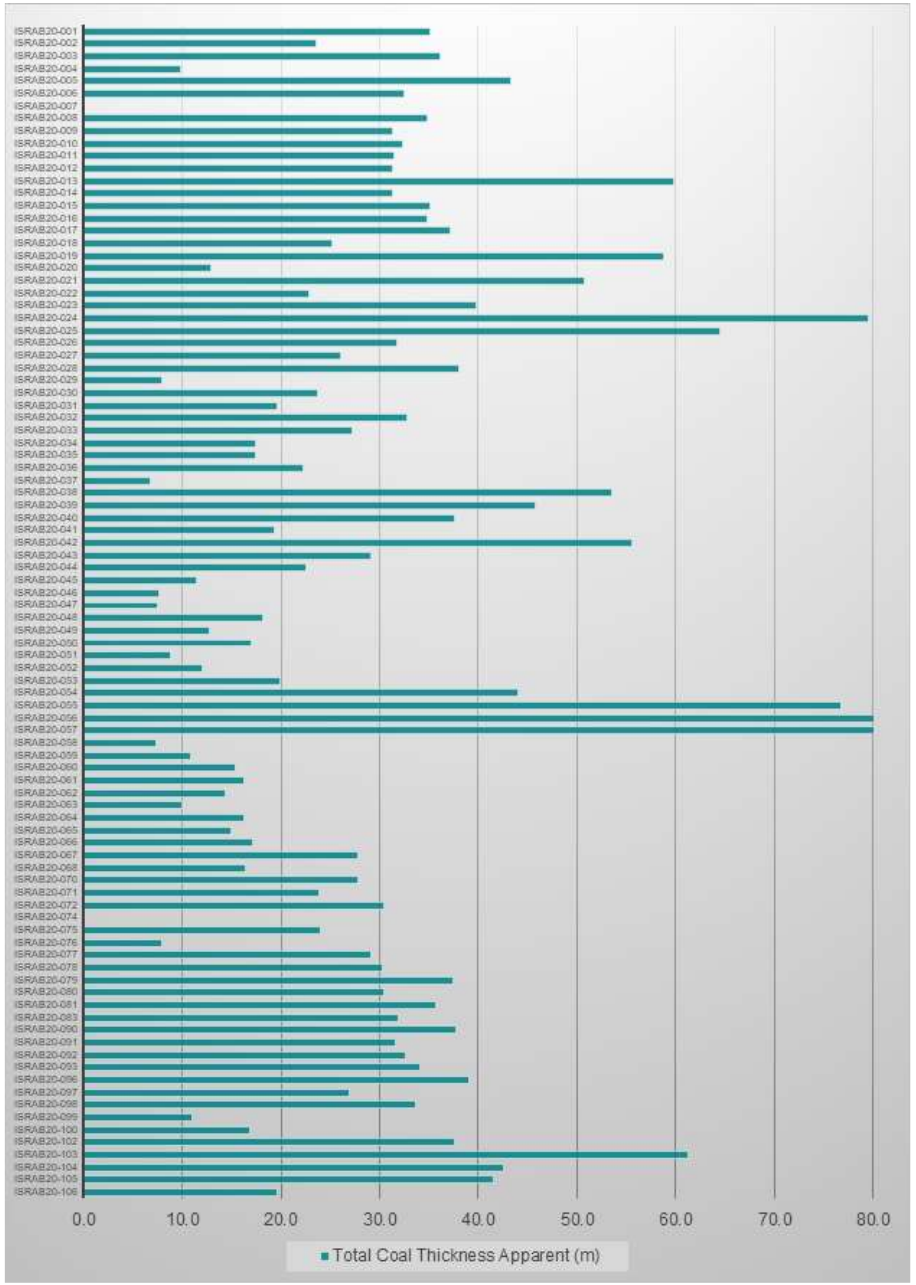
- All 2020 drilling focussed on Isolation South
- Key program targets
  1. Push towards 200Mt total Indicated resources at Isolation South (from current 82Mt)
  2. Increase total resources at Isolation South (from current 230Mt)
  3. Increase practical in-pit resources at Isolation South (from current 188Mt)
  4. Further evidence Tier 1 HCC parameters at Isolation South and deliver sufficient testwork for HCC product(s) specification
- Results from first wave of further detailed Isolation South coal quality testwork expected in 4Q 2020
- Interim resource update on track for 4Q 2020



Driving Isolation South

Targeting substantial resource classification upgrades

- Major phase targeted at upgrading resource classification of northern section
- Concurrent potential to increase total resources – Seam 3 thickening
- Total 2020 drilling plans:
  - 125 RAB holes (102 completed to date for 17,200 metres)
  - 32 large diameter coring (LDC) holes (21 completed to date)
  - 8 diamond PQ holes (5 completed to date)
- Results to date in-line with geological / resource model predictions
- Total apparent coal thicknesses continue to average +30m per hole within the pit shell, starting from as little as 3m below surface
- Recent total apparent coal intersections include 88.8m in ISRAB20-057, 80.6m in ISRAB20-056 and 76.8m in ISRAB20-055
- Strong LDC recoveries achieved
- Interim resource update on track for 4Q 2020



Advancing the PFS

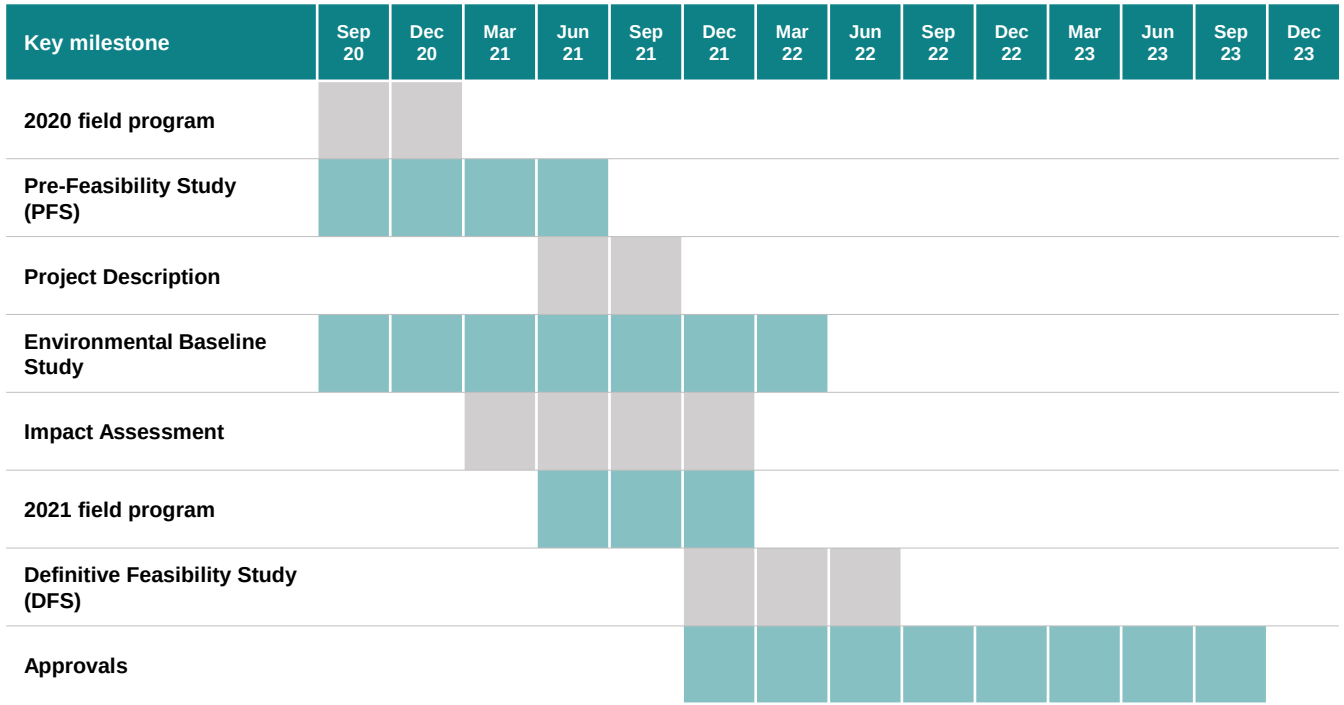
Refining and optimising project scope and design

- Integrated Delivery Team model
- Study Director: deeply experienced Canadian coal development professional, Ross Melville
- Sector-leading key discipline consultants
  - Palaris (geology) and SRK Consulting (mining)
  - Sedgman (processing) and Hatch (infra and logistics)
  - WaterSmart (water)
- Rigorous trade-off study analysis approaching completion – delivers refined PFS options and project configurations
- Accessing and advancing key upside opportunities
- Extensive risk mitigation approach and specific measures
- PFS on track for targeted completion in mid-2021

The path to development

Key milestones

- Rapid progression through key evaluation phases and into development
- PFS completion expected in mid-2021
- Targeted regulatory submissions:
  - Project Description (3Q 2021)
  - Impact Assessment (IA) (4Q 2021)
- Targeted completion of DFS in mid-2022
- Estimated approvals timeframe of ~24 months from IA submission to mining permit



05 SOCIAL LICENCE TO OPERATE

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Best-in-class approach

Early, proactive engagement with all stakeholders

- Commitment to a world best-practice development and operating philosophy
- Environmental excellence a core value
  - Accelerated environmental program to establish early understanding and reduce overall approval times
  - Comprehensive Impact Assessment (IA) leveraging key learnings from the adjacent Grassy Mountain (Riversdale) permitting process
  - Leading water management approach
  - Selenium mitigation and management strategy
- Full ownership of all regulatory and permitting applications / processes
- Early engagement with First Nations, government, regulators and communities
- Positive community presence
  - Local office, ‘open door’ policy
  - Development of Elan set to create several hundred full-time local jobs
  - Expected Alberta provincial royalties of approx. US$450M over LOM

Key permitting development

Category 2 land classification no longer applicable

- 1976 Alberta Coal Policy repealed effective from 1 June 2020
- Removes coal categories land use classification system
- Previously, any open pit permitting for Elan would have required an exemption to be granted – no longer the case
- Zero loss of integrity with respect to proper process:
  - Federal environmental approvals process
  - Alberta Energy Regulator oversight
- A significant step forward for targeted development of Elan

Alberta

Updated coal rules keep protection, strengthen certainty

Modernizing almost 45-year-old rules for coal development will provide additional flexibility and certainty for industry, while maintaining stringent protection for sensitive lands.

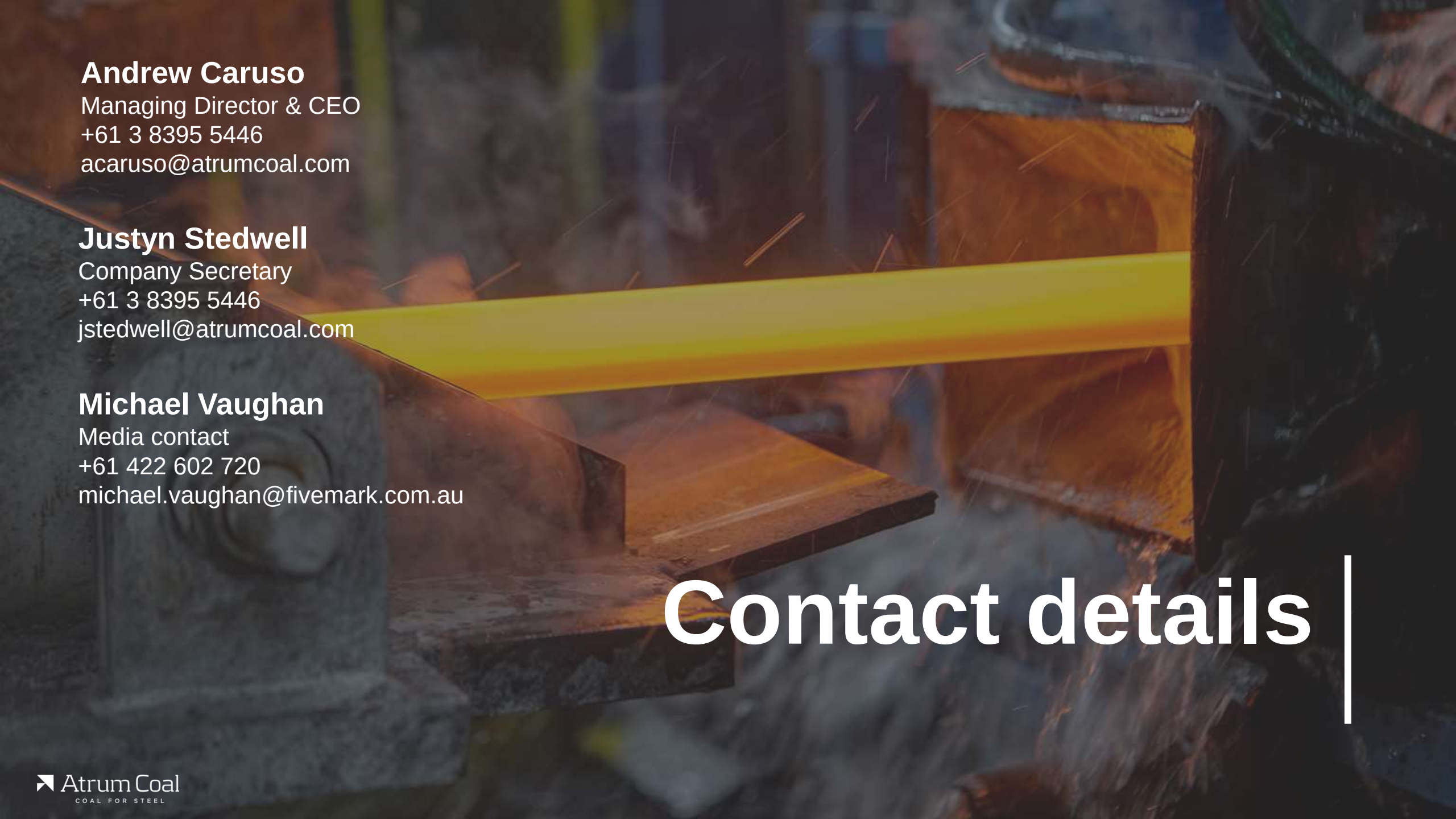
> "As we strengthen our focus on economic recovery and revitalization, we will continue to make common-sense decisions to create certainty and flexibility for industry, while ensuring sensitive lands are protected for Albertans to continue to enjoy. Rescinding the outdated coal policy in favour of modern oversight will help attract new investment for an important industry and protect jobs for Albertans."
>
> *Sonya Savage, Minister of Energy*

> "Our government is continuing to protect our natural resources, including critical watersheds and biodiversity along the eastern slopes of Alberta's Rocky Mountains. Through this approach we are striking the balance of ensuring strong environmental protection with providing industry with incentive to increase investment."
>
> *Jason Nixon, Minister of Environment and Parks*

Source: www.alberta.ca

Atrum and the Elan Project: A rare opportunity

1. Large-scale resources and landholding in a major HCC basin
2. Shallow and thick coal seams = low strip ratio
3. Tier 1 hard coking coal quality
4. Direct rail access to key export terminals (with surplus capacity)
5. Deep Canadian HCC development and operating experience
6. Strong HCC market demand and outlook for high-quality new entrants



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APPENDIX
ADDITIONAL STUDY DETAILS

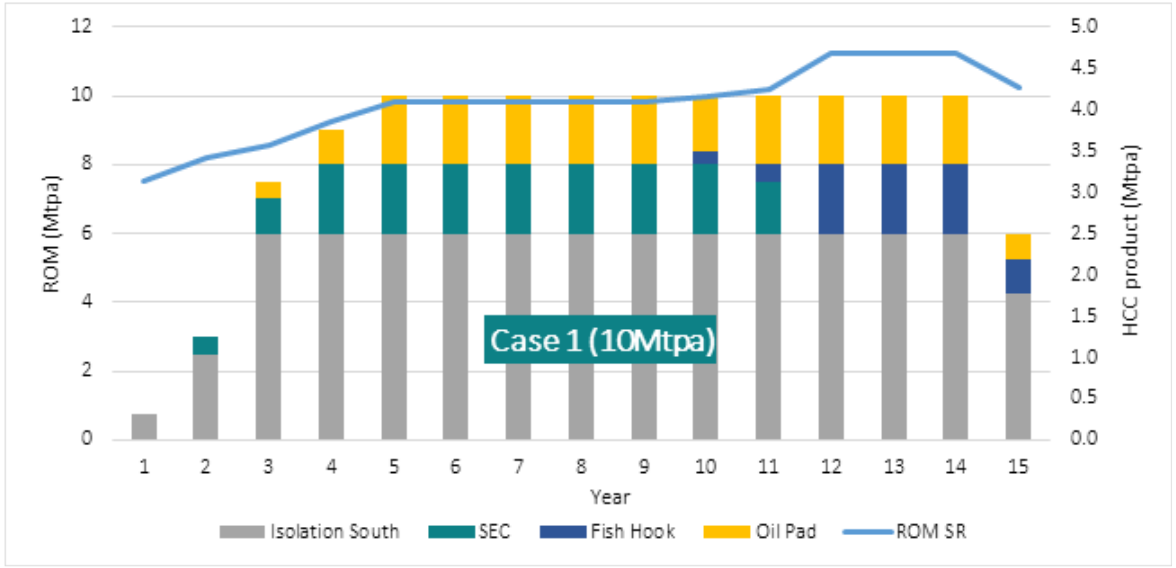
Atrum Coal
COAL FOR STEEL

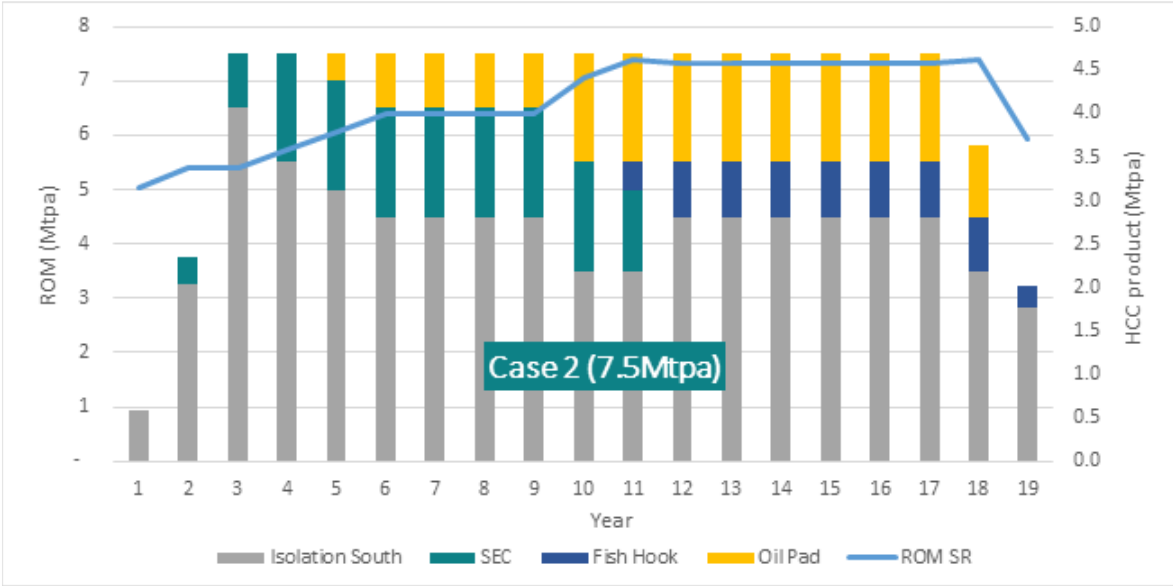
Mine scheduling

Under-utilised resource inventory

- Isolation South is the flagship mining area; single large pit with favourable geology including thick, shallow seams
  - Pit optimisation and mine planning activities initially resulted in a practical pit shell at Isolation South containing 188 Mt ROM coal
  - Approx. 108 Mt ROM coal of in-pit Inferred resources were excluded from the mine schedule and production target, in accordance with the current ASIC/ASX regulatory framework
- Three discrete satellite pits at Elan South (South East Corner, Fish Hook and Oil Pad North); 20km to the south

Pit	Waste Mbcm	ROM Coal Mt	Strip Ratio bcm/t ROM	Product Coal Mt	Indicated Resources	Inferred Resources
Isolation South	262	79.5	3.3	47.7	74%	26%
South East Corner	82	17.0	4.8	10.2	64%	36%
Fish Hook	61	7.9	7.7	4.8	86%	14%
North Oil Pad	136	21.8	6.2	13.1	53%	47%
Total	**541**	**126.2**	**4.3**	**75.8**	**70%**	**30%**





The Scoping Study mine schedule and production target contain approximately 70% Indicated Resources and 30% Inferred Resources. There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will result in the determination of Indicated Resources or that the production target itself will be realised. Atrum confirms that the financial viability of the Elan Project is not dependent on the inclusion of Inferred Resources in the mine schedule.

Mine sequencing

Clear opportunity to enlarge Isolation South pit and defer Elan South development

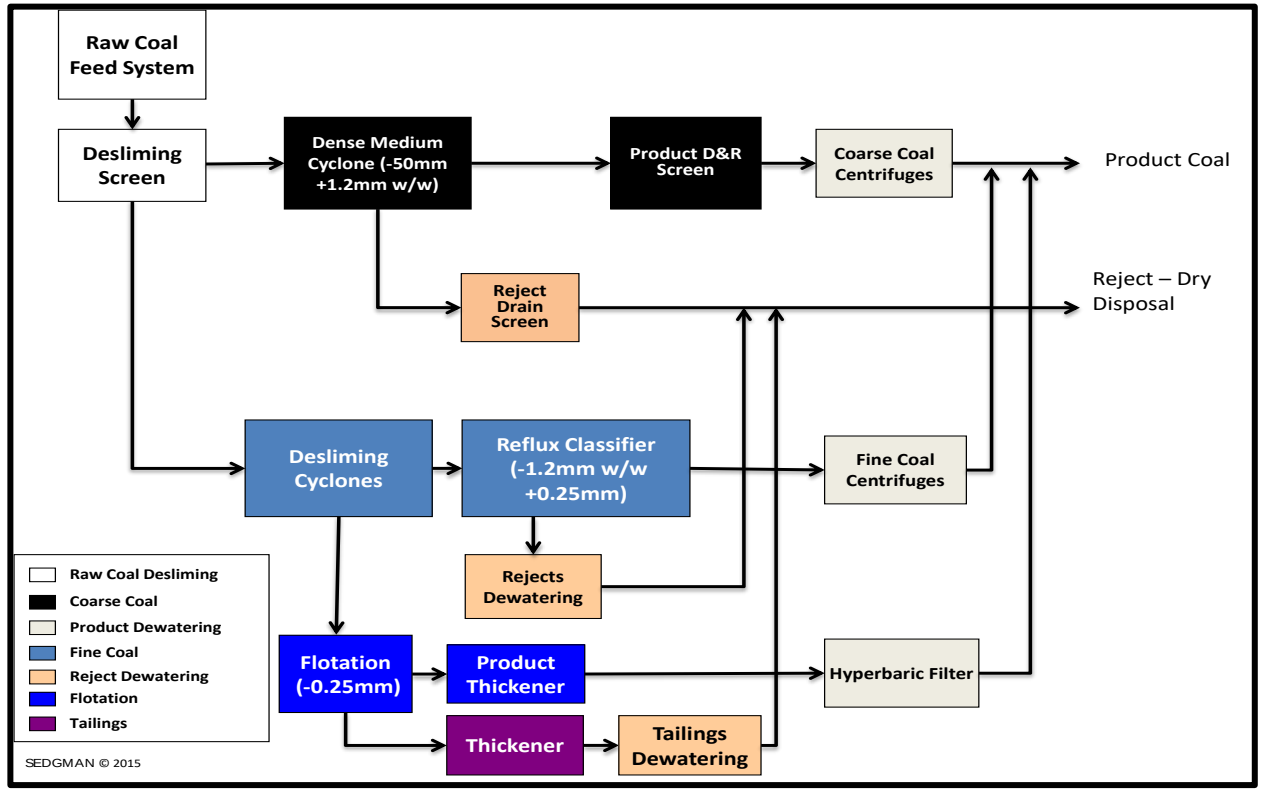
- Scheduled production is sourced from both Isolation South and Elan South areas throughout the operating life
- This ensures that Inferred resources (of which there is currently a higher proportion at Isolation South) do not feature as a significant component of the overall mine schedule, particularly in the earlier years
- Indicated resources comprise 70% of the overall mine schedule for both cases, and more than 75% over the first three years of operation
- As a result, Inferred resources do not feature as a significant proportion of the proposed mine plan and project financial viability is not dependent on the inclusion of Inferred resources in the production schedule
- Isolation South possesses resource scale (a further 108Mt of in-pit Inferred resources sit outside the current mine schedule for the same reason as above), favourable and relatively uniform geology (shallow, thick, consistent coal seams), and a considerably lower stripping ratio than all planned pits at Elan South (including SE Corner)
- For these reasons, further resource classification upgrade drilling at Isolation South has the potential to
    1. Add substantial tonnage and life extension to the Scoping Study mine schedule
    2. Allow development of Elan South to be deferred until later in the overall mine schedule (thereby lowering both pre-production capital and strip ratio / operating cost in early years)

The Scoping Study mine schedule and production target contain approximately 70% Indicated Resources and 30% Inferred Resources. There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will result in the determination of Indicated Resources or that the production target itself will be realised. Atrum confirms that the financial viability of the Elan Project is not dependent on the inclusion of Inferred Resources in the mine schedule.

Processing flowsheet

Conventional CHPP design

- Sedgman Canada provided processing design and capex / opex estimates
- Single stage processing plant, consistent with other mines and projects in the region
- Safe, economical, durable and functional design
- Dense media cyclones (DMC), reflux classifiers and a flotation circuit, with product drying completed via hyperbaric filter
- 60% processing yield estimate; regional experience suggests 60 - 70%
- Throughput capacity of 1,650 tph (10 Mtpa ROM) or 1,100 tph (7.5 Mtpa ROM)
- Designed for nominal 30-year LOM and 7,200 operating hours per year
- Planned location near the Isolation South pit



Coal quality

Established through 2018 and interim 2019 results

- Mist Mountain Formation seams within the Elan Project are characterised by variable raw ash content, with low total sulphur (TS) and phosphorus content
- Testing at Oil Pad and South East Corner during 2018 and 2019 established key coal quality attributes, including high CSR
- Analytical testing of core samples from Isolation South and Elan South from the 2019/20 field program remains only partially complete
- Indicative results demonstrate strong clean coal attributes including favourable rank range, low ash, low TS and phosphorus, and typically high CSN
- Interim washability results indicate target seams will wash to 8 - 9% product ash at favourable yields
- Full testwork results due in the next few months

Typical raw coal quality parameters (adb)

Area	IM %	ASH %	VM %	TS %	CSN
Isolation South	0.5 - 0.7	11 - 30	22 - 26	0.40 - 0.70	2 - 7
South East Corner	0.6 - 0.7	15 - 30	20 - 24	0.50 - 0.70	2 - 5
Fish Hook	0.4 - 0.6	12 - 25	19 - 24	0.40 - 0.80	2 - 5.5
Oil Pad	0.6 - 0.9	14 - 30	20 - 23	0.30 - 0.60	2 - 5

Typical clean coal quality parameters (adb)

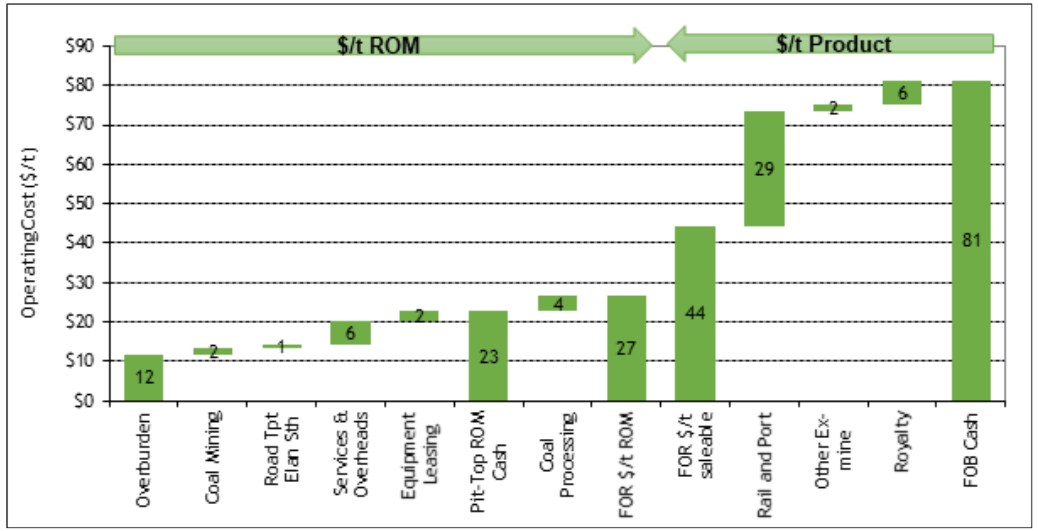
Area	R_oMax %	ASH %	VM %	TS %	PHOS %	CSN
Isolation South	1.10 - 1.24	7 - 9	23 - 25	0.40 - 0.50	< 0.020	3.5 - 9
South East Corner	1.12 - 1.20	6 - 9	22 - 27	0.50 - 0.80	< 0.040	3 - 8
Fish Hook	1.19 - 1.37	7 - 10	21 - 24	0.50 - 0.80	< 0.020	3 - 9

Operating costs

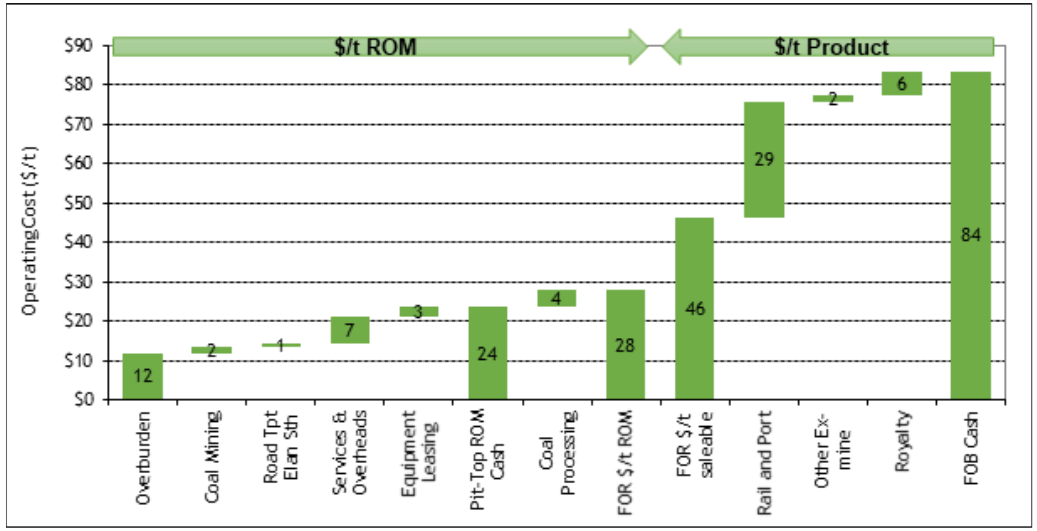
Low strip ratio drives outstanding FOR cash cost

Operating Costs	Units	10 Mtpa ROM	7.5 Mtpa ROM
Overburden removal (incl rehab)	US$/bcm US$/t ROM	3 12	3 12
Coal mining (incl labour)	US$/t ROM	2	2
Road transport	US$/t ROM	1	1
Services, ancillary & overheads	US$/t ROM	6	7
Equipment Lease	US$/t ROM	2	3
Pit-Top ROM Cash Cost	**US$/t ROM**	**23**	**24**
Coal handling and preparation, rejects, loadout	US$/t ROM	4	4
Free on Rail (FOR) Cash Cost	**US$/t ROM** **US$/t saleable**	**27** **44**	**28** **46**
Rail and port	US$/t saleable	29	29
Marketing, commissions and other	US$/t saleable	1	1
Corporate charges	US$/t saleable	1	1
Total Ex Mine Costs (excl. Royalty)	**US$/t saleable**	**75**	**77**
Royalties	US$/t saleable	6	6
Free on Board (FOB) Cash Costs	**US$/t saleable**	**81**	**84**

Forecast operating cost waterfall chart (US$/t) (10 Mtpa ROM)



Forecast operating cost waterfall chart (US$/t) (7.5 Mtpa ROM)



Highly competitive opex, regionally and globally

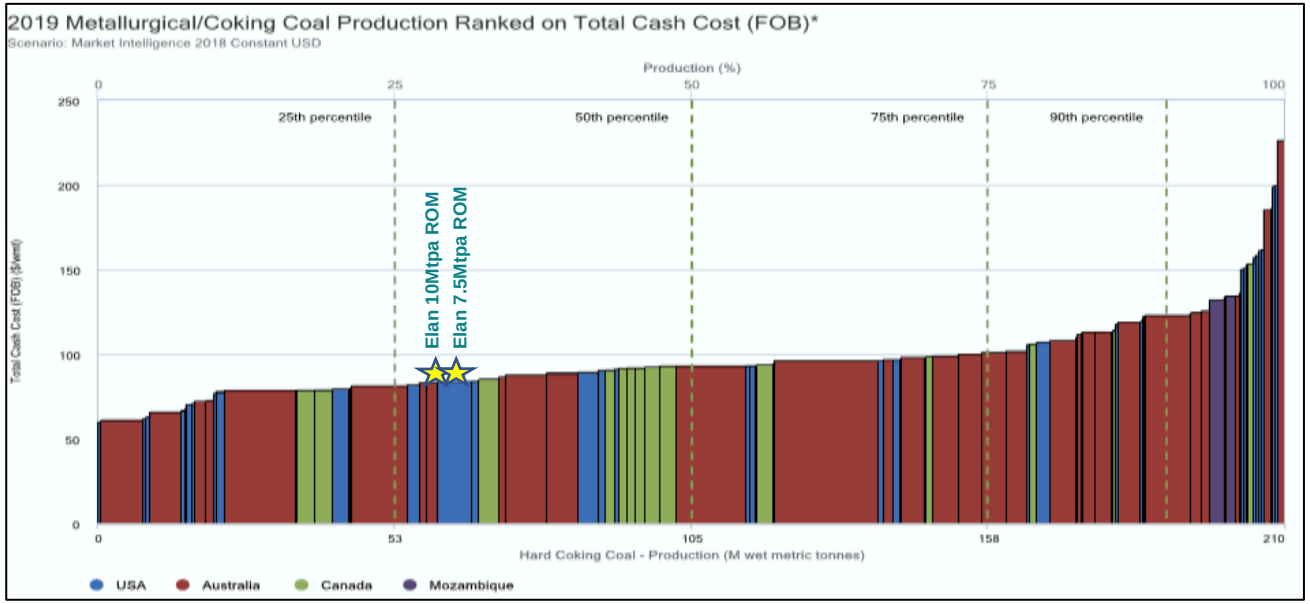
Forecast lower second quartile cash cost

- Forecast FOB cash cost of US$81 – 84/t places Elan in the lower second quartile of the global export coking coal operating cost curve
- Relatively low FOB cost driven by the overall low mining strip ratio
- Rail haulage and port usage operating cost estimates largely based on actual or expected costs reported by nearby operating and proposed coal mining operations
- Total HCC product unit operating costs are readily comparable with Teck Elk Valley reported actuals and Grassy Mountain Project forecasts

Cost Parameters	Unit	Teck 2019 Actual	Grassy Mountain LOM Target	Elan 10 Mtpa ROM
Site costs	US$/t saleable	49*	40	44
Rail and port costs	US$/t saleable	29	29	29
Corporate / G&A / inv chg.	US$/t saleable	1	1	1
FOB ex royalty, marketing	**US$/t saleable**	**79**	**70**	**74**

** Total cost of sales includes an additional C$16/t charge for amortization of capitalized stripping costs*

Source: Teck Resources Q4 2019 Financial Report (pg56), 20 February 2020.
Riversdale Resources Targets Statement, Grassy Mountain Technical Report by RPM Global (pg47), 28 March, 2019.



Source: S&P Global Market Intelligence

Pre-production capital cost

Attractive upfront capital intensity of US$114 – 130/tpa

- Forecast pre-production capital expenditure
  - 10 Mtpa ROM: US$683M
  - 7.5 Mtpa ROM: US$587M
- Attractive upfront capital intensity of US$114 – 130 per tonne of annual HCC capacity
- Main capex items:
  - Mine infrastructure
  - CHPP (1,650 tph)
  - Covered product conveyor (36 km)
  - Rail spur and loop
- Sustaining capex of US$1.7/t ROM; derived using unit rates from similar operations

Item Description	Contingency	10Mtpa ROM US$M	7.5Mtpa ROM US$M
Owners Costs - exploration, feasibility studies, approvals / EIA process, owners team / EPCM	10%	45	45
Surface Infrastructure - on and off-site civils, MIA / buildings, water and waste management, utilities to site, rail loadout	21%	151	148
Coal handling and preparation civils, ROM and raw coal handling at CHPP	15%	69	45
Coal processing plant	15%	122	88
Product coal handling and conveyor, product drying, and reject dewatering and emplacement	15%	102	69
Overland covered conveyors 36km - CHPP to TLO	20%	182	182
Contractor indirects	30%	12	10
TOTAL	**18%**	**683**	**587**

Key financial metrics

Strong return profile

- Owner operated, with mobile equipment leasing
- Real, ungeared cashflows; 9% discount rate
- LOM benchmark price forecast for premium low-volatile HCC (FOB Queensland) of US$141/t
- Forecast 2% pricing discount applied for Elan HCC products (reflective of approximate long-term market discounts for equivalent HCC products)
- LOM C$/US$ exchange rate forecast of 0.79

- **$NPV_{9\%}$ (post-tax) of US$790 – 860M**
- **IRR (post-tax) of 25 – 26%**
- **Payback period (post-tax) of 3.9 – 4.4 years**

Key financial outcomes	Unit	10 Mtpa ROM	7.5 Mtpa ROM
Price inputs (LOM average)			
C$/US$ (long term forecast)	USc	0.79	0.79
HCC price (Platts Premium LV FOB Queensland)	US$/t	141	141
HCC price (Elan MV HCC FOB Vancouver)	US$/t	138	138
NPV, returns and key metrics			
$NPV_{9\%}$ (post-tax, real basis, ungeared, Y-1 basis)	US$M	860	790
$NPV_{9\%}$ (pre-tax, real basis, ungeared, Y-1 basis)	US$M	1,180	1,070
IRR (post-tax, real basis, ungeared, Y-1 basis)	%	25	26
IRR (pre-tax, real basis, ungeared, Y-1 basis)	%	29	30
Payback period (post-tax, from first production)	years	4.4	3.9
Payback period (pre-tax, from first production)	years	4.0	3.6
Capital expenditure			
Pre-production capital expenditure	US$M	683	587
LOM sustaining capital expenditure	US$ / ROM t	1.7	1.7
Capital efficiency (post-tax NPV / PP capex)	x	1.3	1.3
Operating costs			
Total cash operating cost - Free on Board (FOB)	US$/t saleable	81	84
Project cashflow (ungeared, approx.)			
Gross revenue	US$M	10,450	10,450
Operating costs	US$M	(6,160)	(6,320)
Operating cashflow	US$M	4,290	4,120
Pre-production capital expenditure	US$M	(680)	(590)
Sustaining capital expenditure	US$M	(220)	(220)
Project net cashflow (pre-tax)	US$M	3,400	3,340
Project net cashflow (post-tax)	US$M	2,610	2,580