

## QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDING 31 DECEMBER 2019

### HIGHLIGHTS

- 2019 drilling campaign (to 31 December 2019):
  - Elan South: 119 RAB exploration holes (20,150 metres), 11 LD cored holes, 8 PQ cored holes and 10 HQ hydrogeology holes completed
  - Isolation South: 49 RAB exploration holes (7,850 metres) completed
- Core drilling at Isolation South planned for coming weeks; further RAB drilling at Elan South deferred into 2020 summer field program
- Overall Elan South resource update, including maiden SE Corner estimate, expected in 1Q 2020
- Interim 97 Mt increase to Isolation South resource during the quarter (217 Mt; with 79 Mt Indicated and 138 Mt Inferred)
- Isolation South 2019 drill results (shallow, thick) and interim resource outcomes (large-scale, potentially very low-strip) significantly exceeded expectations
- Exceptionally thick seams encountered in subsequent Isolation South drilling (cumulative apparent thicknesses exceeding 100 metres in multiple holes; results previously released); not yet incorporated in resource and presents further upside to next Isolation South resource update due 1Q 2020
- Isolation South to be incorporated into expanded Elan Scoping Study scheduled for completion in 1Q 2020; offers significant potential annual output and life extension upside
- Enlarged Scoping Study set to include mine designs and schedules for both Elan South and Isolation South, as well as fully integrated project infrastructure and transport logistics

Atrum Coal Ltd (“**Atrum**” or the “**Company**”) (ASX: ATU) is pleased to provide its Quarterly Activities Report for the period ending 31 December 2019.

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**Board of Directors**

Chairman (Non-Exec)	C. Blixt
Managing Director/CEO	M. Wang
Non-Executive Director	R. Barker
Non-Executive Director	G. Edwards
Non-Executive Director	C. Fear
Company Secretary	J. Stedwell

**Key Projects**

Elan	100%
Groundhog	100%
(incl Panorama North JV)	(65%)
Bowron River	100%

## Elan Hard Coking Coal Project (100% Atrum)

### Elan South Exploration

A total of 119 rotary air blast (RAB) exploration holes have been completed at Elan South for a total of 20,150 metres of drilling (as at 31 December 2019).

The main focus of drilling has been at South East Corner (65 RAB holes) and Fish Hook (39 RAB holes), with an additional 15 RAB holes completed at Oil Pad Ridge.

At South East Corner, large diameter (LD) coring has been completed at 3 sites and PQ coring at 8 sites, with the coring undertaken at defined intervals based on the twinning of existing structure holes. Five LD cored holes have been completed at Fish Hook and a further 3 LD cored holes at Oil Pad Ridge.

As previously flagged, core drilling at Elan South was significantly slower than expected, particularly late in the quarter, due to mobilisation delays and equipment maintenance downtime. As a result, analytical testing of the core samples taken from Fish Hook, South East Corner and Oil Pad Ridge in 2019 is expected to be complete in late 1Q 2020.

#### *South East Corner*

65 RAB holes were completed to quarter end for 10,300 metres drilled.

Drilling in this area was targeted to test several identified zones that had the potential to host large, shallow emplacements of coal that might support early-life, low-strip mine designs.

Results have demonstrated that the South East Corner (an approx. 2km<sup>2</sup> tenement area that is connected to the south-east end of the current resource boundary at Oil Pad Ridge) is a significantly endowed and potentially low-strip, early-phase mining area for the Elan Project.

Atrum plans to incorporate a maiden resource estimate for the South East Corner area in its overall resource estimate update for Elan South due in the current quarter.

3 LD cored holes, 8 PQ cored holes and 3 HQ hydrogeology holes were also completed at South East Corner to quarter end.

#### *Fish Hook*

39 RAB holes were completed to quarter end for 6,500 metres drilled.

Results have demonstrated shallow, thick coal seam intersections across the full east-west extent of the Fish Hook area. They also confirm the favourable geological structures prevailing in this zone, which deliver strong potential for low strip ratio mining. The net

result is expected to be the addition of significant new resources in the Fish Hook area of Elan South.

5 LD cored holes and 2 HQ hydrogeology holes were also completed at Fish Hook to quarter end.

#### *Oil Pad Ridge*

15 RAB holes were completed to quarter end for 3,300 metres drilled.

The holes at Oil Pad Ridge involved a mixture of extensional targeting and infill drilling. Coal deposition was intercepted in all but one of the holes with many thick seam intervals returned.

3 LD cored holes and 4 HQ hydrogeology holes were also completed at Oil Pad Ridge to quarter end.

For full details on the Elan South 2019 drilling program and results released during the quarter, see Atrum ASX releases dated 3 October 2019, *Initial Drilling at Fish Hook Area Drilling Exceeds Expectations*, and 19 December 2019, *Expanded Elan Scoping Study For 1Q 2020*.

#### **Isolation South Exploration**

The decision to concurrently progress evaluation of Isolation South, alongside acceleration of the Elan South development area, reflects Atrum's strategy to rapidly advance multiple, large Tier 1 hard coking coal developments across its highly endowed and 100%-owned Elan Project.

The coal deposition at Isolation South is characterised by shallow seams with moderate dip angles, highlighting strong potential for low-strip ratio mining.

A total of 49 RAB exploration holes were completed at Isolation South for 7,850 metres of drilling (to 31 December 2019). Eight holes were completed in the southern area and 41 completed in the area north of the Oldman River on Cabin Ridge.

The RAB holes at Isolation South complement 19 historical HQ size fully cored holes drilled in the 1970's.

An interim resource update was completed for Isolation South during the quarter (see next section). Exceptionally thick seams encountered in subsequent drilling (cumulative apparent thicknesses exceeding 100 metres; results previously released) are not incorporated in the interim resource update. This zone of structural thickening presents further clear resource upside potential.

For full details on the Isolation South 2019 drilling program and results released during the quarter, see Atrum ASX releases dated 17 October 2019, *Thick, Shallow Coal at Isolation South*, 2 December 2019, *97Mt Increase in Isolation South Resource*, and 19 December 2019, *Expanded Elan Scoping Study For 1Q 2020*.

### Isolation South Interim Resource Update

Based on the drilling results and geological data available to late November 2019, an interim revised resource of 217 Mt was estimated for Isolation South. Of this total of 217 Mt resource, 79 Mt was classified as Indicated and 138 Mt as Inferred (see Table 1).

**Table 1: Isolation South resource estimate (November 2019)**

Area	Indicated	Inferred	TOTAL	Cumulative Seam Thickness (Weighted in Tonnes)
Northern	79	119	198	36.6
Southern	-	19	19	16.8
<b>TOTAL (Mt)</b>	<b>79</b>	<b>138</b>	<b>217</b>	

The northern area, also known historically as Cabin Ridge, is a dip slope (where seams follow the topographical surface) and it contains an updated resource estimate of 198 Mt. The southern area is a smaller dip slope, situated on the southern side of the Oldman River, and the resource of 19 Mt is a maiden estimate for this area.

For full details on the interim Isolation South resource update, see Atrum ASX release dated 2 December 2019, *97Mt Increase in Isolation South Resource*.

### Total Elan Project HCC Resources

Overall Elan Project resources currently stand at 395 Mt (110 Mt Indicated and 285 Mt Inferred), as summarised in Table 2 below.

**Table 2: Current Elan Project global resource estimate**

PROJECT	PROJECT AREA	INDICATED Mt	INFERRED Mt	TOTAL Mt	DATE OF ANNOUNCEMENT
ELAN SOUTH	ELAN SOUTH	31	66	97	8-Jan-19*
ELAN NORTH	ISOLATION SOUTH	79	138	217	2-Dec-19*
	ISOLATION	-	51	51	22-Jan-19*
	SAVANNA	-	30	30	22-Jan-19*
<b>TOTAL</b>		<b>110</b>	<b>285</b>	<b>395</b>	

As noted earlier, an update to the overall Elan South resource, incorporating all 2019 drilling in this area (and including a maiden resource estimate for South East Corner), is expected in 1Q 2020.

As also previously flagged, exceptionally thick seams encountered in recent Isolation South drilling are not yet incorporated in the resource estimate. These results include intercepts of cumulative apparent thicknesses exceeding 100 metres in multiple holes (see Atrum ASX release dated 2 December 2019, *97 Mt Increase in Isolation South Resource*).

This area of structural thickening presents further significant resource upside potential at Isolation South. This upside potential is to be complemented and validated by planned LD core drilling to be undertaken at Isolation South in coming weeks.

While further RAB drilling at Elan South had also been proposed for 1Q 2020, increasingly inclement winter weather conditions have meant that Atrum has opted to limit residual drilling activities to the coring at Isolation South.

\* Other than 2019 drilling results not yet incorporated into Elan Project resource estimates, Atrum confirms that it is not aware of any new information or data that materially affects the information included in ASX releases dated 2 December 2019 (*97 Mt Increase in Isolation South Resource*) relating to the Isolation South resource, 22 January 2019 (*Additional 201 Mt JORC Resources Defined for Elan Project*) relating to Isolation and Savanna resources, and 8 January 2019 (*Elan South Hard Coking Coal Resource Increased by 170% to 97 Mt*) relating to the Elan South resource. All material assumptions and technical parameters underpinning the estimates in these releases continue to apply and have not materially changed.

## **Environmental Baseline Study at Elan South**

Full-scope environmental baseline study work at Elan South continued during the quarter.

As part of the Environmental Impact Assessment (EIA) preparation, engagement with various stakeholders, including First Nations, government agencies, local municipalities and ranchers, continued constructively during the quarter.

## **Expanded Elan Scoping Study**

The total areal footprint of the Elan Project, combined with its thick, shallow and high-quality coal seam depositions, evidences clear potential for a multi-mine hard coking coal province. The decision to concurrently progress evaluation of Isolation South this year, alongside acceleration of Elan South, reflected Atrum's strategy to rapidly advance multiple, large Tier 1 hard coking coal developments across the Elan Project.

The Isolation South drilling results during 2019 have, as previously reported, consistently returned shallow, thick cumulative coal intercepts. The recent interim resource update for Isolation South also saw a substantial 97 Mt increase to 217 Mt. The relatively shallow

depth (120 Mt of resource at less than 100 metres depth) and moderate dip angles seen at Isolation South also mean that a large proportion of this enlarged resource is potentially very low strip ratio tonnage. In aggregate, drilling results and resource estimate outcomes at Isolation South this year have significantly exceeded Atrum's expectations.

Given the considerable project upside potential that Isolation South offers, and the pushback to the Elan South resource update into 1Q 2020, Atrum elected to incorporate Isolation South into an expanded Elan Scoping Study. The enlarged Elan Scoping Study will incorporate mine designs and production schedules for both Elan South and Isolation South, as well as project infrastructure and transport logistics solutions that are fully integrated for a dual development. Targeted completion of the expanded Elan Scoping Study is scheduled for 1Q 2020.

## Corporate

### Tenement relinquishment

During the quarter, Atrum completed the relinquishment of a number of non-core tenements in the Groundhog and Panorama project areas.

### Exercise of listed options

During the quarter, 1,500,000 listed options were exercised at A\$0.20 each for a total of A\$300,000.

### Cash and debt position

Atrum held A\$10.1 million cash at 31 December 2019. The Company has no debt, excluding usual creditors balances.

***This ASX release was authorised on behalf of the Atrum Board by:***

Max Wang, Managing Director & CEO

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## About Atrum Coal

Atrum Coal (ASX: ATU) is a metallurgical coal developer. The Company's flagship asset is the 100%-owned Elan Hard Coking Coal Project in southern Alberta, Canada. Elan hosts large-scale, shallow, thick, hard coking coal (HCC) deposits with a current JORC Resource Estimate of 395 Mt (110 Mt Indicated and 285 Mt Inferred).<sup>1</sup> Comprehensive quality testing of Elan South coal on samples from the 2018 exploration program, combined with review of substantial historical testwork data for the broader Elan Project, has confirmed Tier 1 HCC quality.

The Elan South area is located approximately 13 km from an existing rail line with significant excess capacity, providing direct rail access to export terminals in Vancouver and Prince Rupert. Elan South shares its southern boundary with Riversdale Resources' Grassy Mountain Project, which is in the final permitting stage for a 4.5 Mtpa open-cut HCC operation. Around 30 km to the west, Teck Resources operates five mines (the Elk Valley complex) producing approximately 25 Mtpa of premium HCC for the seaborne market.

A Scoping Study to evaluate development of the Elan Project, incorporating mining of both the Elan South and Isolation South areas, is targeted for completion in 1Q 2020. This work will feed into a Pre-Feasibility Study (PFS) which is planned to be completed in 2H 2020.

<sup>1</sup> Other than 2019 drilling results not yet incorporated into Elan Project resource estimates, Atrum confirms that it is not aware of any new information or data that materially affects the information included in ASX releases dated 2 December 2019 (*97 Mt Increase in Isolation South Resource*) relating to the Isolation South resource, 22 January 2019 (*Additional 201 Mt JORC Resources Defined for Elan Project*) relating to Isolation and Savanna resources, and 8 January 2019 (*Elan South Hard Coking Coal Resource Increased by 170% to 97 Mt*) relating to the Elan South resource. All material assumptions and technical parameters underpinning the estimates in these releases continue to apply and have not materially changed.

## Appendix 1: TENEMENTS LIST

Tenure Number	Owner	Business Unit	Tenure Type	Area (Ha)
394847	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	259
417080	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	565
417081	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	636
417082	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	212
417084	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	708
417085	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	1,031
417086	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	142
417088	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	777
417089	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	142
417094	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	71
417095	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	425
417096	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	71
417292	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	279
417296	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	71
417297	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	918
417298	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	1059
417299	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	779
417520	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	212
417521	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	142
417525	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	425
417526	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	707
417527	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	71
417528	Atrum Coal Groundhog Inc.	Groundhog North	Coal Licence	142
418587	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	1411
418588	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	1412
418589	Atrum Coal Groundhog Inc.	Groundhog East	Coal Licence	1273
418953	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	1346
418955	Atrum Coal Groundhog Inc.	Groundhog Central 3	Coal Licence	1265
418957	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	1415
418958	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	1345
418961	Atrum Coal Panorama Inc.	Panorama North	Coal Licence	71
120019501	Elan Coal Ltd.	Elan	Coal Lease Application	1,536
120019502	Elan Coal Ltd.	Elan	Coal Lease Application	1,616
120019503	Elan Coal Ltd.	Elan	Coal Lease Application	1,724
120019504	Elan Coal Ltd.	Elan	Coal Lease Application	1,662
120019505	Elan Coal Ltd.	Elan	Coal Lease Application	1,536



Tenure Number	Owner	Business Unit	Tenure Type	Area (Ha)
120019506	Elan Coal Ltd.	Elan	Coal Lease Application	768
120019507	Elan Coal Ltd.	Elan	Coal Lease Application	1,629
120071201	Elan Coal Ltd.	Elan	Coal Lease Application	1,936
120071202	Elan Coal Ltd.	Elan	Coal Lease Application	64
120071203	Elan Coal Ltd.	Elan	Coal Lease Application	1,840
120071204	Elan Coal Ltd.	Elan	Coal Lease Application	1,645
120071205	Elan Coal Ltd.	Elan	Coal Lease Application	1,582
120071206	Elan Coal Ltd.	Elan	Coal Lease Application	112
120071207	Elan Coal Ltd.	Elan	Coal Lease Application	960
120071208	Elan Coal Ltd.	Elan	Coal Lease Application	1,687
120286501	Elan Coal Ltd.	Elan	Coal Lease Application	16
120286502	Elan Coal Ltd.	Elan	Coal Lease Application	16
120286503	Elan Coal Ltd.	Elan	Coal Lease Application	64
120286504	Elan Coal Ltd.	Elan	Coal Lease Application	208
120286505	Elan Coal Ltd.	Elan	Coal Lease Application	48
120286506	Elan Coal Ltd.	Elan	Coal Lease Application	114
120286507	Elan Coal Ltd.	Elan	Coal Lease Application	144
120286508	Elan Coal Ltd.	Elan	Coal Lease Application	853
130011401	Elan Coal Ltd.	Elan	Coal Lease Application	256
130011402	Elan Coal Ltd.	Elan	Coal Lease Application	128
130011403	Elan Coal Ltd.	Elan	Coal Lease Application	97
130011404	Elan Coal Ltd.	Elan	Coal Lease Application	128
<b>Total</b>				<b>41,751</b>