

# Kuro Coal to acquire Elan Coal's hard coking coal properties

## HIGHLIGHTS

- Kuro has agreed to acquire a 100% interest in the Elan Coking Coal properties located in Alberta, Canada (subject to certain conditions precedent first being satisfied)
- The Elan properties contain an Indicated and Inferred Coal Resource of 146.5Mt (JORC 2012)
- The Elan properties are highly prospective for large hard coking coal deposits, with six different identified development zones stretching over a 55km strike length

Atrum Coal Limited ("Atrum" or the "Company") (ASX: ATU), is pleased to announce that Atrum, and its wholly-owned subsidiaries, Kuro Coal Limited ("Kuro") and Kuro Coal Canada Inc ("Kuro Coal Canada"), have entered into a share sale deed under which it is proposed that:

- Kuro Coal Canada will purchase all of the shares in Elan Coal Ltd ("Elan") (a company incorporated in Canada); and
- Kuro will seek to separately list on the ASX, TSX-V or an alternative international exchange,

("Proposed Transaction").



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**Board of Directors**  
Non-Executive Chairman  
Non-Executive Director  
Non-Executive Director  
Non-Executive Director  
Company Secretary

C. Blixt  
J. Chisholm  
G. Edwards  
C. Fear  
J. Stedwell

**Key Projects**  
Groundhog  
Naskeena  
Bowron River

Ownership: 100%  
Ownership: 100%  
Ownership: 100%

Atrum Non-Executive Chairman, Chuck Blixt commented: *"We entered into a joint venture with the vendors of Elan in September 2014 and conducted an initial drilling campaign in October 2014. However, the coal market then declined and the joint venture activities stalled. We have agreed a new arrangement with our joint venture partners to acquire 100% of the Elan Coking Coal properties in Alberta, subject to a number of conditions precedent."*

*"The Elan properties consist of six (6) different areas which are known to hold shallow emplacements of metallurgical coal. The first project we will target for development will be Grassy North, which is adjacent and contiguous with the Riversdale Resources Grassy Mountain project. Many areas within Elan have outcropping coal, and the railway is only 12km away."*

*"We now have premium metallurgical coal projects in two provinces in Canada: the Groundhog/Panorama Anthracite Projects in BC and the Elan Hard Coking Coal Project in Alberta."*

## **About the Proposed Transaction**

On 3 September 2014, Atrum announced that Kuro had acquired an interest in the Elan Coking Coal properties located in Alberta, Canada ("Elan properties"). The acquisition of the interest in the Elan properties occurred via one of Kuro's Canadian subsidiaries, which entered into a joint venture with Elan and other related companies. Under the joint venture, Kuro could earn up to 70% of the Elan properties (based on its contributions to exploration expenditure). (Refer to the 3 September 2014 announcement "*Kuro Coal acquires major coking coal project*" for details on the earn-in which would have required C\$7m cash expenditure plus the completion of a Scoping Study and a Bankable Feasibility Study.)

Kuro embarked on a drilling campaign in late 2014 with results released to the market on 11 December 2014 "*Major Coal Intersections at Elan Coking Coal Project*". As noted in the announcement, encouraging results were obtained from the drilling program:

- Net coal thickness of 20.8m between 54.6m and 82.3m (GNDH-14-02)
- Net coal thickness of 14.3m between 18.3m and 34.4m (GNDH-14-05)
- Net coal thickness of 12.2m between 77.9m and 94.6m (GNDH-14-04)
- Net coal thickness of 10.0m between 55.6m and 67.8m (GNDH-14-07)
- Net coal thickness of 9.6m between 28.9m and 46.8m (GNDH-14-06)
- Net coal thickness of 8.2m between 64.5m and 77.2m (GNDH-14-01)
- Net coal thickness of 5.2m between 23.0m and 29.3m (GNDH-14-03)

The investment market for coal declined at the time and Atrum did not continue with the planned spin-out of Kuro.

However, in late 2016 and during 2017, coking coal markets have experienced renewed growth and price forecasts for premium quality hard coking coal are robust. During early 2017, Kuro and the joint venture partners opened discussion on the best way to develop the Elan properties and the result of those discussions was an agreement for Kuro to acquire a 100% interest in the Elan properties by acquiring all the shares in Elan, under certain conditions precedent, and subject to these conditions being met, to make agreed cash and scrip payments to the vendors of Elan.

The shares in Elan will be purchased from the following parties ("Vendors"):

- Eugene Wusaty, Robert Engler, Dermot Lane and Douglas Porter; and
- Altitude Resources Ltd (incorporated in Canada).

The Elan properties are the only projects held by Elan.

Atrum has received a determination from the ASX that the Proposed Transaction will not result in a significant change in the nature or scale of Atrum (and that the Proposed Transaction will not require Atrum shareholder approval under Listing Rule 11.1.2 or re-compliance with Chapters 1 and 2 of the Listing Rules by Atrum under Listing Rule 11.1.3). However, Atrum shareholders will be required to approve the Proposed Transaction under Listing Rule 11.4.

## **Key terms of the Proposed Transaction**

Completion of the Proposed Transaction is subject to a number of conditions precedent that have not yet been satisfied, including the following:

- the results of any geological, legal, commercial, financial and tax due diligence investigation carried out by (or on behalf of) Kuro Coal Canada in relation to Elan and the Elan properties being satisfactory to Kuro Coal Canada;
- Kuro and Atrum obtaining all necessary shareholder approvals and regulatory approvals required to complete the Proposed Transaction; and
- Kuro receiving conditional approval to list on the ASX or an alternative international stock exchange ("Alternative Stock Exchange") and raising the funds required to make agreed payments to the Vendors and source working capital for further exploration ("Kuro Capital Raising").

As consideration for the acquisition of Elan, the Vendors will receive cash consideration of C\$3.1 million (including C\$100,000 which was paid on the signing of the share sale deed) and Kuro Coal Canada will also be required to issue \$3.65 million in scrip.

The terms of the Kuro Capital Raising (including the offer pricing and the jurisdiction in which Kuro will seek to conduct the Kuro Capital Raising) have not yet been decided by the Atrum or Kuro boards. Further details relating to the Kuro Capital Raising will be released to the ASX in

due course. Given the current interest in the neighbouring Riversdale Resources Grassy Mountain project, Kuro has already received approaches from potential financiers indicating a willingness to invest in the development of the Elan properties.

Under the share sale deed, Kuro has an exclusivity period until 31 March 2018. A further exclusivity extension to 30 June 2018 is available if Kuro lodges a listing application with the ASX or an Alternative Stock Exchange before the end of Q1 2018 or concludes an alternatively acceptable settlement outcome with the Vendors. The exclusivity can be extended at any time by mutual agreement.

### **Changes to the Atrum board**

The Proposed Transaction is not expected to result in any changes to the Atrum board of directors. The changes to the Atrum board announced on 17 August 2017 and 18 August 2017 do not relate to the Proposed Transaction.

### **About Elan and the Elan properties**

The Elan properties comprise 27 Alberta Crown Coal Lease Applications covering an area of 22,951 hectares. In Alberta, Coal Lease Applications provide the right to explore the land within the boundaries of the Lease and are granted for a term of 15 years (with an option to extend at expiry). The necessary permits to undertake exploration on the Elan properties are currently held by Elan.

The Elan properties are located in the foothills and front ranges of the Rocky Mountains of Alberta, approximately 30 km north of Blairmore in Alberta (see Figure 1). The project is 12km north of the main rail line operated by Canadian Pacific Railway, providing access to export terminals directly west in Vancouver, and north at Ridley Terminals in Prince Rupert. The majority of the Elan properties are accessible by highway as well as a system of limited use roads and access trails.

The Elan properties are prospective for coking coal, as noted in the Company's previous press releases on 16 April 2015 *"Kuro Coal Clarification Announcement – Elan Project"*, 11 December 2014 *"Major Coal Intersections at Elan Coking Coal Project"*, 26 September 2014 *"Kuro Coal Clarification Announcement – Elan Project"* and 3 September 2014 *"Kuro Coal Acquires Major Coking Coal Project"*. Details of the geological information in this announcement (including statements and data relating to exploration results, exploration targets and mineral resources) were contained in these past announcements and key information has been restated in this announcement. Atrum confirms that it is not aware of any new information or data that materially affects the information included in these previous market announcements and, in the case of estimates of mineral resources, that all material assumptions and technical parameters

underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

Historical drilling on and near the Elan properties suggest there are multiple near surface economically attractive coking coal seams that range from 2m to >10 m in thickness. If the Proposed Transaction proceeds, Kuro intends to prioritise exploration over the next year to delineate coking coal resources which are amenable to shallow mining methods, and to undertake mining studies for the known deposits at Grassy North, Wildcat, Isolation South and Savanna (see Figure 2).



**FIGURE 1: LOCATION MAP OF ELAN COKING COAL PROJECT, ALBERTA, CANADA**

Kuro's exploration planning will seek to prove the Elan properties have potential to produce multiple potential coal mining projects, which can be built around a central processing hub for export to Asia.



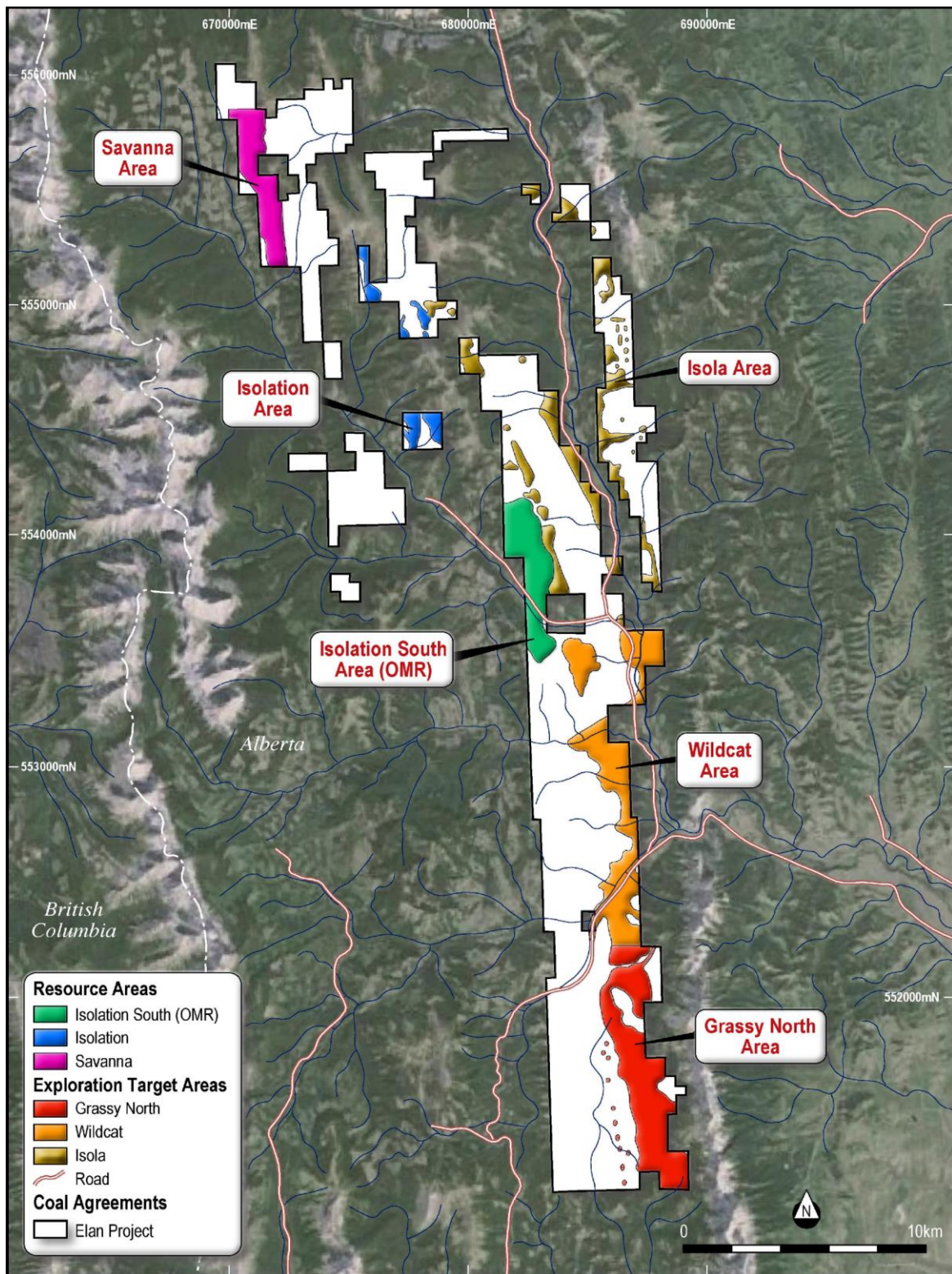


FIGURE 2. MAP OF ELAN PROJECT TARGET AREAS

The Coal resources (JORC 2012) identified at Elan are shown below:

Elan: Coal Resources (JORC 2012)

<b>Statement of Resources at 10 September 2013</b>				
In-situ Coal Resources (Mt)				
	<b>Measured</b>	<b>Indicated</b>	<b>Inferred</b>	<b>Total</b>
<b>Savanna</b>	-	28.8	29.9	<b>58.7</b>
<b>Isolation</b>	-	1.3	0.8	<b>2.1</b>
<b>Isolation South</b>	-	31.9	53.8	<b>85.7</b>
<b>Total</b>	-	<b>61.9</b>	<b>84.6</b>	<b>146.5</b>

<b>Statement of Exploration Results as at 10 September 2013</b>	
In-situ Coal Resources (Mt) – Approximation	
	<b>Exploration Target</b>
<b>Savanna</b>	185 – 188
<b>Isolation</b>	19 – 22
<b>Isolation South</b>	37 – 40
<b>Isola</b>	31 – 34
<b>Wildcat</b>	213 – 217
<b>Grassy North</b>	250 – 254
<b>Total</b>	<b>735 – 755</b>

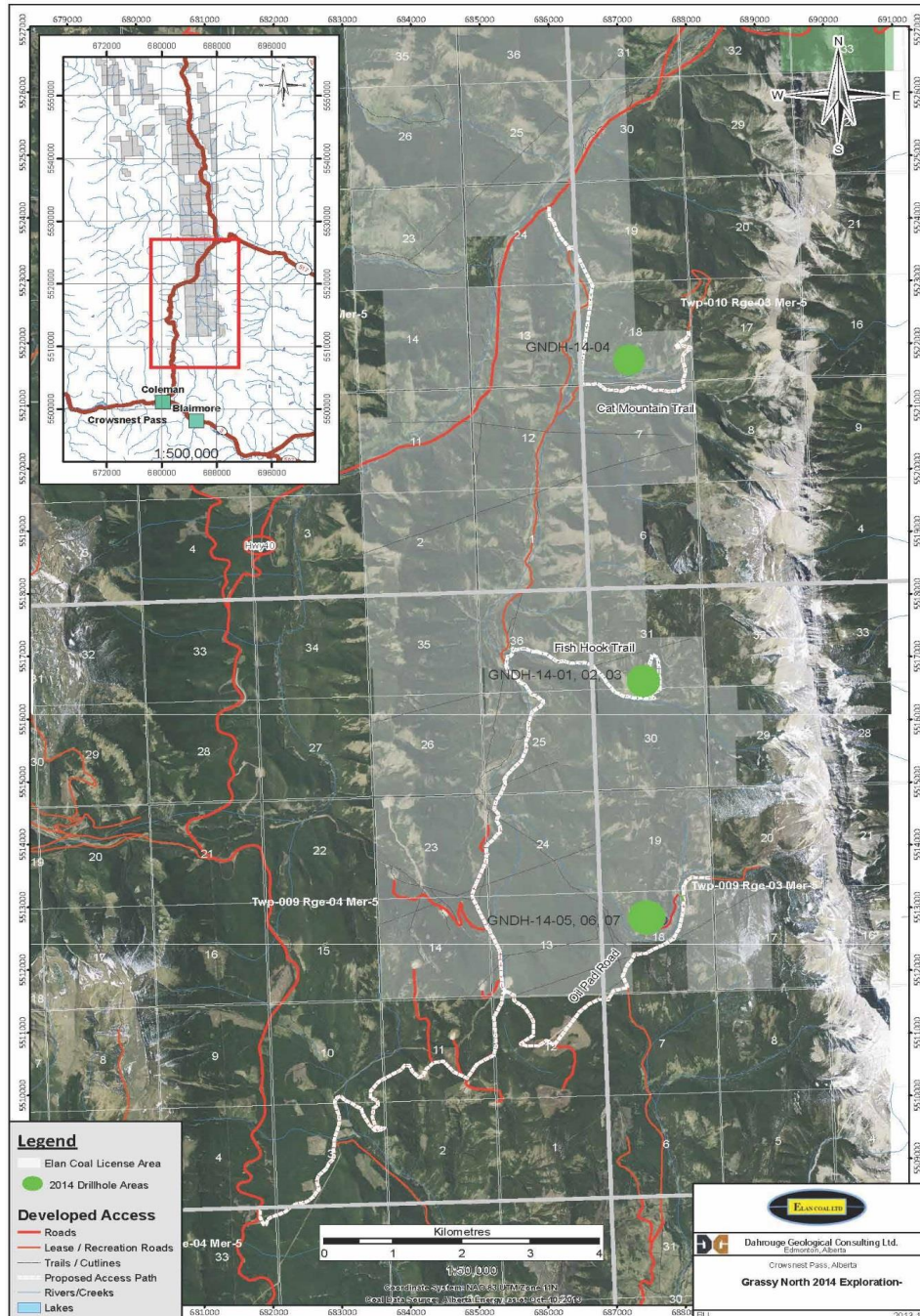
**TABLE 1: STATEMENT OF RESOURCES AND EXPLORATION RESULTS**

Seven drill holes - four diamond core and three rotary, together with seven trench sites were designed to test coal quality and increase the current JORC resource at the properties in 2014. All drill holes were geophysically logged. The 2014 exploration program focused on the "Grassy North" and "Wildcat" targets within the broader Elan project area, which is part of the Livingstone Trend. The sites drilled in 2014 are shown in Figure 3.

Coal quality results from the 2014 drilling on Grassy North indicate the coal is a hard coking coal of a quality sought after in Asia and India. Washability analyses show a clean coal product with 9.0% ash, 20-26% volatile matter, 0.60% sulphur, 0.02% phosphorus and a 7 Free Swelling Index (FSI) can be produced at 1.50 separation gravity. Coal rank generally increases from south to north on the Elan properties.



The Exploration Target quantity and grade is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the Exploration Target being estimated as a Mineral Resource. A summary of the material information required to understand the reported estimates (for the purpose of Listing Rule 5.8.1) was released to the market on 26 September 2014 "Kuro Coal Clarification Announcement – Elan Project".



**FIGURE 3: 2014 DRILLING SITES AT GRASSY NORTH AND WILDCAT**



Over the last three months, Kuro has been undertaking additional work at Elan and particularly Grassy North, the project bordering Riversdale's Grassy Mountain Project. Results have been encouraging, with multiple outcropping coal locations identified, and trenches intersecting large coal seams at surface (refer Figure 4). Samples were taken, and sent for analysis. Structural interpretation of the field work is now being undertaken.



**FIGURE 4. TRENCH FROM 2017 AT GRASSY NORTH**

As part of Kuro's due diligence for the Proposed Transaction, work is currently being undertaken to update the JORC Resources for the Elan properties to incorporate the data from the 2014 and 2017 exploration programs. Elan has recently applied for current drilling permits on the Grassy North property to enable further exploration during 2017 and 2018.

As noted above, the Elan properties host a JORC compliant Indicated and Inferred Resource (in accordance with JORC Code 2012) of 146.5Mt. The table below details the JORC Indicated and Inferred Resource as well as indicative clean coal quality:

Elan JORC Resources (JORC 2012)	Tonnage	Indicative Clean Coal Quality
Indicated	61.9Mt	Coal Rank: Mid Volatile R <sub>0</sub> Max: 1.30 - 1.40 Ash: 8.0% - 9.0% Volatile Matter: 20% - 25% Sulphur: 0.5% - 0.6% FSI: 6 - 7 Fixed Carbon: 60% - 70%
Inferred	84.6Mt	
Total Resource	146.5Mt	
Exploration Target (Approximation)	735Mt – 755Mt	Coal Rank: Mid Volatile R <sub>0</sub> Max: 1.30 - 1.40 Ash: 8.0% - 9.0% Volatile Matter: 20% - 25% Sulphur: 0.5% - 0.6% FSI: 6 - 7 Fixed Carbon: 60% - 70%

**TABLE 2: ELAN JORC 2012 RESOURCES AND INDICATIVE CLEAN COAL QUALITY RANGE**

As noted previously, the Exploration Target quantity and quality referred to in the table above is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the Exploration Target being estimated as a Mineral Resource.

The Exploration Target (of between 735Mt and 755Mt of low to medium volatile bituminous coal, with much of this in the Grassy North and Wildcat areas) is an approximation of the tonnes and grades. This Exploration Target (under section 17 of the JORC Code 2012) is based on drilling completed by previous explorers together with historical trenching, adits, mapping and sampling of coal outcrops across the project area.

The Exploration Target was calculated in August 2014 by Dahrouge Geological Consulting Ltd ("Dahrouge") under the JORC Code 2012. Pursuant to clause 17 of the JORC Code 2012, the resource estimates and the Exploration Target were based on historical drilling, trenching, and adit data collected mainly in the period from 1969 to 1976 by companies then active in the area now forming the Elan properties.

Dahrouge completed a 100% validation of available historical work and created an independent database. Coal exploration on and around the properties began in 1949 and extended through to 1976, with further exploration completed up to 2002. Historical exploration at the properties is shown in the table below:

Area	Operator	Campaign	Core Holes	Bore Holes/ Wells	Adits	Trenches	Mapping (ft)	Access Trails (km)
OMR	Scurry	1970	19	-	3	24	-	22.5
Savanna	Bralorne	1969 – 72	8	57	5	15	1;4,800	-
Savanna	CIGOL	1971	2	-	-	-	-	-
Isolation	CanPac	1969-71	76	5	6	76	1;12,00 and 1:2,400	-
Isolation	Granby	1974	18	9	-	45	1:2,400	117.5
Regional-OMR	W.C.C	1949-55	-	-	-	33	1:12,000	Extensive
Regional-Isola	CCL	1971	3	-	-	15	-	-
Regional-OMR	Consol	1976	-	-	-	-	1:12,000	-
Regional	CHE, Devon	1989	-	1	-	-	-	-
Regional	NEC	2001-02	-	20	-	-	-	-

**TABLE 3: HISTORICAL EXPLORATION SUMMARY**

Work completed on or directly adjacent to the properties includes:

- Nineteen adits have been driven to provide bulk samples for coal washability testing – of these, three were completed at OMR, 11 at Isolation and five at Savanna;
- Extensive local and regional-scale trenching has been used to define surface coal orientation and thickness;
- Geological mapping has been completed in areas of exposed outcrop and areas of natural exposure. A large road and trail network has exposed near-surface rock outcroppings and coal seams. Many near-surface coal seams have been excavated as trenches. From 1949 – 1955, regional geologic mapping and measuring of stratigraphic sections was completed by Western Canadian Collieries in the OMR-Livingstone Range area; and
- Extensive rotary, core and wellsite drilling.



Detailed mapping has been completed at the OMR, Isolation and Savanna Creek areas and additional exploration was completed between 1971 and 2002 for coalbed methane.

A total of 229 drillholes and 19 Adits located on or directly adjacent to the properties, were used to constrain the current geological interpretation. Drilling consisted of 127 core holes and 82 rotary holes. Rotary and core hole collar information was generally well constrained for X-Y coordinates. Down-hole directional information was only available for coalbed methane drill holes. As shown in Table 3 above, little work has historically been conducted in the Grassy North area, and the Exploration Target for this area is conceptual in nature. Until the 2014 drilling campaign conducted by Kuro in the area, there had been insufficient exploration to define a mineral resource. However, Kuro is now analysing the results of the 2014 and 2017 exploration programs and will release results of this analysis to the market as soon as it is available. The Exploration Targets for Grassy North and Wildcat noted in Table 1 were only based on regional drilling interpretation and extensive drilling and trenching in adjacent areas as noted in Table 3.

Detailed sample preparation summaries were reported for the Isolation Area by CanPac (refer Rushton et al., 1971) and by Granby (refer Kim, 1976). However, few records were available for the historic sample preparation procedures utilized by Scurry (OMR) and Bralorne (Savanna), but external coal quality reports were available for core samples and bulk samples. Coal samples were collected for 117 of the 127 cored (diamond) drill holes. Ten holes were not sampled as they failed to return sufficient core recoveries or did not reach the target interval.

Historic drill hole and adit locations were extracted from original exploration reports, geological logs and geophysical logs when available. Local grid locations were converted to a UTM projection format and confirmed against exploration maps. If collar locations were not provided, approximate locations were geo-referenced from exploration maps and validated against cross-sections and topography. Any locations that could not be confirmed were removed from the model dataset.

Drill intersection results were compiled using available geological logs, geophysical logs and reported coal intersection summary logs. Historic coal intersections were reconciled to geophysical logs to identify areas of core loss and to define core recoveries. Core recoveries were extracted from historic reports and geological logs. The process used to determine the grade and tonnage ranges used to describe the Exploration Target was based on the assumption of a constant bulk density value across the properties and was determined from the coal rank and average ash contents as defined in GSC 88-21. Average dried ash content was determined to be 15-20 percent by weight, with a rank classification of low-medium volatile bituminous coal. This produced a bulk density of 1.44 g/cm<sup>3</sup>. This information was then used in a Maptek Vulcan 8.2™ software package to model the coal seams. Fault surface triangulations were then created using surface and subsurface fault traces as well as fault/drillhole intersections. Drill holes, trenches, adits and surface exposures on or directly adjacent to the properties were correlated in Maptek, and then final fault blocks were created using fault triangulations. Next, seam grids

were created using FixDHD Mapfiles, a topography grid and a base of weathering grid (10 – 15 m below surface). Any oxidized coal (i.e. coal within the weathering grid) was removed from the calculations of tonnage. Horizon Adaptive Rectangular Prism block models for each area were then created. Coal and partings fractions were input to the model and then the confidence in each block (to arrive at tonnage and grade) was estimated using the distance of the block centroid to the nearest data point. The current Elan properties lease boundaries were then included to constrain the Exploration Target.

Kuro has developed an exploration program designed to test the validity of the Exploration Target for Grassy North and Wildcat over the next 12 months (assuming that the Proposed Transaction proceeds). Further mapping and trenching is planned for the other areas to validate historic work and target key areas for future programs. 55 drill sites and 118 holes totalling 24,000m, have been identified to target areas that require additional definition in Grassy North and Wildcat.

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## COMPETENT PERSON STATEMENT

The information in the announcement to which this statement is attached that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on, and fairly represents, information compiled by Mr. John Gorham, Mr. William Miller and Mr. Bradley Ulry; Competent Persons who are Professional Geologists registered with the Association of Professional Engineers and Geoscientists of Alberta, in Canada.

Mr. John Gorham, Mr. William Miller and Mr. Bradley Ulry are employed by Dahrouge Geological Consulting Ltd. (Dahrouge). Dahrouge Geological Consulting Ltd. and all competent persons are independent from the issuer of this statement, Atrum Coal Limited.

Mr. John Gorham, Mr. William Miller and Mr. Bradley Ulry have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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. John Gorham, Mr. William Miller and Mr. Bradley Ulry consent to the inclusion in the announcement of the matters based on their information in the form and context in which it appears.

## FORWARD LOOKING STATEMENT

This announcement may include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "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.

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 licenses 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.

Forward looking statements are based on the Company's 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.

Forward looking statements in this announcement 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.

## Appendix A: Drill Hole Summary

DrillHole	North	East	Elevation	Inclination	Azimuth	Drilled Depth	Drilled Depth	Drilled Thickness by		Drilled Thickness Coal		Drilled Thickness
						From (m)	To (m)	Net Coal	Ply (m)	Net	by Seam (m)	Gross Coal+
GNDH-14-01 (D)	687445	5516652	1891	-56	90	64.54	68.50		3.96			
						69.40	71.70		2.30			
						72.02	72.38		0.36			
						72.58	73.15		0.57			
						73.50	74.06		0.56			
						76.78	77.24		0.46		8.21	12.70
	124.45	126.11		0.66		0.66		0.66				
GNDH-14-02 (D)	687477	5516625	1883	-90	90	54.55	55.02		0.47			
						61.56	67.12		5.56			
						67.56	82.30		14.74		20.77	27.75
						88.64	89.26		0.62		0.62	0.62
GNDH-14-03 (D)	687276	5516727	1919	-55	90	23.05	27.67		4.62			
						28.54	28.85		0.31			
						29.02	29.25		0.23		5.16	6.20
						100.40	100.95		0.55			
						101.40	103.18		1.78		2.33	2.78
GNDH-14-04 (D)	687178	5521527	1618	-55	90	25.21	26.16		0.95			
						27.59	28.56		0.97		1.92	3.35
						77.85	78.10		0.25			
						78.23	78.62		0.39			
						80.92	82.84		1.92			
						83.51	89.63		6.12			
						90.02	91.20		1.18			
						91.45	92.24		0.79			
						93.03	94.60		1.57		12.22	16.75
	108.03	109.89		1.86		1.86	1.86					
GNDH-14-05 (R)	687481	5512553	1803	-50	45	2.05	5.67		3.62		3.62	3.62
						18.34	23.13		4.79			
						24.04	24.84		0.80			
						25.73	34.44		8.71		14.30	16.10
						116.78	119.78		3.00			
						120.23	122.11		1.88		3.88	5.33
GNDH-14-06 (R)	687481	5512553	1803	-70	60	6.15	7.38		1.23			
						7.75	10.65		3.10		4.33	4.70
						28.9	30.28		1.38			
						30.7	33.08		2.38			
						38.35	38.94		0.59			
						39.49	40.52		1.03			
						42.01	45.92		3.91			
						46.42	46.76		0.34		9.63	17.86
GNDH-14-07 (R)	687674	5512658	1813	-50	270	6.06	6.54		0.48			
						9.26	9.90		0.64			
						10.13	12.03		1.90			
						15.33	17.90		2.57		5.59	11.84
						55.60	57.23		1.63			
						58.13	59.22		1.09			
						59.54	59.95		0.41			
						60.34	62.88		2.54			
						63.42	67.77		4.35		10.02	12.17
						157.68	158.27		0.59			
158.70	161.60		2.90									
162.30	164.60		2.30		5.79	6.92						

**TABLE 1 - SAMPLING TECHNIQUES AND DATA**

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All coal seams intersected were sampled. Coal plies were sampled discretely on the basis of lithological characteristics and quality. All non-coal material and partings were included with the lower coal ply and noted in the lithological description. Non-coal interburden was sampled separately.</li> <li>All coal and roof and floor dilution samples were double bagged at site and marked with sample number, date, hole and project. These were retained on site until geophysical corrections confirmed representative core recovery of the seam and samples. The qualified samples were then transported to the laboratory via courier.</li> <li>Coal Quality samples from the drilling program were sent to Birtley Engineering (Canada) Ltd in Calgary.</li> <li>All coal quality samples were prepared and analysed using Canadian and International Standard testing methodologies.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>All coal quality holes were cored (partially or fully) using a HQ size core barrel producing a 63.3 mm core diameter.</li> <li>Large diameter drill holes for bulk material extraction were cored using a PQ size core barrel producing an 83.1 mm core diameter.</li> <li>One hole was sampled using reverse circulation drilling methods</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>An assessment of core recovery was completed by comparing the recovered thickness measured during geological logging and by the driller, to geophysical picked thicknesses from the geophysical logs.</li> <li>Volumetric analysis of samples was conducted on the exploration program</li> <li>The analysis was based on sample mass received versus expected sample mass derived from sample length by core diameter by apparent Relative Density</li> <li>If sample mass was below 95% a separate exercise interrogating the linear recovery via photos and geophysical logs was undertaken to decide whether the sample could be included and not bias the results.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul style="list-style-type: none"> <li>All core was geologically logged, marked and photographed before sampling. Geological and geotechnical features were identified and logged.</li> </ul>



Criteria	JORC Code Explanation	Commentary
Logging (cont'd)	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or core stem, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All core was geologically logged, marked and photographed before sampling. Geological and geotechnical features were identified and logged.</li> <li>All drill holes have been geophysical logged with a minimum density, calliper, gamma and verticality unless operational difficulties prevented full or partial logging of the drill hole.</li> <li>The calibration of the geophysical tools was conducted by the geophysical logging company.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>All core samples were double bagged on site and transported to the Laboratory for testing.</li> <li>Birtley Engineering (Canada) comply with Canadian and International Standards for sample preparation and sub sampling.</li> <li>Large wash samples were pre-treated and dry sized and various sizes before sample splitting and analysis. Proximate analysis was completed on a portion of the original sample.</li> <li>Raw analysis procedure keeps ½ of the sample as reserve.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Birtley Engineering (Canada) comply with the Canadian and International Standards for coal quality testing and are certified.</li> <li>Geophysical tools were calibrated by the logging company.</li> <li>The density measurement is calibrated to precise standards and where possible validated in a calibration hole.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Birtley Engineering (Canada) comply with the Canadian and International Standards for coal quality testing and as such conduct the verifications for coal quality analysis outlined in the standards.</li> <li>Coal quality results will be verified by Dahrouge Geological Consulting Ltd before inclusion into the geological model and resource estimate.</li> <li>No adjustments have been made to the Coal quality data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	<ul style="list-style-type: none"> <li>Professional Survey of the coal quality boreholes for the exploration program is still to be completed internally and then audited by an independent geological and coal quality consultant</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data spacing sufficient to establish the degree of geological and grade continuity for inclusion as Inferred and Indicated Resource estimation procedures were employed.</li> <li>• Multiple samples were obtained for some seams within the Elan Project area. As such, where appropriate, sample compositing has been completed. Samples were weighted against sample thickness and in situ RD.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A combination of vertical and inclined drill holes were completed from the same drill pad to ensure that a suitable understanding of the geological structure and orientation of the geology was captured.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measure taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sample Security was ensured under a chain of custody between Kuro Coal Elan Inc. personnel on site and Birtley Engineering (Canada).</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sampling was undertaken by Kuro Coal Elan Inc. personnel. Birtley Engineering (Canada) undertook internal audits and checks in line with the Canadian and International standards</li> </ul>

**TABLE 2 - REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code Explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>Coal tenures relate to the Elan project, which is the subject of the joint venture between Kuro and Elan, whereby Elan has the right to acquire up to a 70% interest in the project.</li> <li>The project consists of 27 Alberta Crown Coal Lease applications totalling 22,951 hectares</li> <li>Security of tenure is not compromised and there is no known impediments</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Exploration drilling within and in close proximity to the Elan project has been reviewed and evaluated for data purposes</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Property lies within the Front Ranges of the Canadian Rocky Mountains in the Crowsnest Pass area and spans the north-trending, west-dipping, Coleman, McConnell and Isolation thrust sheets. Stratigraphy on these thrust sheets is highly deformed due to fault splays that displace strata up to 10 km, and from complex folding (McDonald et al., 1989). The Crowsnest Pass area is characterized by Jurassic to Lower Cretaceous rocks of the Fernie, Blairmore and Kootenay Groups, and the Crowsnest Formation. In the Crowsnest Pass area, economic coal potential exists in the Kootenay Group, which is disconformably overlain by pebble conglomerates of the Cadomin Formation of the Blairmore Group. The Kootenay Group has a maximum thickness of 1,100 m near Sparwood, thins eastward to 150m on the Livingston Property and grades into the Nikanassin Formation near the North Saskatchewan River (Stockmal et al., 2001).</li> <li>The Late Jurassic to Early Cretaceous Kootenay Group is subdivided into three formations, the Morrissey, Mist Mountain, and Elk formations; however, in the Crowsnest Pass area, the Elk Formation is absent due to erosion and/or thinning. Faulting and folding in the Crowsnest Pass area make confirmation of the number of coal seams difficult. Historical drilling on and near the Property suggests there are 10 to 16 coal seams that range from 3 m to 10 m in thickness, many with economic potential (Kim, 1976).</li> <li>Stratigraphy in the Crowsnest Pass area has been subjected to first and second order faulting, as well as complex folding. The major faults, the Coleman, McConnell and Livingstone thrusts, trend north and dip to the west at 08°, and displace the stratigraphy approximately 9.5 km eastward. Major folds, including the Crowsnest Syncline and Allison Anticline (Rushton et al., 1972), also trend north.</li> </ul>



		<p>Secondary local thrusts trend north, and occur within each thrust sheet, resulting in local structure units or packages affecting the coal seam thickness and occurrence</p> <ul style="list-style-type: none"> <li>Ten coal seams have been correlated in the Isolation South (OMR) and Isolation areas on the McConnell Thrust sheet. These are labeled S1 through S10, from lowest to highest stratigraphically. Seams S5, S7, and S8 have the most economic potential as they are relatively thick and extensive. Three coal seams have been identified on the Coleman Thrust sheet but do not seem to correlate with the other identified seams. Ten coal seams have been identified on the Livingstone Thrust sheet north of Grassy Mountain, three of which (Seam S6, S7A, and S7b) carry most of the resource and are probably correlateable with the seams at Grassy Mountain. Coal rank is medium– volatile bituminous with variable but generally moderate ash content, good washability, and good coking properties.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level– elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>All drill holes have been modelled from vertical, although hole deviation (from vertical) has been recorded for all drill holes.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>All seams where multiple coal quality samples were taken were given a composite coal quality value. This composite value was generated within the Maptek Vulcan 8.2TM software and was weighted on thickness and in situ RD. In situ RD was only weighted against thickness.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its</li> </ul>	<ul style="list-style-type: none"> <li>The inclusion of boreholes from neighbouring areas has given the model a reasonable amount of lateral continuity in all directions.</li> <li>Point of observation spacing has been</li> </ul>

	<p><i>nature should be reported.</i></p> <ul style="list-style-type: none"> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<p>extrapolated in a maximum of a 200 m radius from the drill hole.</p> <ul style="list-style-type: none"> <li>Seam thicknesses have been corrected to geophysics to ensure accuracy</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>All appropriate diagrams are contained within the main body of the report</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>All available exploration data for the Elan Project area have been collated and reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>No further exploration data was gathered and or utilised.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Further work consisting of additional drilling and seismic activity is being evaluated.</li> </ul>

**TABLE 3 - ESTIMATION AND REPORTING OF MINERAL RESOURCES**

Criteria	JORC Code Explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>• <i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i></li> <li>• <i>Data validation procedures used.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The resource estimates which form part of this report were based on historical drilling, trenching, and adit data collected mainly in the period from 1969 to 1976 by companies then active in the area now forming the Property. Dahrouge completed a 100% validation of available historic work and created an independent database. The data sets, including analytical data, are incomplete in some instances, and analytical certificates and details of QA/QC programs were not necessarily included in the summary reporting. Not all data addressed in summary reports could be located by Dahrouge and could not be utilized in this report. The authors have reviewed the data for consistency between the different projects and companies, and eliminated data that could not be constrained or confirmed in reports or government databases. The authors have concluded that work completed by the coal production and exploration companies was completed in a professional manner that was consistent with the data collection and reporting standards at that time.</li> <li>• The historical reports used for this compilation included historic reserve and resource estimates that no longer meet NI 43-101 criteria. While the authors have presented and reviewed the methods and results of these estimates, they should be considered historical and used only for comparison to resource estimates presented in this report. Variations in available data density and quality used for these estimates have led the authors to report inferred and indicated resources only, and to present the balance of coal in place as exploration targets. Confirmatory and further exploration drilling are required to validate these estimates.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the</i></li> <li>• <i>Competent Person and the outcome of those visits.</i></li> <li>• <i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Dahrouge has undertaken several site visits to the Elan project.</li> <li>• Several reviews were conducted of the field procedures and sampling practices, and they were deemed to be of an acceptable industry standard at the time of the visit.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of ) the interpretation geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Project lies within the Front Ranges of the Canadian Rocky Mountains in the Crowsnest Pass area and spans the north-trending, west-dipping, Coleman, McConnell and Isolation thrust sheets. Stratigraphy on these thrust sheets is highly deformed due to fault splays that displace strata up to 10 km, and from complex folding (McDonald et al., 1989). The Crowsnest Pass area is characterized by Jurassic to Lower Cretaceous rocks of the Fernie, Blairmore and Kootenay Groups, and the Crowsnest Formation. In</li> </ul>

Criteria	JORC Code Explanation <i>of grade and geology.</i>	Commentary
		<p>the Crowsnest Pass area, economic coal potential exists in the Kootenay Group, which is disconformably overlain by pebble conglomerates of the Cadomin Formation of the Blairmore Group. The Kootenay Group has a maximum thickness of 1,100 m near Sparwood, thins eastward and grades into the Nikanassin Formation near the North Saskatchewan River (Stockmal et al., 2001).</p> <ul style="list-style-type: none"> <li>• The Late Jurassic to Early Cretaceous Kootenay Group is subdivided into three formations, the Morrissey, Mist Mountain, and Elk formations; however, in the Crowsnest Pass area, the Elk Formation is absent due to erosion and/or thinning. Faulting and folding in the Crowsnest Pass area make confirmation of the number of coal seams difficult. Historical drilling on and near the Project suggests there are 10 to 16 coal seams that range from 3 m to 10 m in thickness, many with economic potential (Kim, 1976).</li> <li>• Stratigraphy in the Crowsnest Pass area has been subjected to first and second order faulting, as well as complex folding. The major faults, the Coleman, McConnell and Livingstone thrusts, trend north and dip to the west at 08°, and displace the stratigraphy approximately 9.5 km eastward. Major folds, including the Crowsnest Syncline and Allison Anticline (Rushton et al., 1972), also trend north. Secondary local thrusts trend north, and occur within each thrust sheet, resulting in local structure units or packages affecting the coal seam thickness and occurrence.</li> <li>• Ten coal seams have been correlated in the Isolation South (OMR) and Isolation areas on the McConnell Thust sheet. These are labeled S1 through S10, from lowest to highest stratigraphically. Seams S5, S7, and S8 have the most economic potential as they are relatively thick and extensive. Three coal seams have been identified on the Coleman Thrust sheet but do not seem to correlate with the other identified seams. Ten coal seams have been identified on the Livingstone Thrust sheet north of Grassy Mountain, three of which (Seam S6, S7A, and S7b) carry most of the resource and are probably correlateable with the seams at Grassy Mountain. Coal rank is medium-volatile bituminous with variable but generally moderate ash content, good washability, and good coking properties.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>• <i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width and depth below surface to the upper and limits of the Mineral Resource</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Honeymoon structure unit is a large north-south trending anticline that extends for over 10 km and flattens out to the south, where it forms the west limb of the Isolation Syncline (Kim, 1976).</li> <li>• Limbs dip to the west at 60-90° and, where overturned, at 25-45° to the west. Five to</li> </ul>



Criteria	JORC Code Explanation	Commentary
		<p>seven coal seams have been identified in the Honeymoon structure unit. Throughout the structure unit, the three main seams range in thickness from 1 to 10.2m thick with partings between 0.2 to 0.9m thick.</p> <ul style="list-style-type: none"> <li>• The Isolation structure unit is an asymmetric syncline. The east limb dips west at 30-40° and forms several prominent ridges and hills, including Isolation Ridge, Knoll Hill, and Forepeak Ridge. The west limb dips 25-45° and forms the east limb of the Honeymoon Anticline. In the Isolation structure unit, the Kootenay Group ranges from 213 to 244 m in thickness. Three coal seams have been identified in the northern part of the structure unit and range in thickness from 0.1 to 7.9 m, with parting thicknesses between 0.45 and 0.60 m.</li> <li>• The Coaltop structure unit is a west-dipping (45°) tabular unit with westerly dipping faults throughout that commonly truncate the coal seams. Locally, coal seams are thickened to 18 m by a subsurface syncline. This structure unit continues to the west for 4.8 km and forms several prominent hills including Tomorrow Hill, Coaltop Hill and Poncho Hill.</li> <li>• The Outlook Ridge structure unit is an anticline-syncline pair that has been separated; the anticline is now thrust overtop of the syncline. Limbs of this structure are west- dipping at 50-60° and are occasionally overturned. Coal seams range from 5.3 m to 13.5 m in thickness with parting thicknesses ranging from 0.09 m to 3.84 m. The coal seams are interpreted to be up to twice their original thickness as a result of the complex thrusting.</li> <li>• The Twin Ridge structure unit is characterized by abundant tight folding and fracturing of the stratigraphy. Extensive, high-grade coal seams are rare; however, the high-grade seams range from &lt;1 m to 8 m in thickness with parting thicknesses ranging from 0 to 2.8 m.</li> <li>• The Cabin structure unit is located south of the Twin Ridge structure, but due to structural simplicity, it is separated into its own entity. It is comprised of the eastern limb of the Syncline Hill syncline, which has an extensive Blairmore conglomerate and Kootenay sandstone contact. Limb steepness varies from 50-60° in the north to 75° in the south. There may be economic coal potential in the Cabin structure; however, this structure unit lacks the historic drilling and geological data to correlate seams from the Twin Ridge structure unit.</li> <li>• A number of other, predominantly unnamed thrust faults, including Station Creek, occur within the Property on the</li> </ul>

Criteria	JORC Code Explanation	Commentary
		Livingstone Thrust; however, no related structure units have been characterized. The Coleman (Savanna Area) and Livingstone thrust sheets have simpler structure than the McConnell thrust sheet, as they have fewer documented secondary folds and faults, in addition to a lack of significant displacement.
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by- products.</li> <li>Estimation of deleterious elements or other non- grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Import data into the mining software package (Maptek Vulcan 8.2™).</li> <li>Create fault surface triangulations using surface and subsurface fault traces as well as fault/drillhole intersections.</li> <li>Correlate drill holes, trenches, adits and surface exposures on or directly adjacent to the Property.</li> <li>Create final fault blocks by applying a Boolean Test to a blank fault block solid using the fault surface triangulations.</li> <li>Grid the topography and base of weathering triangulation surfaces. Base of weathering was created 10 m below topography in the Isolation South (OMR), Savanna, and Livingstone areas and 15 m below topography in the Isolation Area.</li> <li>Create seam grids and triangulations in Model Stratigraphy using the FixDHD Mapfiles, topography grid, and base of weathering grid. Seam grids were cropped against the base of weathering grid to remove oxidized coal.</li> <li>Create HARP (Horizon Adaptive Rectangular Prism) block models for each sub area using the parting and thickness grids as qualities. Blocks were 25 m x 25 m with a sub-blocking of 2 (x and y directions) except in the Livingstone area where blocks were 100 m x 100 m with a sub-blocking of 2.</li> <li>Create coal/parting fraction attributes for each seam in the HARP and populate it using the quality grids (coal thickness/aggregate seam thickness).</li> <li>Classify block confidence using the distance of the block centroid to the nearest data point</li> <li>Determine the cumulative stripping ratio for each block of coal within the model (total volume of waste/total tonnage of product).</li> <li>Constrain resource estimation by the current Elan Lease boundaries.</li> <li>Constrain resource estimation to seam thickness greater than 0.5 m for indicated and inferred classification.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>The tonnages are reported on an As Received Basis with natural moisture included. The moisture content is determined from the results of Proximate Analysis laboratory testing.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The resource estimate was made using a minimum thickness of 0.5m</li> </ul>

Criteria	JORC Code Explanation	Commentary
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Additional work is required to be undertaken by Kuro as part of the Joint Venture.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Independent quality analysis had been completed for each of the defined historic resource areas, Isolation South (OMR), Isolation, and Savanna. Sampling programs included HQ diameter core samples, adit channel samples, and adit bulk samples. Analytical and petrographic analyses were completed at A.S.T.M certified labs; however, the analyses predate the current ISO laboratory certification requirements. Core intervals containing coal were sampled using project-defined procedures (Figure 11-1 to 11-5), processed as raw and clean core samples, and analysed.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Additional work is required to be undertaken by Kuro as part of the Joint Venture.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Historic density information for deposits on the Property is relatively sparse. A constant bulk density value was assumed across the property and was determined from the coal rank and average ash contents as defined in GSC 88-21. Average dried ash content was determined to be 15-20 percent by weight, with a rank classification of low-medium volatile bituminous coal. This produced a bulk density of 1.44 g/cm<sup>3</sup>.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>The resource estimate has been compiled according to the JORC 2012 guidelines applicable at the time and relevant to the Elan Project.</li> <li>The resource estimate has been categorised according to JORC Indicated and Inferred and the associated Exploration Target.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>An internal Company review of the Resource and the associated Technical Reports was undertaken prior to the public release of this information.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>The categories of the resource in accordance with the JORC 2012 guidelines were considered acceptable by the Qualified Person during the classification of the resources.</li> </ul>