

# EXPLORATION TARGET SUMMARY FOR THE ISOLA PROPERTY

# **Prepared for Montem Resources Alberta Operations Ltd.**

Alberta Coal Leases: 1319090188, 1319090191, 1319090192, 1319090193, 1319090194, 1319090195, 1307070578, 1307070579, 1307070580

**JULY 5, 2020** 



# Prepared By:

## DAHROUGE GEOLOGICAL CONSULTING LTD.

SUITE 103, 10183 112TH STREET NW, EDMONTON, ALBERTA T5K 1M1 CANADA

TEL: +1 780 434 9808 | FAX: +1 780 439-9789 | www.dahrouge.com

## Prepared and Signed By:

John Gorham, P.Geol., Dahrouge Geological Consulting Ltd.

Matthew Carter, P.Geo., Dahrouge Geological Consulting Ltd.

# Montem Resources - Summary of Exploration Target on the Isola Property

Montem Resources Alberta Operations Ltd. ("Montem") is a wholly owned subsidiary of Montem Resources Ltd. Montem is a coal exploration and mine development company which currently holds the coal rights to the Isola Property ("Isola" or "Property") which is located in the Crowsnest Pass region of southwest Alberta. This summary of the Isola Exploration Target is intended to be compliant with the JORC Code (2012) and meet the 2014 Australian guidelines for estimation and classification of coal resources. It summarizes historical coal exploration at Isola and presents an Exploration Target based on the historical mapping on the Property and drilling on and adjacent to the Property. It must be noted that the potential quantity and grade of the Exploration Target presented herein is conceptual in nature and that it is uncertain whether further exploration will result in the estimation of a Mineral Resource.

## **Isola Exploration Target**

The Isola Property lies on both sides of Highway 40 (Forestry Trunk Road), about 50km north of Coleman in the Crowsnest Pass of Alberta, Canada. It consists of 9 Alberta Coal Leases wholly owned by Montem totaling 4832 ha (Table 2; Figures 1 and 2). Dahrouge Geological Consulting Ltd. ("Dahrouge") has prepared an estimation of an Exploration Target for the Isola Property on behalf of Montem (Table 1). There has been limited coal exploration drilling on the Property.

Table 1: Isola Exploration Target (June, 2020)

Area	Exploration Target (Mt)			
	Lower Range (20:1 SR, 250 m Depth Cut-Off)	Upper Range (600 m Depth Cut-Off)		
Isola	275	900		

#### **Discussion of Land Category Changes**

On May 15, 2020, the Alberta Government announced that the 1976 Coal Policy will be rescinded effective June 1, 2020 (<a href="https://inform.energy.gov.ab.ca/Documents/Published/IL-2020-23.pdf">https://inform.energy.gov.ab.ca/Documents/Published/IL-2020-23.pdf</a>). All restrictions on issued coal leases within the former Coal Categories 2 and 3 have been removed, therefore the development status of Isola allows for both exploration and mining. Alberta will continue to restrict coal leasing, exploration and development within public lands formerly designated as Coal Category 1.

#### **Property Description**

The Isola Property is located between 45 and 55 km directly to the north of the town of Coleman, in the Crowsnest Pass region of Alberta, Canada. It abuts Atrum Coal Ltd.'s (Atrum) Isolation South Project to the south, Atrum's Isolation Property to the west, and Atrum's Isola Property to the east (Figure 9). The city of Calgary is located approximately 240 road kilometres to the northeast of the Project. The Property consists of 9 Alberta Coal Leases wholly owned by Montem totaling 4832 ha (Table 2; Figure 2). These leases straddle Alberta Hwy 40 (Forestry Trunk Road) and are bounded approximately by Savanna Creek to the north and Deep Creek to the south.

The Project is partially located within the Mountain Goat and Bighorn Sheep range (Figure 2). In this area, any disturbances that may have direct or indirect adverse effects, such as permanent alteration of habitat must be avoided or mitigated. Additionally, the entire Project is located within a Grizzly Bear Protection Zone; regulations require that Montem provide and preserve either core or secondary grizzly bear habitat. A



portion of the Property along the Livingstone River is located in the Key Wildlife and Biodiversity Zone (Figure 2). The Alberta government outlines guidelines for these areas in order to protect the long-term integrity and productivity of the ungulate winter ranges and populated areas. New permanent access is to be avoided, temporary access should minimize disturbance to wildlife habitat, and industrial work should be limited between December 15<sup>th</sup> and April 30<sup>th</sup>. Two alpine areas of the Property were included in the South Saskatchewan Regional Plan ("SSRP") and have been withdrawn from disposition and added to the Don Getty Wildland Provincial Park.

**Table 2: Isola Property Alberta Coal Leases** 

Lease Type	Agreement Number	Status	Term Date	Expiry	NTS Map Sheet	Project Area	Area (ha )
13	1319090188	Active	26-Sep-19	26-Sep-34	082J01	Isola	656
13	1319090191	Active	26-Sep-19	26-Sep-34	082J01	Isola	608
13	1319090192	Active	26-Sep-19	26-Sep-34	082J01	Isola	1024
13	1319090193	Active	26-Sep-19	26-Sep-34	082J01	Isola	894
13	1319090194	Active	26-Sep-19	26-Sep-34	082J01	Isola	797
13	1319090195	Active	26-Sep-19	26-Sep-34	082J01	Isola	358
13	1307070578	Active	12-Jul-07	12-Jul-22	082J01	Isola	128
13	1307070579	Active	12-Jul-07	12-Jul-22	082J01	Isola	240
13	1307070580	Active	12-Jul-07	12-Jul-22	082J01	Isola	128

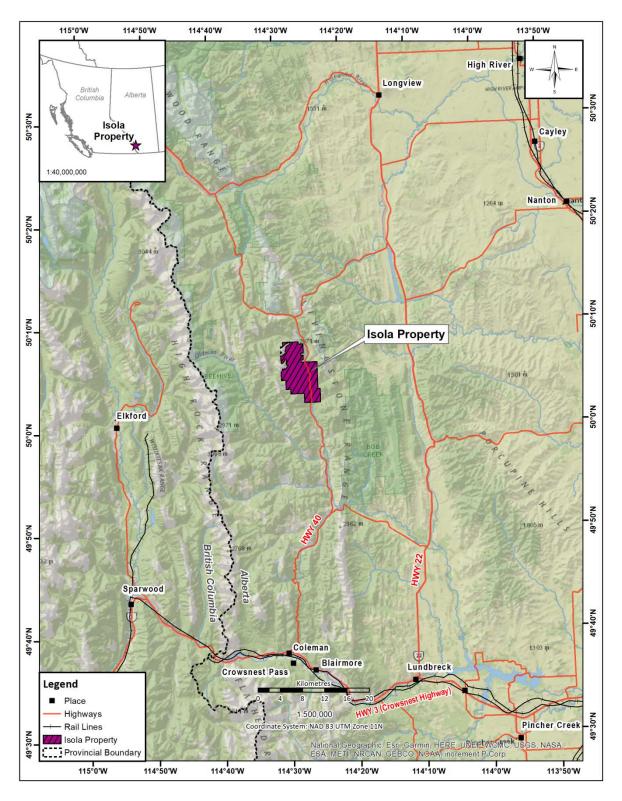


Figure 1: Location Map

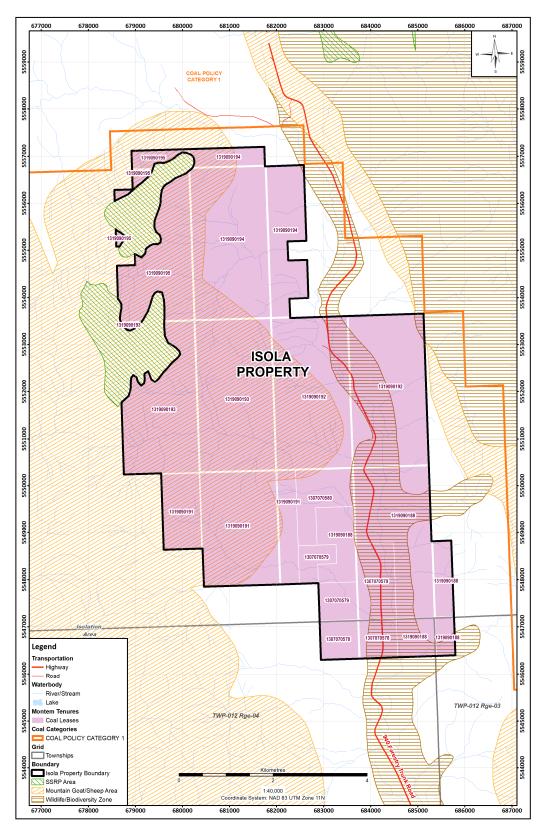


Figure 2: Isola Property Map Historical Exploration

In 1947, D.J. MacNeil conducted geological mapping in the area that now makes up part of Montem's Isola, Chinook Vicary and 4-Stack Properties. Mapping of the Blairmore area by the GSC was summarized by D.K. Norris (1955). Geological mapping programs were carried out in the area, by V.H. Johnson in 1965 through 1967 for Coleman Collieries Ltd. Three core holes were drilled and sampled in 1971 by Coleman Collieries, and a further program of mapping and surface trenches, three of which were located on the Property, was carried out by Granby Mining Corp.('Granby") in 1975. Two coalbed methane wells were drilled on the Property as part of a regional program by Northstar Energy Corporation in 2001 and 2002.

## **Geology of the Isola Property**

The Isola Property lies within the Front Ranges of the Canadian Rocky Mountains, in southwestern Alberta, and spans the north-trending, west-dipping Coleman thrust sheet. It is underlain by Jurassic and Cretaceous rocks of the Fernie Group, Kootenay Group, Blairmore Group, and Crowsnest Formation, and undivided Upper Cretaceous formations (Figure 3 and Figure 4). The Mist Mountain Formation of the Kootenay Group contains coal seams with economic potential, extending onto the Property from Atrum's Isolation South Property and Isola properties to the south and east respectively. Although the sandstones of the Morrissey Formation provide a clear base to the Mist Mountain Formation on the Property, the separation of members within the Mist Mountain Formation, as seen further south in the Crowsnest Pass area, is not distinct.

Structure on the Property is, moderate to complex, dominated by broad synclines dipping at 10° to 20° on either side of the Station Creek Thrust which bisects the Property. The Blairmore and Kootenay Group rocks are variably truncated on the eastern side of the Property by the Livingston Thrust. The McConnell Thrust along the west side of the Property brings Kootenay Group rocks over the shallow-dipping Blairmore Group sequence exposed on the Property (Figures 6 and 7). Dips are generally less than 25°. Fault repetition has been noted on the limbs of the syncline, particularly on the west side of the Property. For purposes of this report and because of the lack of detailed information on historic seam correlation, the nomenclature adopted from the adjoining Atrum Isolation South Property is used. Seams are labeled 1, 2, 3 and 4 with splits (A, B, C and D, where they occur), from top to bottom (Figure 5) for regional consistency.

## **Drilling and Trenching**

Coleman Collieries Ltd. drilled three vertical drillholes (CC-DDH-I-1, CC-DDH-I-2 and CC-DDH-I-3) on the Property in 1971, totalling 990.7m (Figure 4, Table 3). All three holes intersected coal and proximate analysis of washed coal was completed (Table 4). Cumulative true thickness of coal in the drillholes ranged from 11.6 to 17.3m. The interpreted S3 seam was intersected at thicknesses of 9.0m, 8.9m and 7.4m (S3A-C plies) in holes CC-DDH-I-1, CC-DDH-I-2 and CC-DDH-I-3respectively.

In 1975, Granby Mining Corp. excavated 16 trenches in the Isola area, three of which were located on, or immediately adjacent to the Property (Figure 4, Table 3). Trench GB-01 is located in a roadcut and exposed 3.7m and 1.5m of coal separated by 3m of shale and mudstone. Trench GB-02 exposed 4.9m of coal in the bank of Isolation Creek. Trench GB-16, near GB-01, exposed at least 3.7m of oxidized coal overlain by overburden, also in the bank of Isolation Creek (Granby Mining Corp., 1975).

In 2001, Northstar Energy Corporation ("Northstar") drilled two holes on the Property, totalling 1,277.6m (Figure 4, Table 3), as part of a regional coalbed methane drilling program (Figure 4, Table 3). CBM100-13-13 was located near the centre of the Property between CC-DDH-I-1 and CC-DDH-I-2. It intersected 8 seams for an 18.2m cumulative coal thickness. The thickest S3 was 8.2m. CBM100-06-01 near the south end of the Property intersected 8 seams for a 21.4m cumulative coal thickness. Seam S3 was 8.75m thick. This seam appears to correlate with the 7.4 to 9.0m seam encountered in the Coleman Collieries drillholes. Holes were geophysically logged and apparently sampled, but that sample information is not available to the authors.



Table 3: Drilling and Trenching on the Isola Property

Area	Campaign	# DDH	# Trench	Meterage	Company
Isola	1971	CC-DDH-I-1		219.8	Coleman Collieries
Isola	1971	CC-DDH-I-2		569.1	Coleman Collieries
Isola	1971	CC-DDH-I-3		201.8	Coleman Collieries
Isola	1975		GB-01	20	Granby Mining Corp.
Isola	1975		GB 02	22	Granby Mining Corp.
Isola	1975		GB-16	24	Granby Mining Corp.
Isola	2001	CBM100-06-01	CBM100-06-01		Northstar Energy Corp.
Isola	2001	CBM100-13-13 394.2		394.2	Northstar Energy Corp.

#### **Coal Quality**

Limited historical coal quality data is available for the Isola Property. The three core holes drilled in 1971 were sampled by seam in 2 ft increments and submitted to Warnock Hersey International Limited labs in Vancouver, B.C for washing, air drying, weighing and float/sink analysis at SG=1.58, with sink fraction re-run at SG=1.60. Ash was determined for 1.58 float and 1.60 sink fractions, and proximate analysis performed. A summary of results is presented in Table 4. The range of volatile matter between 20.6% and 22.1% indicates a rank on the threshold between low-and medium-volatile bituminous coal. Well logs from the two CBM holes drilled by Northstar indicate that sampling was carried out on seams intersected in those holes.  $R_0$ Max values of 1.35% for seam S4, 1.38% for seam S4, 1.33% for seam S3 and 1.25% for seam S2 are shown on logs for 13-13-013-04W5 indicating a rank of medium-volatile bituminous coal. Based upon these results, the Isola coal seams appear to be low-volatile to medium-volatile bituminous coal with a reasonable possibility of producing a coking coal product after beneficiation in a wash plant. A significant amount of drilling and coal quality analysis is required to properly characterize a resource on the Isola Property.

**Table 4: Coal Quality Results from Coreholes** 

-	# DDH	From (m)	To (m)	Thickness (m)	% Recovery	Seam	S.G.	Ash %	F.S.I	% Volatiles	% S
	I-1	146.3	150.6	4.3	87.2	S3	1.58	5.2	7.4	22.1	0.31
	I-2	555.2	563.9	8.7	76.0	S3	1.60	10.3	5	21.1	-
	I-3	89.5	92.1	2.7	53.0	S2	1.58	10.8	7.5	20.6	0.96
	I-3	124.1	128.6	4.6	80.6	S3	1.58	9.8	3.9	20.1	0.37
	I-3	130.8	136.1	5.3	70.2	S3	1.58	10.8	5.3	20.1	0.53
	I-3	163.4	167.6	4.3	-	S4	_	-	_	-	-

#### **Historical Resource Estimates**

An in-house estimate of potentially recoverable 'reserves' (what would now be termed historical resources) was made by Coleman Collieries Ltd. and reported in an office memo dated March 16, 1971 which predates drilling. No technical report is available to the authors; therefore, methods of estimation and assumptions used are unknown. Five areas on the Property with recoverable coal at less than 600 m depth were estimated to contain more than 190 million tonnes. The authors caution that these estimates are historical and must be



corroborated by a program of drilling and coal quality assessment before they could be deemed current and compliant.

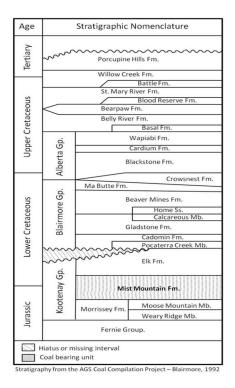


Figure 3: Stratigraphic Column (Modified from Richardson et al., 1992)

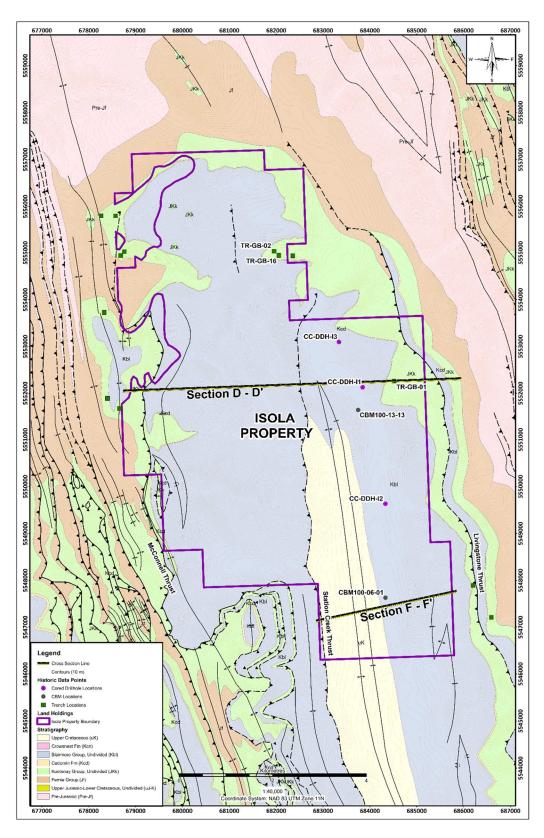


Figure 4: Geology of the Isola Property

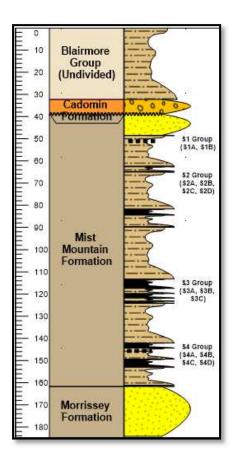


Figure 5: Stratigraphic Column for Isola

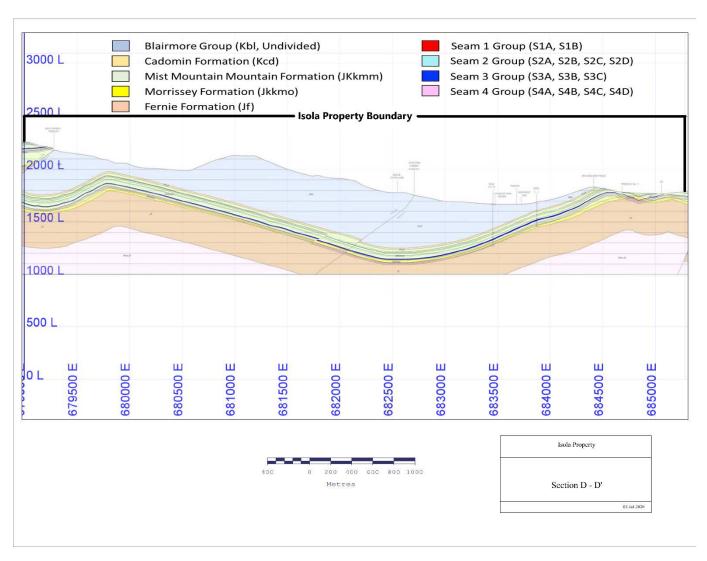


Figure 6: Cross Section D - D', modelled coal seams projected onto regional stratigraphy (modified from Lawrence, see Figure 4 for trace)

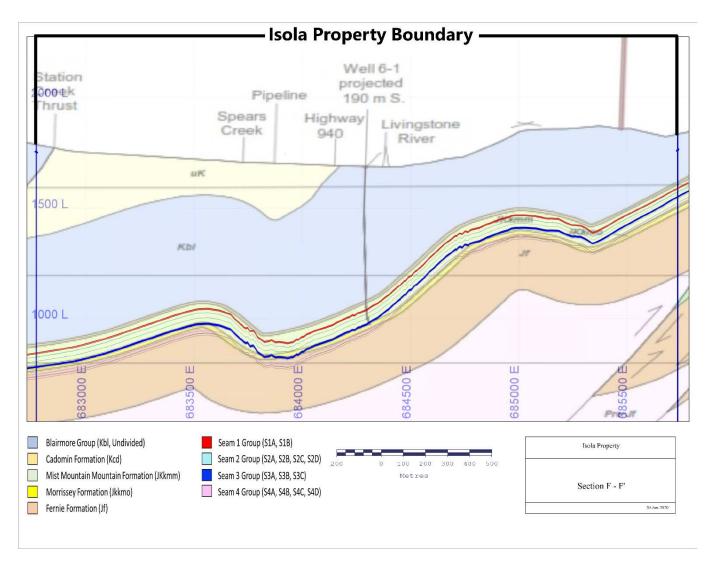


Figure 7: Cross Section F - F', modelled coal seams projected onto regional stratigraphy (modified from Lawrence, see Figure 4 for trace)

#### **Exploration Target Development**

The Exploration Target reported herein (Table 1, 5, and Figure 8) was created from a geological model of the Isola Property. Valid data points for constructing the geological model were obtained from drillhole intersections, trenches, and surface outcrops (Table 6 - Appendix 1). The topographic surface utilized for the Isola geologic model was a combination of LiDAR 15 DEM purchased from Altalis, and open-source topographic data from the Canadian Federal Geospatial Platform. A bulk density of 1.45 g/cm³ was assumed across the Isola Property and the following modelling methodology used to generate the Exploration Target:

- Import data into Maptek Vulcan 12.0.4™
- Validate database
- Create fault surface triangulations using surface and subsurface fault traces
- Correlate drill holes, trenches, and surface exposures on or directly adjacent to the Isola Property
- Generate fault blocks
- Validate fault blocks by applying a Boolean test against the fault surface triangulations
- Grid the topographic surface
- Run FixDHD to create an interpolated seam mapfile database
- Create 50 m seam grids and triangulations in Model Stratigraphy using the FixDHD mapfile database and topography grid
- Evaluate behavior of Model Stratigraphy generated coal seams against geologic and structural controls
- Validate Model Stratigraphy coal seam triangulations
- Create a HARP (Horizon Adaptive Rectangular Prism) block model for the Isola Property; blocks were 25 m x 25 m with no sub-blocking
- Determine the cumulative stripping ratio for each block of coal within the HARP model
- Constrain the Exploration Target calculation criteria by a minimum true thickness of coal greater than 0.6 m and a maximum internal parting of 0.3 m.
- Constrain the Exploration Target by the current Isola Property boundaries
- Crop the Exploration Target to the base of weathering, projected 10 m down from the topographic surface

The Exploration Target was defined for the Isola Property in areas where there has been insufficient exploration to estimate a Mineral Resource. It must be noted that the potential quantity and grade of the Exploration Target presented herein is conceptual in nature and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target was controlled by:

- Surficial geology maps from Coleman Collieries and Granby Mining
- Use of the Cadomin Formation as a marker horizon
- Projected down-dip and along strike extensions
- Historically mapped coal outcrops and trenches (Coleman Collieries and Granby Mining)
- Limited drilling on the Property

The Isola Exploration Target (Figure 8) covers an area of approximately 4783 ha and is bound to the east by the truncating Livingstone Thrust as well as by geology, down-dip depth restrictions and the Property boundary.

The Exploration Target displayed in Table 5 and Table 1 is presented as an upper and lower range and rounded to the closest 5 million tonnes. Conceptual Exploration Targets are presented as a range to represent the uncertainty in seam thickness, quality and location. The upper (larger tonnage) range was generated using only a 600 m depth cut-off; the lower (smaller tonnage) range was generated by restricting the upper



range to a 250 m depth cut-off and applying a 20:1 stripping ratio. The Exploration Target was generated using the methods and restrictions described but the entire Exploration Target falls outside areas with sufficient data density and valid points of observation that define seam thickness.

Table 5: Modelled Conceptual Exploration Targets for Isola Property (June, 2020)

Area	Exploration Target (Mt)			
	Lower Range (20:1 SR, 250 m Depth Cut-Off)	Upper Range (600 m Depth Cut-Off)		
Isola	275	900		

#### **Recommendations:**

Relatively uncomplicated structure, low-volatile bituminous coal, and the presence of at least one seam in the order of 8-9m true thickness make the Isola Property an attractive exploration target. The broad synclinal structure brings coal-bearing strata to surface along the edges of the Property, indicating good potential for open-pit mining. The Kootenay Group rocks are estimated to be at a depth of 1500-1700m at the centre of the Property. The Exploration Target should be assessed by systematic drilling as part of an exploration program once the appropriate permits are received. Recommended exploration would include:

- High resolution LiDAR flown over Property to support mapping and modelling.
- Confirmation mapping, especially along creek exposures
- 5,000 m of rotary air blast or reverse circulation drilling to evaluate the presence/absence of the conceptual coal seams identified within the Exploration Target
- Downhole geophysics on all completed drillholes to accurately identify coal seam intersections
- Large diameter coring of confirmed coal intersections to evaluate coal quality of each identified coal seam, evenly distributed across the Exploration Target



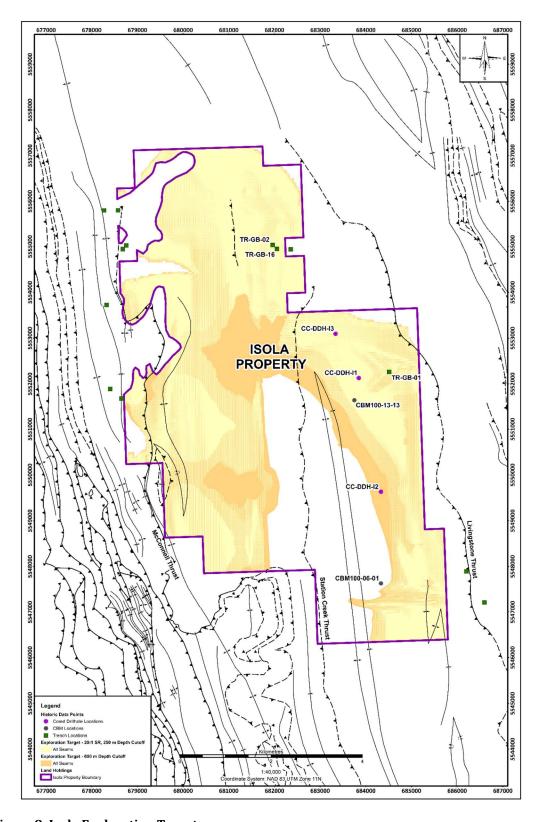


Figure 8: Isola Exploration Target

<sup>\*</sup>The displayed exploration target is conceptual in nature and it is uncertain if further exploration will result in the estimation of a Mineral Resource



## **Adjacent Properties**

There is an extensive history of coking coal exploration and production from the Mist Mountain Formation south and west of the Isola Property, both in the Crowsnest Pass area of southwestern Alberta and the Elk River Valley of southeastern BC. Several coal projects are currently undergoing exploration and development near the Isola Property that closely reflect the geologic conditions on the Property. These include Benga Mining Ltd.'s (Riversdale Resources Ltd.) Grassy Mountain Coal Project and Atrum Coal Ltd.'s Elan Coal Project (Figure 9).

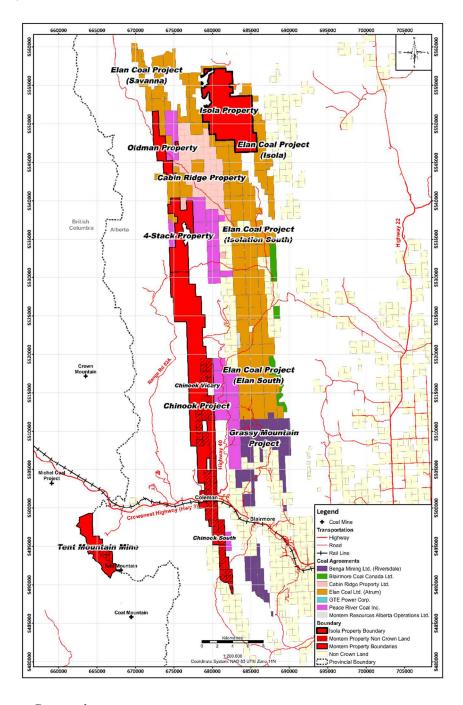


Figure 9: Adjacent Properties

#### **Competent Persons Statement**

The information in this report that relates to an Exploration Target is based on information compiled by Mr. Matthew Carter, and Mr. John Gorham, Competent Persons and members of the Association of Professional Engineers and Geoscientists of Alberta (APEGA) a Recognized Professional Organization (RPO) where they hold the accreditation of Professional Geologist.

Mr. Carter, P. Geo. and Mr. Gorham, P. Geol. of Dahrouge are the Qualified Persons responsible for preparing this JORC Compliant Competent Persons Report on the Property.

Mr. Carter and Mr. Gorham are employees of Dahrouge and are independent of Montem Resources Alberta Operations Ltd., and its parent company Montem Resources Ltd.

Mr. Carter and Mr. Gorham have sufficient experience that is relevant to the style of mineralization and type of deposit under consideration, and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Mr. Carter and Mr. Gorham consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

Mr. Gorham visited the Property on June 10 and June 19, 2020. Mr. Carter did not visit the Property.

thu Cate

'Signed and Sealed'

'Signed and Sealed'



Dated: July 5, 2020

John Gorham, P. Geol.

Dated: July 5, 2020



#### References

- Atrum Coal Ltd. News Release. **"97 Mt Increase in Isolation South Resource"** (2019, December 2). Retrieved from <a href="https://atrumcoal.com/investor-information/announcements/">https://atrumcoal.com/investor-information/announcements/</a>
- Booth, J.K.B., and Leigh, O.E., 1973. **Report on Coleman Collieries Ltd Prepared for Northern and Central Gas Corporation.**
- Coleman Collieries Ltd. 1971a. **Isola Project Estimated Recoverable Tonnage.** Coleman Collieries Ltd internal memo, p.1.
- Coleman Collieries Ltd., 1971b. **Drill Holes, Isolation Area, 1971**. Coleman Collieries Ltd internal memo, p.15.
- Douglas, R.J.W., 1949. Geology of the Gap Map Area, Alberta (82G/16 West Half); G.S.C Map 978A.
- Granby Mining Corporation, 1975. **Granby Isola Trench Diagrams and Mapping.** Granby Mining Corp. internal memo. p.14+map.
- Gibson, D.W. 1985. **Stratigraphy, Sedimentology and Depositional Environments of the Coal-Bearing Jurassic-Cretaceous Kootenay Group, Albert and British Columbia**. Geological Survey of Canada Bulletin 357, p. 108.
- Johnson, V.H., 1967. **Coal in Johnson Creek, E. of Plateau Mtn., Twp 14 &15; Range 3 & 4 W5.** Colman Collieries Ltd. internal memo, p. 2.
- Johnson, V.H., 1967. Exploration of Livingstone-Isola Area. Colman Collieries Ltd. internal memo, p. 4.
- Johnson, V.H., 1969. Preliminary Appraisal of Coal Potential, Isola Property
- Lawrence, G.F., 2002. **Regional Coal Geology, Blairmore to Savanna Creek, Alberta;** Lawrence Consulting and Resources Ltd, amended 2013.
- Macdonald, D.E., Langenberg, C. W., Gentzis, T., 1989, **A Regional Evaluation of Coal Quality in the Foothills/Mountains Region of Alberta.** Alberta Research Council Earth Sciences Report 89-2, p. 49 plus appendices and maps.
- MacNeil, D.J. 1947. **The Geology of the Kootenay Coal Seams As They Occur North of Coleman, Alberta.** Prepared for McGillivray Creek Coal and Coke Co.
- Norris, D.K., 1955, Blairmore Alberta, G.S.C. Preliminary map 55-18
- Norris, D.K. 1959, **Type Section of the Kootenay Formation, Grass y Mountain, Alberta**; Journal of Alberta Society of Petroleum Geologists, vol. 7, p. 223-233.
- Norris, D.K., 1989, The Geology of the Beehive Mountain- Livingstone River Area, Alberta-British Columbia, G.S.C Open File 2126, 2 maps.
- Norris, D.K., 1993. **Geology and Structure Cross-sections, Langford Creek (West Half), Alberta;** G.S.C. Map 1837A.
- Norris, D.K., 1993. **Geology and Structure Cross-sections, Fording River (East Half), Alberta;** G.S.C. Map 1831A.
- Price, R.A., 1986, The Southeaster Canadian Cordillera: Thrust faulting, tectonic wedging, and delamination of the lithosphere; Journal of Structural Geology, v. 8, p.239-254.



Richardson, R. J. H., Langenberg, C.W., Chao, D. K. and Fietz, D. 1992. **Coal Compilation Project – Blairmore.** Alberta Geological Survey, Open File Report 1992-5, p. 26 plus appendices.

# Appendix 1

Table 6: Drillholes and trenches used in estimation of Exploration Target

Note: Highlighted ID's are on Property, others are adjacent and used in modelling

Hole ID	Easting NAD83	Northing NAD83	Elev. m	Depth m	Company	Year	Hole Type	Azi- muth	Dip	Collar Survey
CC-DDH-I1	684022	5552007	1736	219.8	Coleman Collieries	1971	DDH	0	-90	Мар
CC-DDH-I2	684682	5549831	1652	569.1	Coleman Collieries	1971	DDH	0	-90	Map
CC-DDH-I3	683440	5553146	1780	201.8	Coleman Collieries	1971	DDH	0	-90	Map
CBM100-06-01	684333	5547633	1613	883.4	Canadian Natural Resources Ltd.	2001	CBM	0	-90	Map
CBM100-13-13	683749	5551645	1674	394.2	Canadian Natural Resources Ltd.	2001	CBM	0	-90	Map
TR-GB-01	684515	5552263		20	Granby Mining Corporation Ltd.	1975	Trench	64	0	Map
TR-GB-02	681956	5555033		22	Granby Mining Corporation Ltd.	1975	Trench	74	0	Map
TR-GB-03	682356	5554936		11.5	Granby Mining Corporation Ltd.	1975	Trench	170	0	Map
TR-GB-06	678329	5553728		18	Granby Mining Corporation Ltd.	1975	Trench	70	0	Map
TR-GB-07	678574	5555796		70	Granby Mining Corporation Ltd.	1975	Trench	110	0	Map
TR-GB-08	678266	5555801		33	Granby Mining Corporation Ltd.	1975	Trench	100	0	Map
TR-GB-10	678759	5555026		43	Granby Mining Corporation Ltd.	1975	Trench	220	0	Map
TR-GB-09	678681	5554945		26	Granby Mining Corporation Ltd.	1975	Trench	165	0	Map
TR-GB-12	678400	5551894		18	Granby Mining Corporation Ltd.	1975	Trench	245	0	Map
TR-GB-13	678655	5551677		27	Granby Mining Corporation Ltd.	1975	Trench	310	0	Map
TR-GB-14	686593	5547216		25	Granby Mining Corporation Ltd.	1975	Trench	260	0	Map
TR-GB-15	686200	5547895		27.5	Granby Mining Corporation Ltd.	1975	Trench	75	0	Map
TR-GB-16	682057	5554946		24	Granby Mining Corporation Ltd.	1975	Trench	30	0	Map



# **JORC Code, 2012 Edition – Table 1**

# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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> <li>The historical database used for geological and Exploration Target modelling for the Isola Property was compiled from drilling, trenching and mapping by Coleman Collieries (CC), Granby Mining Corp.(Granby), and Northstar Energy Corp.(Northstar) conducted between 1967 and 2001 both on, and adjacent to the Property.</li> <li>Limited drilling is known to have been carried out on the Isola Property.</li> <li>Coal core samples were collected for the Isola Property from three core holes drilled in 1971 by Coleman Collieries (CC-DDH-I1 to CC-DDH-I3) for proximate analysis and FSI. Limited information is available on sampling procedures.</li> <li>Samples were taken from coal core in nominal 2ft (0.61m) sample intervals. Samples were washed, bagged, and tagged with hole no., sample no. and interval (ft) and sent to the laboratory. Samples were dried and subjected to float/sink separation at SG=1.58. The sink product was refloated at SG=1.60. Fractions were dried, crushed, and tested for F.S.I., % sulphur, % ash and % volatiles (Table 4).</li> <li>No trench or surface coal samples are recorded on the Property for the Granby work.</li> <li>Two coalbed methane test holes drilled in 2001 by Northstar intersected coal. Seams were apparently sampled but no information on methods or results are available. Holes were logged for, gamma ray, density, caliper and resistivity.</li> </ul>
Drilling techniques	<ul> <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> <li>Three vertical core holes and two vertical coalbed methane holes were drilled on the Property. No details regarding drill type and methods are available.</li> </ul>
Drill sample recovery	<ul> <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> <li>Recovery in historical holes CC-DDH-I1 to CC-DDH-I3 ranged from 53% to 87%.</li> <li>No information is available to assess sample bias. Core may have lost clean coal sections due to shearing of the seams.</li> </ul>

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <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 costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> <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> <li>Coleman Collieries cores were lithologically logged in the field. No downhole wireline logs are available for these holes.</li> <li>Northstar holes were wireline logged for density, gamma neutron, caliper and resistivity. Coal and rock lithologies from core descriptions were entered into a lithology database. Coal seams were identified and correlated between holes and surface trenches.</li> <li>No photographs exist of samples of core holes.</li> <li>The Authors have no direct knowledge of the sampling methods undertaken during each drill campaign but have no reason to believe the operators and the laboratories did not follow industry standard practices.</li> <li>For these samples, preparation, subsampling and quality control procedures were ensured by the use of a certified commercial lab in Canada, employing recognized QA procedures and following international standards for coal testing (ASTM).</li> <li>The sample preparation methods utilized for the historical samples were industry standard at the time. Details of the sample preparation are not known other than the descriptions provided by the operator (Coleman Collieries, 1971). The laboratory that performed the historical coal analysis was an independent commercial laboratory</li> </ul>
		and not connected in any corporate way to Coleman Collieries. The quality control procedures employed by the laboratory is presumed to be industry standard for the coal testing industry in Canada. All Canadian coal laboratories are subject to periodic testing and certification by an agency of the Canadian Federal Government.
Quality of assay data and laboratory tests	<ul> <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> <li>Coal analysis was based on the accepted International standards at the time of analysis (ASTM).</li> <li>Warnock Hersey (now Intertek) in Burnaby BC, who provided analytical work for CC-DDH-I1 to CC-DDH-I3, is still in operation. As part of their current certification by the Coal Association of Canada (CAC) there is an obligation to complete relevant round robin checks and other routine checking procedures to ensure they meet the required accuracy for each test since their inception.</li> </ul>
Verification of sampling and assaying	<ul> <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</li> </ul>	<ul> <li>Historical coal intersections used in the geological model for Isola were verified against geophysical measurements where possible. Montem's consultant, Dahrouge Geological Consulting Ltd. (Dahrouge) completed a 100% validation of historical drillhole</li> </ul>

Criteria	JORC Code explanation	Commentary
	verification, data storage (physical and electronic) protocols.  • Discuss any adjustment to assay data.	<ul> <li>locations and coal seam intersections, creating an independent database for resource modelling.</li> <li>Drillhole collar, lithology and basic raw coal quality data is stored in a Vulcan and Excel database. All available source field records, lab reports, survey data etc., are stored in electronic form.</li> </ul>
Location of data points	<ul> <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> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The topographic surface utilized for the geological model was derived from LiDAR15 DEM obtained from Altalis and open-source topographic data from the Canadian Federal Geospatial Platform.</li> <li>Data is stored in UTM NAD 83 Zone 11N projection format.</li> <li>Historical drill collars, historical surface mapping points were georeferenced and validated against topography.</li> <li>Data points were generally well constrained for X-Y coordinates, but less reliable for Z coordinates. Downhole directional information was unavailable for the drillholes CC-DDH-I1 to CC-DDH-I3 and for CBM100-06-01. They were all nominally vertical holes.</li> <li>The Northstar hole locations correlated well with the LiDAR derived topographic surface; Coleman Collieries holes were pressed to topography to moderate the less reliable historic Z coordinate data.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The geologic model for the Isola Property was constrained by surface mapping. Mapping by CC and Granby had fairly evenly spaced observation points, constraining stratigraphy and structure well.</li> <li>No surface samples are known from the Property.</li> <li>The data spacing and distribution are considered by the Competent Persons to be collectively sufficient to define an Exploration Target.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The Exploration Target on the Isola Project is bounded by the Livingstone and McConnell thrusts and splays which strike north-south, resulting in a marked anisotropy to the deposit. This east-west anisotropy to the deposit is geostatistically significant but reasonably consistent and well understood.</li> <li>Five historic drillholes on the Property. Mapping traverses along creeks cutting across regional structure constrain geological interpretation.</li> </ul>
Sample security	The measures taken to ensure sample security.	Montem has not taken any samples on the Property. The authors have no information on historical sample methods and security.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>The historical geological dataset and model was validated by Dahrouge, using reports, tables, contour plans and cross-sections.</li> <li>The Exploration Target reported was based on the projected drill</li> </ul>

Criteria	JORC Code explanation	Commentary
		intersections, and mapping data. Dahrouge completed a 100% validation of the historical drillhole locations and coal seam intersections, creating an independent database.

# **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Isola Property, north-south trending parcel from 4 to 6 km wide and about 11 km long. It consists of 9 Alberta Coal Leases held by Montem Coal. Leases are valid to between July 2022 and Sept. 2034 and can be renewed (Table 2).</li> <li>A coal exploration permit (CEP) application to undertake a drilling and exploration program, as well as a Deep Drilling Permit (for holes deeper than 150 m vertically), a water Withdrawal Licence, a road Use Agreement and an Historical Resources Review will be required to undertake exploration. No impediments to obtaining these are anticipated.</li> <li>The Coal Development Policy for Alberta (1976 has been repealed as of June 1, 2020, removing Category 2 restrictions from the Property.</li> <li>Several Indigenous groups are located within 100 km of the project area.</li> <li>The targeted coal-bearing Mist Mountain Formation naturally contains selenium. In alkaline, aerobic conditions, elemental selenium and selenide minerals are oxidized releasing soluble selenate ions which can be transported in surface runoff. Large scale surface mining in the Elk Valley, British Columbia has enriched the Elk River in selenium. Any future mine development on the Property will require the development of a selenium management plan. Montem's has no ongoing liability on the property.</li> <li>The western part of the Property is covered by the Mountain Goat and Bighorn Sheep Range (Figure 2).</li> <li>The entire Property is located in the Livingstone Grizzly Bear Zone.</li> <li>Part of the Project is cut out by the Don Getty Wildlands Provincial Park expansion, part of the South Saskatchewan Regional Plan ("SSRP"); (Figure 2). The strategies developed within the SSRP are designed to minimize the amount of land used for new development, including the usage of historical roads and trails for future exploration program access, and progressive reclamation of areas no longer being used</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>A portion of the Property along the Livingstone River is located in the Key Wildlife and Biodiversity Zone (Figure 2). The Alberta government outlines guidelines for these areas in order to protect the long-term integrity and productivity of the ungulate winter ranges and populated areas. New permanent access is to be avoided, temporary access should minimize disturbance to wildlife habitat, and industrial work should be limited between December 15<sup>th</sup> and April 30<sup>th</sup></li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Early mapping by government agencies included parts of the Property.</li> <li>Coleman Collieries conducted mapping on the Property between 1967 and 1971 under the supervision of V.H. Johnson, and drilled three core holes in 1971.</li> <li>Granby Mining conducted a program of mapping at 1:20,000 scale and trenching in 1975</li> <li>Northstar Energy Corp. drilled two coalbed methane test holes between 2001 and 2002 as part of a larger program in the area.</li> <li>Data from these programs form the basis of geological control for the Exploration Target reported here.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Isola Property is located in the Front Ranges of the Rocky Mountains in the Crowsnest Coalfield of Southern Alberta, Canada</li> <li>The Jurassic-Cretaceous Mist Mountain Formation of the Kootenay Group hosts the economic coal seams on the Property. Regionally it is up to 1000m thick and consists of interbedded sandstone, siltstone, mudstone, and coal and is interpreted as a deltaic and/or fluvial-alluvial-plain deposits. Economically important coal seams occur throughout the succession. Regionally, the seams are up to 18 m thick and vary in rank from south to north, from high volatile bituminous to semi anthracite.</li> <li>On the Property, the formation is between 100 to 150 m thick.</li> <li>The principal seams on the Property, in descending order are S1, S2, S3 and S4 (Figure 5). These extend north from the contiguous Isolation South Project owned by Atrum Coal.</li> <li>The Isola Property is located within the Front Ranges of the Rocky Mountain Foreland Thrust and Fold Belt, on the Livingstone thrust fault within the Lewis Thrust Sheet. The thrusting is evident as a succession of generally west-dipping thrust faults and associated folds. The strata underlying most of the Property are part of a gently</li> </ul>

Criteria	JORC Code explanation	Commentary
		dipping (10° to 20°) syncline bisected by the west-dipping Station Creek Thrust. Coal deposits of this type are generally characterized by linear strikes along thrusts and associated tight folds. The Isola Property is by contrast structurally moderate to complex.
Drill hole Information	<ul> <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> <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>	Drillhole and trench information used in estimation of the Exploration Target presented in Table 6 (Appendix 1).
Data aggregation methods	<ul> <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> <li>Weighting of composited coal intervals was used by Coleman Collieries to generate coal quality results presented in Table 4.</li> <li>For modelling the Exploration Target, a minimum seam thickness of 0.6 m; maximum internal ply interburden of 0.3 m. A depth cut-off of 250 m and a 20:1 stripping ratio was used to constrain the lower range for the Exploration Target; a depth cut-off of 600 m was used to constrain the upper range for the Exploration Target.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <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 nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>Structural thickening of seams may occur on the Project. All holes on the Property were vertical as strata on the east side of the Property are gently dipping. The geological modelling software combines drillhole orientation and intercepts from downhole logs with known and extrapolated structural information from surface mapping to project geometry of coal seams. Exploration Target modelling takes these geometries and, with constraints, calculates in-place volumes for the seams, with calculated interburden volumes removed.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	See Figures 1 through 9 and Tables 1 through 6.
Balanced	Where comprehensive reporting of all Exploration Results is not	Not applicable

Criteria	JORC Code explanation	Commentary
reporting	practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	
Other substantive exploration data	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.	<ul> <li>Montem has not yet conducted any exploration on the Property.</li> <li>Historical mapping on the Property has been used to project and constrain the Exploration Target.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Recommended: ~5000m of RAB or RC drilling to constrain seams and thickness, and to better define structure.</li> <li>Downhole geophysical logging and ATV/OTV surveys of all holes to consistently identify coal seams and geologic structures.</li> <li>Recommend a high resolution LiDAR survey is flown for the Isola Property.</li> <li>Large diameter coring of confirmed coal intersections to evaluate coal quality of each identified coal seam, evenly distributed across the Exploration Target.</li> </ul>

# **Section 3 Estimation and Reporting of Mineral Resources**

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>The Competent Persons have relied on the professional quality of the historical data compilation work, including reviews of this historical work. The Exploration Target reported here is based on historical drilling projections, and mapping data. Dahrouge completed a 100% validation of historic drillhole locations and coal seam intersections, creating an independent database for the Isola Property. The data sets, including analytical data, are incomplete in some instances, and analytical certificates and details of QA/QC programs were not included in the historic summary reports.</li> <li>All drillhole, geological and structural data is contained in an Excel® and Vulcan® database.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Competent person Mr. John Gorham visited the Property on June 10 and June 19, 2020. Mr. Matthew Carter did not visit the Property.</li> <li>Mr. Gorham's visits were to evaluate existing access for planning future exploration and permitting.</li> </ul>
Geological	Confidence in (or conversely, the uncertainty of ) the geological	<ul> <li>A vetted database was imported into Vulcan™, where it was</li> </ul>

Criteria	JORC Code explanation	Commentary
interpretation	<ul> <li>interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	validated, and any erroneous or conflicting data was amended. The geological model incorporated historical surface maps and cross-sections; surface mapping datapoints; drilling and trenching datapoints. The historical surface maps, and cross-sections were used to evaluate the geological structures and stratigraphic orientations.
Dimensions	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 lower limits of the Mineral Resource.	<ul> <li>The Isola Property covers a north-south trending belt of the Kootenay Group overlain by the Blairmore Group in part. It is about 6 km wide and about 10 km in length, extending southward onto Atrum's Isolation South Property. The strike trend on the Property is more or less north-south.</li> <li>The maximum plan length and width of the estimated Exploration Target are about 9 km and 6.5 km respectively.</li> <li>The Exploration Target is limited to the Property boundary; subcrop clipped against estimated base of weathering (10 m); a minimum coal thickness of 0.6 m, a maximum depth of 250 m from topography, and a cumulative strip ratio of 20:1 bcm/t (for the lower limit of the Exploration Target range) and a 600 m depth cut-off and a minimum coal thickness of 0.6 m (for the upper limit of the Exploration Target range).</li> </ul>
Estimation and modelling techniques	<ul> <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</li> </ul>	<ul> <li>For the purpose of this Exploration Target, Isola was assigned a moderate to complex geology type, due to the presence of regional and local faulting, folding and deformation seam thickening.</li> <li>An estimated bulk density of 1.45 g/cm3 was used.</li> <li>Maptek Vulcan<sup>TM</sup> 12 was utilized to generate the modelling database, topography, seam and structural models, and the HARP block model for the Isola Property.</li> <li>A cumulative stripping ratio of less than 20:1 (cubic metres of waste to a tonne of coal), a true seam thickness greater than 0.6 m, and a maximum vertical depth from topography less than 250 m were used to constrain the lower limit of the Exploration Target range.</li> <li>A true seam thickness of 0.6 m and a maximum depth of 600 m were used to constrain the upper limit of the Exploration Target range.</li> <li>An Exploration Target was defined for the Isola Property as there was insufficient data to estimate a Mineral Resource (Figure 8). It is important to note that the potential quantity and grade of the Exploration Target is conceptual in nature and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	The conceptual Exploration Target was rounded to the nearest Mt.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	<ul> <li>The conceptual Exploration target utilized an assumed constant bulk density across the Property of 1.45 g/cm³, there was no analytical data for the Property from which to determine moisture content and density.</li> </ul>
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	• The Exploration Target is limited to coal tenement boundaries; subcrop against base of weathering; a minimum coal thickness of 0.6 m, a maximum internal ply interburden < 0.30 m, a maximum depth of 250 m and a cumulative strip ratio of 20:1bcm/t. This approach determined the lower limit of the Exploration Target range. A 600 m depth cut-off and a minimum coal thickness of 0.6 m were used to determine the lower limit of the Exploration Target range.
Mining factors or assumptions	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.	<ul> <li>For the purpose of this Exploration Target, an open cut minable scenario with the potential to transition to underground operation was assumed. A cumulative stripping ratio of less than 20:1 (cubic metres of waste to a tonne of coal), a true seam thickness greater than 0.6 m, and a vertical depth from topography less than 250 m, was used for the open cut minable scenario. A vertical depth from topography of less than 600 m and a minimum true thickness of 0.6 m was used for the underground scenario.</li> <li>Consideration of reasonable prospects for production include favourable geology (other nearby producers of coking coal from the same formation, nearby infrastructure (road, rail and power) abundant available water, a nearby labour pool (4 operating surface coking coal mines), favourable land-use categories, and a favourable government and social attitude to resource extraction.</li> <li>Mining losses and dilution have not been factored into the Exploration Target estimation.</li> </ul>
Metallurgical factors or assumptions	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	<ul> <li>Montem has not conducted any coal quality analysis on the Property.</li> <li>Coal quality from historical data is limited. Seams analyzed were low-to medium-volatile bituminous coal with moderate to high F.S.I.'s.</li> <li>It must be noted that in part because of the limited coal quality information for the Property; there is no certainty the conceptual Exploration Target will be converted into a Resource.</li> <li>A program of drilling and coal quality assessment will be required</li> </ul>

JORC Code explanation	Commentary
the basis of the metallurgical assumptions made.	before a Resource Estimate can be made.
<ul> <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> <li>No study of environmental concerns or possible waste disposal has been conducted on the Property.</li> <li>The targeted coal-bearing Mist Mountain Formation naturally contains selenium. In alkaline, aerobic conditions, elemental selenium and selenide minerals are oxidized releasing soluble selenate ions which can be transported in surface runoff. Large scale surface mining in the Elk Valley, British Columbia has enriched the Elk River in selenium. Any future mine development on the Property will require the development of a selenium management plan. Montem has no ongoing liability on the property</li> <li>The Property is covered in part by the Mountain Goat and Bighorn Sheep Range. In this area, any disturbances that may have direct or indirect adverse effects, such as permanent alteration of habitat must be avoided or mitigated. Additionally, the Property is located within a grizzly bear protection zone; regulations require that Montem provide and preserve either core or secondary grizzly bear habitat.</li> <li>Part of the Property is located in Key Wildlife and Biodiversity Zones. The Mountain Goat and Sheep Area covers part of the Property (Figure 2). The Livingstone Grizzly Bear Zone covers the entire Property. The Alberta government outlines guidelines for these areas in order to protect the long-term integrity and productivity of the ungulate winter ranges and populated areas. New permanent access is to be avoided, temporary access should minimize disturbance to wildlife habitat and limited industrial work is to be carried out between December 15th and April 30th.</li> <li>The Property includes an area cut out by the South Saskatchewan Regional Plan ("SSRP") (Figure 2). These areas were Category 1 lands and have now been removed from disposition and included in the Don Getty Wildlands Provincial Park Expansion</li> </ul>
<ul> <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> </ul>	<ul> <li>The current 2020 Exploration Target utilized an assumed constant bulk density across the Project of 1.45 g/cm3. This value was determined from the coal rank and average ash contents as defined in GSC 88-21, which yielded a conservative bulk density estimate of 1.45 g/cm<sup>3</sup>.</li> </ul>
	<ul> <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> <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</li> </ul>

Criteria	JORC Code explanation	Commentary
	evaluation process of the different materials.	
Classification	<ul> <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 (i.e. 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> <li>For the purpose of this Exploration Target, the Isola Property, was assigned a moderate to complex geology type, due to the presence of regional and local faulting, folding and possible seam thickening. Increased geological definition is required for proper classification of geology type.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No independent review of this Exploration target has been made
Discussion of relative accuracy/confidence	<ul> <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> <li>Due to the limited drill information on the Property, no Resource Estimates can be made at this point.</li> <li>Structurally, the Isola Property has been mapped in reasonable detail and is moderately well understood, and the Competent Persons regard the geologic interpretation as valid. The main factors affecting coal seam continuity are the interplay of faulting, folding, seam dip, depth of weathering and surface topography. Seams may show a variable thickness which reflects depositional and structural variations as well as the localized thickening of coal seams which may occur in the apex of folds and adjacent to reverse faults. These structural conditions are mainly on the east and west edges of the Property</li> </ul>