Montem Resources Alberta Operations Limited

Tent Mountain Mine Redevelopment Project

Initial Project Description

November 2021

Submitted to:

Impact Assessment Agency of Canada

Submitted by:

Montem Resources Alberta Operations Limited

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1.0 Introduction

Montem Resources Alberta Operations Limited is submitting this Initial Project Description (IPD) for their proposed Tent Mountain Mine Redevelopment Project (TMM Project) in accordance with Section 10 (1) of the *Impact Assessment Act* (IAA) (S.C. 2019, c. 28). Section 2(1) of the Physical Activity Regulations SOR 2019-285, sets out the schedule of physical activities that define which projects are designated projects for impact assessment. This document corresponds to requirement 1 to 24 as outlined in Annex I of Practitioner's Guide to the *Impact Assessment Act* (IAA).

The purpose of the IPD is to provide information for interested parties to the proposed development project and to provide input to Montem. Feedback on the IPD will be used to support the development of the Detailed Project Description (DPD) and Engagement Plan. The DPD will in turn inform a decision on the Impact Assessment (IA) and the Tailored Impact Statement Guidelines (TISG), while providing a degree of project certainty and inform the Planning stage. The Planning stage sets the scope, methods, and information requirements for the IA and defines engagement approaches with interested parties.

Under Schedule 2, Section 18(a) Mines and Metal Mills, a physical activity is defined as being a "new coal mine with coal production capacity of 5,000 tonnes per day (t/day) or more". Montem is proposing to restart and expand an existing open-pit coal mining operation for the extraction and export of metallurgical (steelmaking) coal. The TMM Project would extract 4,925 t/day of raw coal over the 14-year mine life, with subsequent reclamation and monitoring. The proposed redevelopment project is located approximately 16 kilometres (km) west of Coleman, Alberta (AB) and physical activities would take place in AB and British Columbia (BC).

Schedule 2, Section 19 details the conditions for definition of an expansion to an existing mine as a designated project. Subsection (a) defines for an existing coal mine the "expansion would result in an increase in the area of mining operations of 50 percent (%) or more and the total coal production capacity would be 5,000 t/day after the expansion". The proposed TMM Project will include an expansion of disturbance area of approximately 40% within the existing Tent Mountain Mine (TMM) AB and BC Mine Permit boundaries, producing less than 5,000 t/day of raw coal. After careful consideration by the Impact Assessment Agency of Canada (IAAC), on April 28, 2020, and reaffirmed on February 18, 2021, the TMM Project, under Schedule 2, Section 19, was not federally designated.

Section 9(1) of the IAA states that the Minister may designate a project for federal impact assessment if the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. On June 28, 2021, the Minister ordered designating the physical activity known as the Tent Mountain Mine Redevelopment Project, pursuant to subsection 9(1) of the IAA.

The TMM Project team started their initial baseline studies in 2018 related to aquatics, biophysical, cultural heritage, social-economics, and mining assessments. These baseline studies are to support the environmental impact assessments for the TMM Project area in preparation of the submission of federal and provincial applications for the redevelopment of TMM.

Montem has been engaged with stakeholders, Indigenous communities, and regulators for the past four years, providing information about the proposed TMM Project and identifying any issues or concerns. Although COVID-19 presented challenges to our engagement and consultation strategies, Montem adapted to keep communication as open and transparent as possible. Feedback and responses towards the redevelopment project have recorded both positive and negative concerns, both of which will and/or have been addressed in planning, mitigation measures and monitoring programs

The main components of the TMM Project's infrastructure include access roads, power, on-site building and facilities, open-pits, water management, and train loadout (TLO). As the TMM Project mining operations will take place wholly within the previously disturbed Mine Permit boundary, to date, no new potential adverse impacts to rights or current traditional use have been identified, or new adverse impacts to Indigenous physical or cultural heritage, historical or archaeological interests or to their health, social or economic conditions.

Montem has been fully engaged and will continue working closely with Indigenous peoples to assess potential impacts to their rights and interests and to identify opportunities for them to participate in the TMM Project. Indigenous communities have expressed an interest in employment and business opportunities, in being involved in the reclamation of the mine site following production and for regaining greater access and use of the area for hunting and other traditional uses.

PART A: General Information

2.0 The Project's Name, Type or Sector and Location

2.1 Project's Name and Type

Montem Resources Alberta Operations Limited., a subsidiary of Montem Resources Limited (Montem), is proposing a re-start and expansion of the historical open-pit TMM in southwestern AB for the extraction and export of metallurgical (steelmaking) coal to international markets. The proposed project is known as the Tent Mountain Mine Redevelopment Project (the TMM Project). The proposed redevelopment mining activities and footprint disturbance is fully within the permitted Mine Permit boundary in AB with a small expansion required to the BC Mine Permit (Figure 1 and 2). Various infrastructure components will require amendments to both the BC and

AB mine permits. The proposed TMM Project would produce 4,925 t/ day of raw coal over the 14-year mine life, with subsequent reclamation and monitoring.

The proposed TMM Project consists of the restart of their existing mining operations; conventional truck and shovel, open-pit workings, storage areas for overburden and waste rock totalling 373 hectares (ha) in the Province of AB and BC. Initially, the focus of mining activities is within the existing AB area as the access, infrastructure and earliest release materials are in the AB portion of the TMM Project. The final progression of mining activity will require two to three years of activity on the BC portion of the TMM Project.

There will be minor improvements to the existing infrastructure as some of the infrastructure has degraded over time (roads, etc.). The TMM Project's minor expansion of mining operations is to accommodate expanded rock storage areas, the construction of a new coal handling and process plant (CHPP) and to include the existing east impoundments in AB (all within Licence of Occupation (LOC). The previously approved CHPP was in the town of Coleman; Montem is proposing to move the CHPP facility to within the existing mine footprint. As well as a minor expansion of the Mine Permit boundary to construct a new coal loading facility in the Province of BC.

The TMM Project has been designed to release 250 tonnes per hour (t/hr) over the anticipated operating schedule dictated by the CHPP. Maximum daily production will be based on expected operations of 16 – 18 hours per day (hr/day) and will peak at 4,925 t/day. The TMM Project is expected to produce approximately 1.1 million tonnes (Mt) annually of clean coal during the operation phase of 14 years. The mine, mobile equipment and raw coal handling facilities will be designed to accommodate this production capacity.

2.2 Location, Land Tenure, Permits and Agreements

The existing TMM is located approximately 16 km southwest of the Town of Coleman within the Municipality of Crowsnest Pass and nearby communities include, Blairmore 20 km to the east and Sparwood (BC) is 22 km to the northwest. The city of Calgary is located approximately 250 km to the northeast by road (Figure 1). The TMM Project straddles the AB and BC border.

Access to the TMM Project is via the historical mine haul road off Highway 3 (also known as Crowsnest Highway). The TMM Project is 6 km south of the main rail line operated by Canadian Pacific Railway (CPR), providing access to terminals in Vancouver.

The TMM Project geographic coordinates are centred at approximately:

UTM: 665,883.53 m N 5,493,599.17m N

Latitude: 49°34'20"N

Longitude: 114°42'20"W

The TMM Project requires a minor expansion of the operational area of the existing permitted AB and BC mine areas. A significant proportion of the TMM Project footprint has been previously disturbed by historical mining, timber harvesting, pipelines, etc. The existing and proposed approximate footprint disturbances are summarized as follows:

- Existing open-pit workings: 127 ha
- Existing storage areas for waste rock material: 246 ha
- Total existing disturbance area: 373 ha
- Total of new proposed disturbance area (open-pit and waste rock storage areas): 150 ha

The TMM Project area is owned by Montem and is comprised of freehold coal titles and coal leases that encompass an area of approximately 1,931 ha. It includes 11 AB coal leases, one BC coal lease and 10 freehold AB Land titles (Figure 3). In addition, Montem holds five freehold titles with surface rights only. Four of these overlap coal leases owned by Montem and one is northeast of the main TMM Project area covering the access road.

Various permits and approvals are required for exploration on the TMM Project. The current AB Mine Permit C85-16G (and Mine Number 1695) granted by the Alberta Energy Regulator (AER) covers 750 ha and the BC Mines Act Permit C-108 covers 390 ha. The TMM also has an Environmental Protection and Enhancement Act (EPEA) Approval EPEA#47679-02-00 which governs the operations within the mine permit and the road leading to Highway 3. This current EPEA does not allow mining and will require amendments and new provincial approvals as well as federal approvals to re-start mining. As well, LOC# 981599 covering three settling ponds is held by Montem.

Additional road agreements are required for access to the TMM Project. In AB, Montem has a road-use agreement with local coniferous timber licence holder (770538 Alberta Ltd.). In BC, Montem has an industrial Land Use Permit agreement with CanWel Building Materials Group Limited (CanWel), a logging company operating in the area (assigned to Corbin Road Land Corporation).

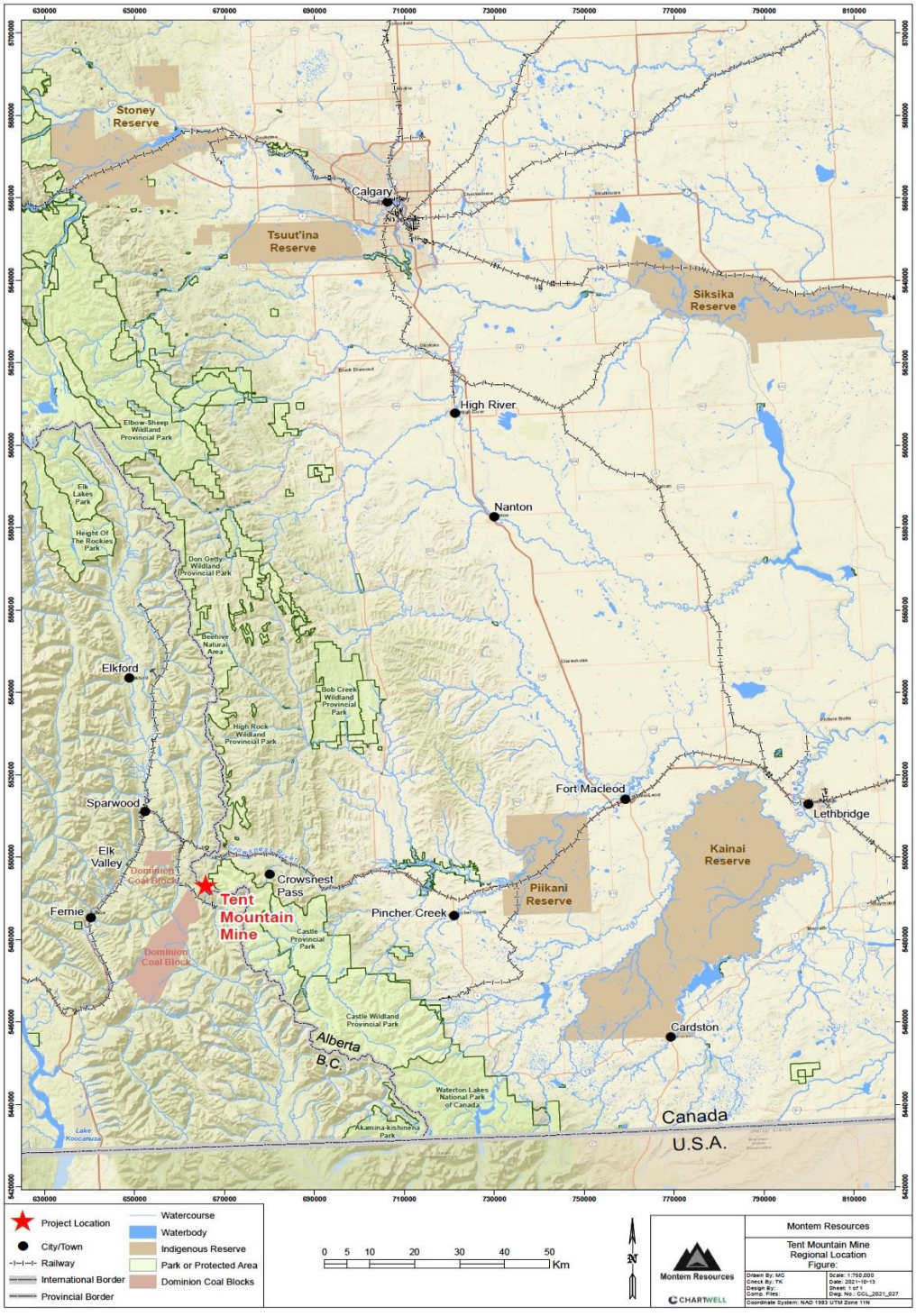

Figure 1: TMM Project Regional Location

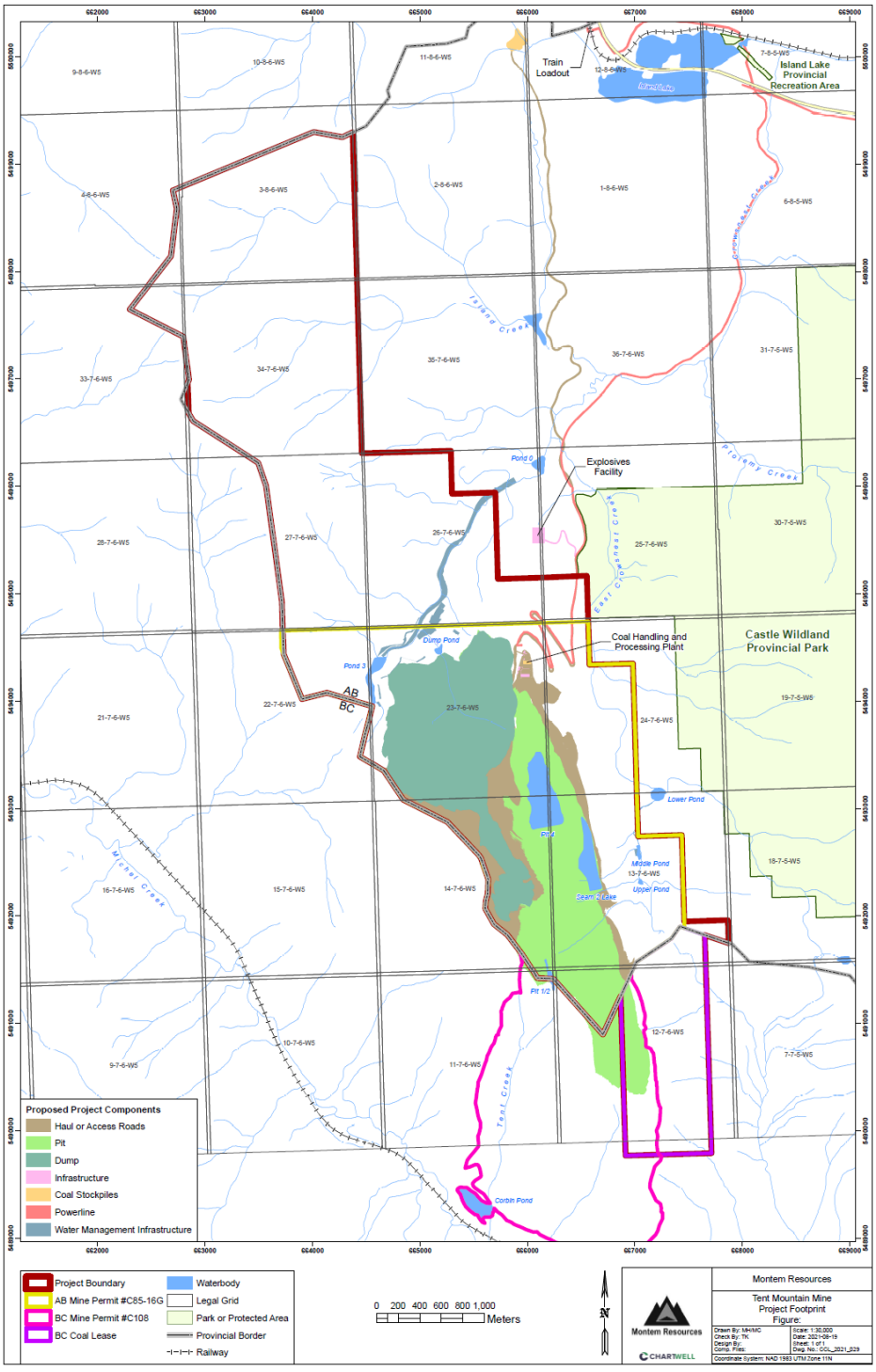

Figure 2: TMM Project Footprint

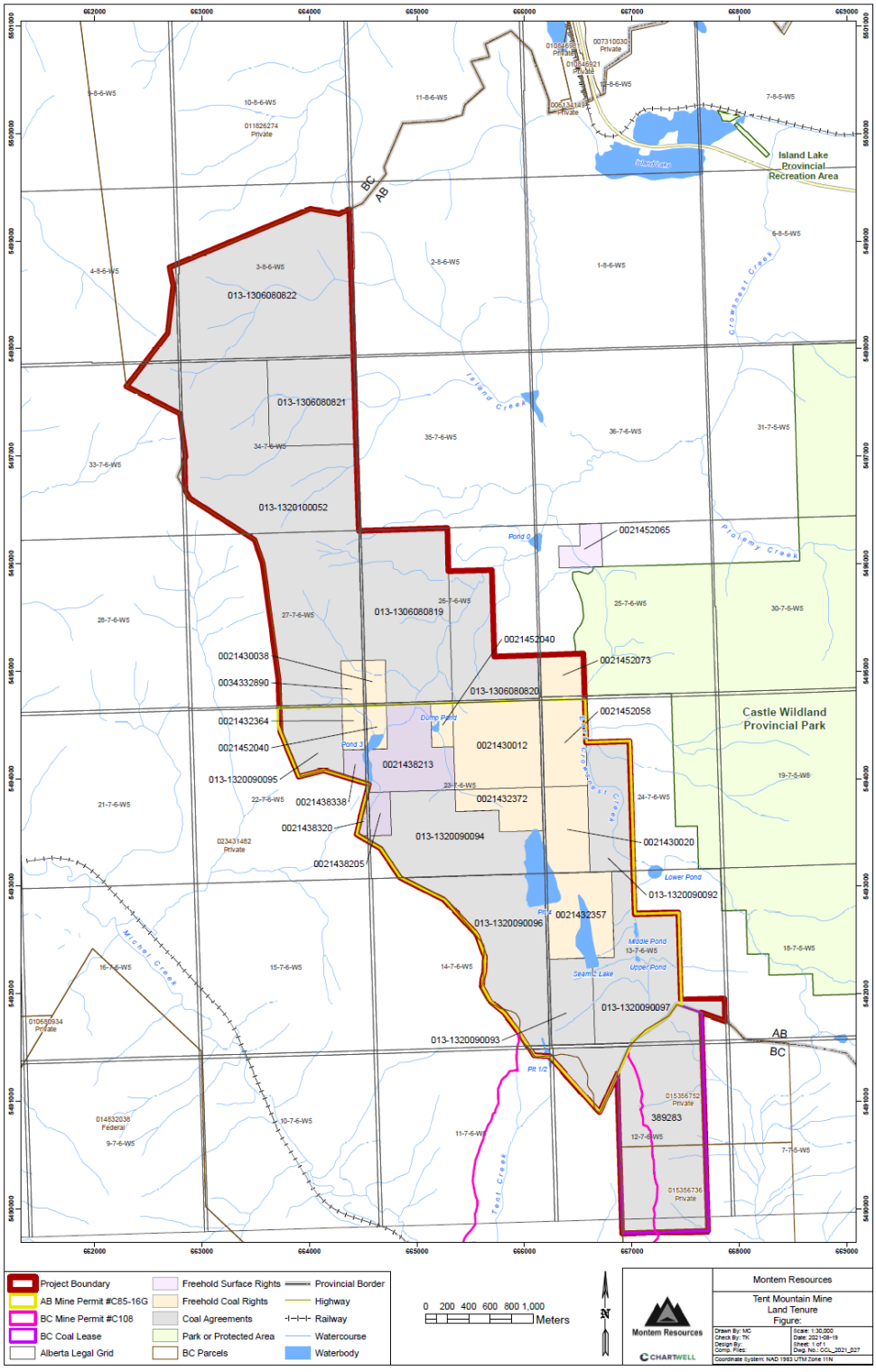

Figure 3: TMM Project Land Tenure

2.3 Project History and Status

Coal was discovered at the TMM by prospectors in the early 1900s, and underground mining was carried out until the 1940s. This area of the country has a rich history of coal mining dating back to the late 1800's to early 1900's. The nearby town of Coleman is a classic example of one of the defining features of early twentieth- century coal mining in North America—the emergence of the "company town." Coleman was established in 1903 by the International Coal and Coke Company, an American corporation that needed a new source of coal to fuel its copper-smelting operations in BC. The town site was surveyed, and lots were put on the market in late 1903. The first buildings erected were the residences of the mine manager and superintendent, and the International Coal and Coke Company's general office. Reflecting the many roles that the company played in the town, the general office was long one of the busiest buildings in Coleman. In addition to serving as the administrative center of the mining company, the office was the town's main real estate office and the place where families paid their utility bills.

In 1948 the first open-cut mine was opened at the TMM, and various phases of open-cut mining occurred until 1983. Coleman Collieries Ltd. acquired the TMM AB coal leases prior to 1949 and in 1949, Coleman Collieries acquired the TMM BC coal licenses. Starting in 1948, Coleman Collieries began intermittently mining at North Boulton and Pit 2. In addition to the mining, Coleman Collieries conducted some drilling at these prospects, as well as at Pit 4 and Pit 5.

In 1973, Coleman Collieries, with the assistance of Manalta Coal Limited (Manalta), initiated an extensive exploration program that consisted of drilling and adit drivage. In 1975 and 1976, Coleman Collieries drove three adits: one in the East Flank of Tent Mountain and two in the Southern Extension area. The final mine idling (care and maintenance) at Coleman Collieries took place in 1983. Reclamation certificates were issued to Coleman Collieries for most of the previous TMM area and most of the reclamation security bond was returned. The TMM Mine Permit was maintained, and a reduced scope operating authority was issued to Coleman Collieries.

In 1982 the TMM and all authorizations were acquired by Norcen Energy Resources, then by Manalta in 1985 and then by Luscar Ltd., in 1998. Sherritt International and the Ontario Teachers' Pension Fund Board took control of Luscar in 2001. The Luscar name was changed to Prairie Mines & Royalty Ltd. in 2006 and Sherritt became sole owner in 2008. In 2014, Westmoreland Mining LCC purchased Sherritt International's coal business and Prairie Mines & Royalty ULC became its subsidiary.

In 2016, Montem Resources Alberta Operation Ltd. made an agreement to purchase the TMM from Prairie Mines & Royalty ULC. Montem has acquired the TMM and assumed financial, environmental, and public responsibilities for the site. Montem has transferred all AB and BC leases, permits and approvals.

The resource in this region represents significant coal and other mining opportunities. When considered with the infrastructure, proximity to shipping ports and availability of local work force

expertise, the Crowsnest Pass situated adjacent to the Elk Valley in BC, is an important future mining area. Within the Municipality of the Crowsnest Pass, there are historical and proposed mining operations, as well as exploration projects. The TMM Project is the only AB operation that currently holds mining approvals for metallurgical coal in the region. Other mining development operators in the area include Riversdale Resources (Riversdale), Cabin Ridge Coal (Cabin Ridge), Atrum Coal Limited (Atrum), Jameson Resources Limited (Jameson), North Coal Limited (North Coal) and Teck Resources Limited (Teck). Riversdale, who have been in the regulatory process since 2013, has recently received a decision from the joint review process involving the Provincial and Federal regulatory agencies that their Grassy Mountain Project is deemed to be not in the public interest. The Grassy Mountain Project is appealing the decision. Atrum and Cabin Ridge are exploring the potential to develop and export metallurgical coal from their projects in the Crowsnest Pass. Montem evaluated environmental factors of concern, combined with resources and economic value to the business, to provide a recommendation on the scope of the TMM Project.

3.0 Proponent's Name and Contact Information

3.1 Company Overview

The proponent's name is Montem Resources Alberta Operations Limited ("Montem Alberta"). Montem Alberta is a subsidiary of the Montem Resources Limited ("Montem" or "Company").

Montem is a public company, listed on the Australian Securities Exchange.

Montem has several key steelmaking coal projects in Western Canada.

Since 2018, Montem has established a community presence in Coleman, located 16 km east of the TMM Project, and is actively pursuing the resumption of mining at the TMM Project. This presence includes the purchase of a building in the main street of Coleman and renovating and converting it into Montem's TMM Project office and community engagement centre.

3.2 Company Contact Information

The headquarters and cooperate office contact information is as follows:

Headquarters Office:

Montem Resources Ltd.
Level 4, 100 Albert Road
South Melbourne, VIC 3205

Registered Corporate Office:

Montem Resources Corp.
Suite 2500, 700 West Georgia Street
Vancouver, BC V7Y 1B3

Website: www.montem-resources.com

For the purposes of the Tent Mountain Mine Redevelopment Project Impact Assessment, the primary contacts for all TMM Project and consultation related questions or concerns are:

Peter Doyle

Chief Executive Officer
Montem Resources Alberta Operations Ltd
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Edmonton, Alberta T5N 3Y4
pdoyle@montem-resources.com

Nathan Archer

Manager, Exploration and Field Operations
Montem Resources Alberta Operations Ltd
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Coleman, Alberta T0K 0M0
587-425-5995
info@montem-resources.com

4.0 Summary of Engagement

4.1 Indigenous People, Public, Regulatory, and Stakeholders

Montem aims to be a good neighbor and responsible organization. Wherever possible, Montem has encouraged participation in the TMM Project by stakeholders. Over the past four years, a range of communication and engagement activities have taken place to keep Indigenous peoples and stakeholders informed of planned works and identify opportunities to seek input into and to provide feedback to inform the TMM Project plans. Indigenous people and stakeholder engagement and consultation strategies have formed the framework of TMM Project Engagement Plans (these plans will be included in the DPD). Analysis of potentially impacted Indigenous peoples and stakeholders and the likely impacts have been identified. This will remain as Montem continues to conduct ongoing baseline studies.

A range of consultation and communication methods have been used to ensure that Montem reaches as many Indigenous peoples and stakeholders as possible. This approach will continue through operations and reclamation of the TMM Project.

Montem has been engaged in the community for the past four years. The TMM Project team has completed the following engagement to date (Table 1). Table 2 provides a summary of Montem's responses to issues/concerns to date. Considering the recent regulatory changes, Montem has suspended our active engagement activities. Our local office remains open and Montem intends on re-engaging with the communities once we have an indication of any new issues resulting from the IPD process.

Table 1: Summary of Stakeholder consultation

Stakeholder group	Email	Phone call	Meeting	Attended community event	Factsheets	Site tours	Intercept survey	Advertising	Presentations	Door knocking	Drop-in events	Attend community office
Impacted residents	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
Interested community	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Municipal	✓	✓	✓		✓				✓			✓
Government agencies	✓	✓	✓		✓	✓			✓			✓
Provincial government	✓	✓	✓	✓	✓	✓						
Elected representatives	✓	✓	✓	✓	✓	✓					✓	✓
Community organizations	✓	✓	✓	✓	✓		✓	✓			✓	✓
Business associations	✓	✓	✓	✓	✓							
Local businesses	✓	✓	✓	✓	✓					✓	✓	✓
Media	✓		✓	✓	✓						✓	✓

Details of consultation and engagement activities to date:

- Meetings and presentations with Ranchland Municipal District and the Municipality of Crowsnest Pass.
- Liaison with Alberta Environment and Parks (AEP) and Fish and Wildlife to discuss TMM Project work, managing access and safety as well as taking them for a mine site tour.
- Attend community events and trade shows – marquee set up with displays and TMM Project information. The events are staffed by our community liaison team.
- Liaison with local clubs to give a TMM Project update and seek feedback. Groups include (not an exhaustive list): Hillcrest Fish and Game Protection Association, Crowsnest Pass

Quad Squad, Crowsnest Gun Club, United Riders of Crowsnest Pass and Crow Snow Riders snowmobile club, as well as many local businesses.

- Field conversations with hunters, campers, hikers, and off-highway vehicle (OHV) community intercepted around the area of the TMM Project.
- Emails and phone calls with community individuals, providing TMM Project updates and factsheets.
- Disposition holder emails, factsheets, and conversations about the TMM Project.
- Website: continually updated with current Company and TMM Project information. Montem has also responded to enquiries via email from our info line. Montem has recently created a TMM Project specific website to support the specifics of the restart.
- Open house at Community Engagement Centre: drop-in events for community members to gain first-hand info on the TMM Project and Montem.

Table 2: Summary of Public issues and Montem's responses

Topic	Issue Or Comment Received	Montem's Response
Water	Water used for processing; will it be treated before releasing	As part of our exploration and development planning, Montem has implemented a water monitoring program for both groundwater and surface water. The water systems are complex, and monitoring is essential to understand the environmental and technical issues or constraints to any future operations. Water released from the mine will be in accordance with regulations.
Air quality and Dust	Understand how/if air quality will be impacted	Montem intends to process all the TMM Project steelmaking coal within the existing Mine Permit boundary, avoiding dust issues in urban centres. Montem understands that our operations will have the potential to create noise and dust. Air quality will be a key consideration and specialized dust management procedures will be used to keep dust levels as low as practical, and within applicable regulated limits.
Access	Will road access be blocked at the TMM Project?	The main access road is open to the public. There is freehold private property and then mine permit boundary that are required to be gated. Safety is a foundation of our operating philosophy and securing operating areas to authorized personnel is a requirement.
Recreational Access	Relocation/rebuilding any impacted trail infrastructure	Montem will relocate/rebuild impacted existing trail infrastructure.

Topic	Issue Or Comment Received	Montem's Response
	Access to recreation and back country activities	Montem is working to manage trails in and around the TMM Project using the experience of other multi use models in the province to do so.
Infrastructure	Location of where the coal will be processed	The TMM Project will not be visible from Coleman. Where possible, infrastructure and operations will be shielded and away from the community. The Coal Handling and Processing Plant will be located on the TMM Project site and approximately 16 km away from Coleman.
	How will coal be hauled?	Trucks will use a restricted haul road to the planned TLO facility.
	Location of rail loadout	The TMM Project rail loading facility will be located approximately 20 minutes west of town, and the stockpile not visible from Coleman.
	Type of equipment to be used	The TMM Project will be an open cut mine, utilizing truck and shovel equipment.
Mine Planning	Production plans	Montem is developing plans for production.
	Mine life	Approximately 14 years of mining.
Timeline	Start of production	Subject to regulatory approval, it is anticipated that mining will commence in 2023.
Reclamation	Post mining reclamation	At the completion of operations, the mine will be fully reclaimed, returning the mine site to an equivalent land capability and a natural state.
Employment /Business Opportunities	Number of jobs	Approximately 175 jobs once operational
	Business opportunities	Wherever possible, local businesses will be invited to work with Montem.
	Prosperity is a hopeful outcome from the mine with Albertans able to work at an	Montem is committed to being a good corporate citizen that is part of the community. Our aim is to foster sustainable growth in the areas in which we operate, providing jobs and business opportunities. To

Topic	Issue Or Comment Received	Montem's Response
	AB mine and travel less to get to and from work.	do this effectively, engagement with stakeholders will be planned throughout the life of our company and our projects.
Wildlife	Crowsnest Pass acts as a wildlife corridor and the project should avoid negatively impacting this	Wildlife studies will help identify wildlife travel patterns, habitat and where activity takes place. No impacts to wildlife from mining activity is anticipated. Montem is committed to avoidance and mitigation of any potential impact to wildlife and wildlife habitat.
Visual Amenity	The natural beauty of the Crowsnest Pass to stay intact	Our priority is to minimize potential impacts from our mining operations on the local environment. Montem is making industry best practice environmental management and protection procedures a standard part of our daily activities across our projects, our operations, and our business. The TMM Project will not be visible from Coleman. Where possible, infrastructure and operations will be shielded and away from the community.

Note: TLO=Train Loadout; and TMM Project=Tent Mountain Mine Redevelopment Project

To date, most of the feedback from residents from the Crowsnest Pass has been positive. Employment, economic stimulus, and implementation of modern reclamation methodology for the TMM Project has dominated the discussions. The Crowsnest Pass has a long colourful mining history with many residents having worked at the TMM in the past. At the weekly Community Market in Blairmore, folks have stopped by the Montem booth to share stories of when they worked up on the mountain and how they would like to see the mine back in operation. There have been some concerned comments received as well, the concerned comments relevant to the TMM Project have been responded to through engagement, as well as responding to Statement of Concerns (SOCs). Montem encourages open dialogue with Indigenous Peoples, public, regulatory agencies, and stakeholders to ensure concerns are heard and provide appropriate responses.

Montem is continuing our presence in the community and our engagement with the public groups and individuals identified above. Montem has temporarily paused formal public engagement activities in anticipation of clarification and potentially additional requirements because of the TMM Project assessment processes under the Impact Assessment Act.

4.2 Summary of Indigenous Engagement

Identifying effective consultation activities and opportunities for Indigenous communities to participate in the TMM Project is a priority for Montem. Montem has specifically focused on

engaging with a broad scope of surrounding Indigenous Communities as the original project approvals in the 1970's or prior did not include the same levels of engagement.

Montem has developed and is implementing a comprehensive Indigenous engagement and participation plan (to be included in the DPD). This meets or exceeds the requirements described in *The Government of Alberta's Guidelines on Consultation with First Nations on Land and Natural Resource Management* and *The Government of Alberta's Proponent Guide to First Nations and Metis Settlements Consultation Procedures* along with BC's *Proponent Guide to Coordinated Authorizations for Major Mine Projects.*

To date, Montem has commenced engagement to provide information about the TMM Project and to begin the process to identify and understand any potential adverse effects of the TMM Project. Montem has held several meetings to discuss ideas, gather initial comments, and hear any concerns of the potentially affected First Nations and Metis groups. Montem is currently in the process of working with the communities to develop strategies to identify and avoid or mitigate any potential adverse effects to rights, interests, or current traditional use.

A total of fourteen Indigenous communities and groups have been contacted and consultation and engagement has been initiated to learn their traditional uses of the TMM Project area. Initial feedback from Indigenous communities indicated that:

- traditional rights to hunt and gather are expected to be potentially impacted
- the TMM Project is located within an existing disturbed mine site and the communities currently have very little access.
- several of the Indigenous communities have expressed interest in the employment and economic opportunities associated with the TMM Project
- Indigenous communities have identified a desire to participate in the reclamation of the mine site and to gain increased access for traditional use purposes upon closure
- water sustainability, quantity and quality are also a concern

The below is a condensed version of the consultation activities to date. Montem will continue to consult with Indigenous peoples and communities throughout the life of the TMM Project. Montem is continuing our presence in the community and our engagement with the Indigenous groups and individuals identified above. Montem has temporarily paused formal Indigenous engagement activities in anticipation of clarification and potentially additional requirements because of the TMM Project assessment processes under the Impact Assessment Act.

Table 3: Summary of engagement with Indigenous Communities

Community	Summary	Next Steps
Kainai Nation (Blood Tribe)	Engagement commenced March 2018 • Meetings held with Consultation Coordinator • Field visit conducted September 2019 • Historical information provided to the Nation • TEK/TLU studies are in planning stages.	• TLUs studies in planning stages. • Keep the Nation up to date
Piikani Nation	Engagement commenced March 2018 • Meetings held with Manager of Consultation • TEK/TLU activity approved • Field visit and TLU study conducted Sept 2019 • Cultural Training through Piikani Oct 2019	• TLU field work completed in fall 2020 • Piikani has committed to providing a TLU report to Montem which will assist in informing the DPD • Keep the Nation up to date
Siksika Nation	Engagement commenced March 2018 • Meetings with Consultation Manager and Consultation Coordinator • Technical/historical information exchanged on existing regulatory documents. • Site visit conducted Sept 2019	• TLUs studies in planning stages. • Keep the Nation up to date
Stoney Nakoda Nation (Bearspaw Band)	Engagement commenced March 2018 • Meetings with Director of Consultation and Consultation Manager • Technical information exchanged on existing regulatory documents. • TEK/TLU studies are required and in planning.	Three key outcomes of the engagement and consultation process include: • Cultural Awareness Training for Montem AB staff/management • TEK/TLU Protocol Agreement and completed studies • IBA Instruments: support for partnerships, employment opportunities, long term planning and reclamation involvement • Keep the Nation up to date
Stoney Nakoda Nation (Chiniki Band)	Engagement commenced March 2018 • Meetings held with Director of Consultation and Consultation Manager • Technical information exchanged on existing regulatory documents. TEK/TLU studies are required and in planning.	Key outcomes include: • Cultural Awareness Training for Montem AB staff/management • TEK/TLU Protocol Agreement and completed studies • IBA Instruments: support for partnerships, employment opportunities, long term planning and reclamation involvement. • Keep the Nation up to date
Stoney Nakoda Nation (Wesley Band)	Engagement commenced March 2018 • Meetings held with Director of Consultation and Consultation Manager • Technical information exchanged on existing regulatory documents.	Key outcomes include: • Cultural Awareness Training for Montem AB staff/management • TEK/TLU Protocol Agreement and completed studies

Community	Summary	Next Steps
	TEK/TLU studies are required and in planning.	• IBA Instruments: support for partnerships, employment opportunities, long term planning and reclamation involvement. • Keep the Nation up to date
Tsuut'ina Nation	Engagement commenced March 2018 • Meetings held with Interim Director of Consultation and Consultation Manager • Technical information exchanged on existing regulatory documents. • TEK/TLU studies are required and in planning • Initial field visit completed	• TLUS studies in planning stages • Keep the Nation up to date
Samson Cree Nation	Engagement commenced March 2019 • Letter has been sent to the Nation	• Keep the Nation up to date through regular provision of information package
Metis Nation of Alberta Region 3 (MNAR3)	Engagement commenced March 2019 • Letter has been sent to the MNA, MNAR3 and Local 1880 • First scheduled meeting (June) cancelled • Rescheduled initial meeting occurred Sept 2019.	• MNAR3 did a site visit of the TMM Project with no concerns raised at this time. • Keep the Nation up to date
Foothills Ojibway First Nation	Engagement commenced March 2019 • Letter has been sent to the Nation	• In progress
Ktunaxa Nation	Engagement commenced March 2019 • Letter was sent to the Ktunaxa Nation and copied to St. Mary's Indian Band, Lower Kootenay Indian Band, Tobacco Plains Indian Band and Akisq'nuk First Nation • Initial contact has been made.	• Looking into the TMM Project /notification internally and assessing the impacts to Ktunaxa rights and interests and will get back once their review is complete. • Keep the Nation up to date
Shuswap Indian Band	Engagement commenced March 2019 • Letter has been sent to the Nation	• In progress
Metis Nation of British Columbia	Engagement commenced March 2019 • Letter to the letter to Metis Nation of British Columbia and East Local – Elk Valley.	• Keep the Nation up to date
Elk Valley Metis Nation	• Initial discussions held in April. • Capacity funding for consultation and site visits • Site visit took place May 2021	• In progress • Keep the Nation up to date

Note: IBA= Impact Benefit Agreement; TEK= Traditional Ecological Knowledge; TLO=Train Loadout; TLU=Traditional Land Use; and TMM Project=Tent Mountain Mine Redevelopment Project

4.3 Summary of Regulatory Engagement

This section summarizes the regulatory engagement to date and outlines future engagement during the IA planning process. Feedback on the IPD will be used to continue to develop and support the Engagement Plans for the TMM Project. This planning stage will set the scope, information requirements, engagement approaches with interested parties. This IPD provides the IAAC team and interested parties an overview of the TMM Project to provide Montem further guidance on the impact statement expectations.

During introduction and early engagement of the TMM Project, Montem has provided updates, conducted site tours, and discussed the regulatory changes since the TMM Project has been initiated. Montem engaged early with the AER to determine how the TMM Project should be approached with the initial requirements being in AB. Engagement with regulators and government agencies occurred prior to the development of the Engagement Plan required for IAA. As TMM Project has evolved, so has the engagement with and involvement by the provincial and federal agencies. Montem engaged early with the relevant Provincial and Federal agencies including the AER, Ministry of Energy, Mines and Low Carbon Innovation, and IAAC to determine how the TMM Project should be approached. The guidance provided will shape Montem's engagement and consultation planning with the regulator, Indigenous Peoples, and surrounding communities. The TMM Project has been provided a clear regulatory pathway by all agencies which includes:

- Environmental Impact Assessment (EIA) for AB permit and approval amendments as well as new permits and approvals required.
- amendments for BC permits; and
- an Environmental Impact Statement for overall acceptance of the resumption of mining.

Montem's overall objective with regulators is to further develop and maintain regulatory relationships through a strong, transparent, and responsive engagement process throughout the TMM Project. Engagement with the agency representatives have occurred on a regular basis and will continue in parallel through both the provincial and federal regulatory processes. The TMM Project will require new approvals and amendments to existing TMM permits and approvals. Regulators that may be affected by the TMM Project are listed below (list is not exhaustive):

- Impact Assessment Agency
- Department of Fisheries and Oceans
- Ministry of Environment and Climate Change
- Alberta Environment and Parks
- Alberta Energy Regulator
- Municipality of Crowsnest Pass
- Ministry of Energy, Mines and Low Carbon Initiatives
- Ministry of Environmental and Climate Change Strategies

Montem's overall objective with regulators is to develop and maintain regulatory relationships through a strong, transparent, and responsive engagement process for the TMM Project (Table 4).

Table 4: Key engagement objectives/activities to date

Date	Agency	Key Objective/Activity
Nov-17	AER	Name change for permits
Apr-18	AER	Introduction to TMM Project
Jun-19	MEMS	Introduction to TMM Project/Permit name change
Jul-19	AEP	Introduction to TMM Project
Sep-19	IAAC	Montem request to introduce the TMM Project
Jan-20	IAAC	Montem introduction presentation the IAAC team
Apr-20	IAAC	IAAC decision to not designate the TMM Project
Jan-21	AER	Provincial EIA designation for all TMM Project components
Feb-21	IAAC	Montem confirms non-designation
Jun-21	IAAC	Ministerial designation of the TMM Project

Note: AEP=Alberta Environment and Parks; AER= Alberta Energy Regulator; IAAC=Impact Assessment Agency of Canada; and MEMS=BC Ministry of Energy and Mines.

5.0 Studies or Plans Relevant to the Project

In the early 1970's, Coleman Collieries Ltd. was operating primarily in BC, and applied for authorization to expand operations into AB. As a condition of the *Alberta Coal Conservation Act* Permit #C-1-74, the Company was required to develop and submit:

1. *An Environmental Impact Assessment of the entire Tent Mountain exploration, mining, and coal hauling operations as well as the coal processing and loading operations at Coleman as prescribed under Section 8 of the Act shall be completed and submitted on or before July 1, 1975*

2. *An exploration plan for the entire Tent Mountain operations now being considered by Coleman Collieries Limited as prescribed under the Regulated Coal Surface Operation Regulations shall be completed and submitted for review on or before December 31, 1974*

3. *Coleman Collieries Limited's plans for the whole of the Tent Mountain mining are regarding present, applied for, and foreseeable future operations shall be submitted pursuant to the regulations under The Land Surface Conservation and Reclamation Act and The Clean Water Act prior to March 31, 1975, and shall include:*

    a. *Mining and reclamation plans, showing how the different operations may be integrated*

    b. *Hydrological report including both surface and subsurface waters*

> c. *An assessment of the adequacy of the existing and proposed water pollution control systems that will be required to meet provincial standards.*
>
> Excerpt – Cover Letter Coleman Collieries Limited EIA.

A provincial EIA was conducted and submitted as part of that approved expansion. The EIA document and process for the 1970's mine expansion followed this methodology and resulted in the issuance of Mine Permit #C-85 authorizing the expansion.

The EIA previously completed for the TMM covered not only the areas that are anticipated for resumption of activity, but also additional areas outside the current TMM Project. The focus of this EIA was on potential impacts to the mining already occurring and the expansion of Pit 4. Impacts studied within the EIA were:

- Geomorphology: short term impacts while mining until final reclamation.
- Slope stability: until reclaimed, dumps increase runoff and erosion and possibly contribute to increased sediment entering creeks.
- Esthetics: Changes in the physical landscape, dust production and the end landform are potential impacts identified. Within the EIA, it discussed the relocation of the Plant to a location near the mine.
- Hydrology: expected increase in discharge rates and total suspended solids (TSS) while mining.
- CHPP water quality: Crowsnest River flowed through the original CHPP area which included the facility, washhouse, storage facilities, stockpiles, and a maintenance facility. Under the resumption, the CHPP will be relocated to the existing, disturbed mine site.
- Air Quality in association with the CHPP in the town of Coleman was a significant impact issue identified.
- Vegetation and soils.
- Wildlife, specifically ungulates.
- Aquatic assessment of the habitat and obstructions due to natural elements and mining.
- Historical Assessment.

Montem has reviewed the earlier EIA documents and, although Montem does not possess the records of technical questions or public input, the scope of the EIA data gathering, assessment and mitigation development was comprehensive and has supported the baselines studies for the TMM Project. The EIA undertook to assess both regional and local parameters for biophysical and cultural effects of the proposed TMM Project expansion. The scope of the TMM Project expansion that was assessed at that time included the following parameters:

- continued expansion of the mining activities at TMM.
- relocation of the CHPP from the Town of Coleman to a location near the Mine; and,
- the assessment and possible development of underground mining.

In assessing the validity of the previous EIA with the standard of today, Montem has developed a comprehensive and inclusive collection of baseline data program to follow sound scientific standards and gather sufficient information to understand the state of the local and regional environment. The EIA will also support background information for the IAA and appropriate mitigation.

Montem has used the standard terms of reference for coal projects, available from the AER, to direct the field studies and engagement with our communities and Indigenous Peoples. Montem believes this approach is the industry standard and represents the best regulatory path forward and is consistent with Montem's core values.

In all cases, the studies are being conducted by the best available subject matter experts and in a manner to meet regulatory requirements. The studies are first gathering an update to all required baseline information (provincial and federal), then are assessing the TMM Project for the determination of any effects associated with the TMM Project (e.g., aquatic, biophysical, cultural heritage, mining, and socioeconomics). All disciplines will use the most recent mitigation determinations, including avoidance, if necessary, to assess the potential effects of the resumed activities.

The Montem technical team is currently completing the assessment of these baseline studies in preparation to support the applicable environmental assessment reports and applications for the TMM Project. While the work is ongoing, no unforeseen effects to the studied environmental components have been identified to date. This is due to several factors, but most notably, most lands associated with the TMM Project have either been previously disturbed by prior mining activities, or have been affected by the active forestry, recreation, oil and gas or quarrying activities carried out in this region.

6.0 Regional and Strategic Assessments (Section 92 and 95)

The Government of Canada has announced that Environment and Climate Change Canada (ECCC) has developed the strategic assessment of climate change (SACC). The SACC was deemed a strategic assessment under Section 95 of the Impact Assessment Act. The SACC describes the greenhouse gas and climate change information that project proponents need to submit at each phase of a federal impact assessment and requires proponents of projects with a lifetime beyond 2050 to provide a credible plan that describes how the project will achieve net-zero emissions by 2050. It also explains how the Impact Assessment Agency of Canada or lifecycle regulators, with support from expert federal authorities, will review, comment on, and complement the climate change information provided by proponents.

In August 2021, ECCC published the draft Technical Guide Related to the SACC: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment for public consultation. This technical guide provides additional details on specific elements of the SACC, including:

- A description of how a project's GHG emissions are to be estimated throughout the impact assessment process, including upstream emissions and impact on carbon sinks, where applicable.
- A description of the Best Available Technologies / Best Environmental Practices Determination process that all projects are required to complete in the Impact Assessment process; and
- A description of the information required in the net-zero plan for projects with a lifetime beyond 2050

There are several regional based planning and decision-making tools, such as the South Saskatchewan Regional Plan, the Livingston Public Land Use Zone, Teck's Elk Valley Water Quality Plan, and others that provide broad-based planning and decision-making tools.

Montem will cooperate, join, or lead relevant regional plans or studies that may be identified as Montem moves through the engagement and regulatory process associated with the TMM Project.

PART B: Project Information

7.0 The Purpose of and Need for the Project

Steelmaking coal, also called metallurgical or coking coal, is a type of coal that is used in the production of steel. The world-wide demand for steelmaking coal is increasing on a year-by-year basis. Approximately 70% of all steel produced worldwide is done utilising blast furnace and basic oxygen furnace steelmaking methods. Metallurgical coke, made from steelmaking coal is an essential raw material for this method of steelmaking.

Steelmaking operations globally are actively pursuing metallurgical coke (made from coking coal) of the highest quality to maximize the efficiency of their blast furnace operations. It is of a higher purity than thermal coal which is used in energy generation. To make metallurgical coke, coking coal is heated at around 1100 degrees Celsius (°C) to remove water and other chemicals. This is done without the presence of oxygen. The result is lumps of near-pure carbon which is called metallurgical coke.

Canadian steelmaking coal is highly valued by customers both for the high-quality product, and the security of supply from a stable and reliable jurisdiction. The steelmaking coal product from the TMM Project is low in impurities and is considered an attractive steelmaking coal for many of the largest steel makers globally. Montem has undertaken commercial discussions with customers who previously purchased TMM Project steelmaking coal, and they have indicated their willingness to purchase TMM Project steelmaking coal again. While seaborne steelmaking coal markets are cyclical in nature, Montem is confident that the TMM Project product will be well received in the market.

The TMM Project is located on an existing mine-site, where mining activities were suspended in 1983. Previous mining at TMM focused on relatively low-cost waste removal ratios and did not develop the entire resource. Montem is proposing to maximize recovery of the remaining resources. The TMM Project will allow for continued, economical metallurgical coal production and provide contributions to the local and regional economy.

Montem completed a Feasibility Study on the TMM Project in early 2020 and is committed to returning the site to the production phase. The TMM Project has been designed to ensure it is economically sustainable such that employees of Montem (and their families) and other stakeholders, including Indigenous Peoples, local communities, regional economics, and federal taxpayers would see economic and social benefits through the lifespan of the mine. Where possible, Montem strives to employ local people and companies to bring sustained employment opportunities and economic strength to AB and specifically the Crowsnest Pass.

The TMM Project would utilize the existing pits, the TMM Project has a 13 Mt saleable coal reserve that would allow the TMM Project to mine for 14 years. Benefits of Montem mining the TMM Project include:

- use of existing TMM disturbance areas to limit the overall TMM Project footprint.
- use of existing TMM access roads and haul roads to limit the TMM Project footprint.
- upgrading of the existing TMM water management infrastructures and integration of the planned TMM Project water management infrastructures to limit the TMM Project footprint and expedite mitigation of water quality impacts.
- federal, provincial, and municipal governments will receive revenue from production royalties, company taxes and licence fees.
- the re-start of activities will enable the completion of the previously idled mining and reclamation work. This will enable the achievement of equivalent land capability on the reclaimed areas and improvements to the post closure environment performance of the TMM Project.
- 200 person years of on-site and off-site employment related to the construction of the plant, facilities, and infrastructure for the mine between Year 1 and 2.
- approximately 175 long-term operations positions to be hired from Year 2 to closure.
- metallurgical coal developments in the Crowsnest Pass and AB will provide an opportunity to diversify and stimulate the economy.
- use of goods and services provided by local, regional, and provincial contractors and retailers; and
- opportunities for AB and Canadians (with a focus on the local public and Indigenous communities) engineering firms, contractors, manufacturers, and suppliers to compete in the supply of goods and services.

The TMM was released from any significant requirements for reclamation through the issuance of reclamation certificates by the Province of AB in the 1980s. Notwithstanding this release, the area is not reclaimed to today's standards. Therefore, a unique opportunity and benefit exists to restart operations at the TMM Project, and through that activity, provide additional reclamation materials to complete and enhance the reclamation of the site postproduction. By restarting the TMM Project, an opportunity to enhance Indigenous involvement and benefit also exists. Montem, if authorized to restart operations, will propose a conservation and reclamation plan that will complete the mitigation and reclamation of the previous and new operations areas. Activities during operations and management of the site post-production will ensure the final reclamation of the TMM Project meets modern regulatory requirements.

Montem has secured a key agreement with Westshore Terminals, a terminal on the west coast of Canada, to facilitate exports. Montem is also in discussions with several key potential customers for the high-quality TMM Project steelmaking coal.

8.0 Physical Activities Regulations

The Physical Activities Regulation Schedule of the *Impact Assessment Act* direct the definition of projects as Designated Projects requiring assessment under the Act. Section 18, Mines and Metal Mills states:

18 The construction, operation, decommissioning and abandonment of one of the following:

(a) *a new coal mine with a coal production capacity of 5 000 t/day or more.*

The TMM is an existing coal mine, not a new mine. Montem has acquired and accepted the financial and social responsibility for this operation by transferring the existing approvals and mining financial securities. Montem has ensured the physical security of the operation by maintaining and enhancing access control. The TMM Project holds a variety of valid Permits and Approvals encompassing the open pit workings, storage areas for waste rock and access infrastructure at the TMM Project. The TMM Project capacity is 4,925 t/day: less than 5,000. The proposed operations design will release 250 tonnes raw coal per hour over the anticipated operating schedule dictated by the CHPP. The maximum daily production will be based on expected operations of 16 – 18 hr/ day and will peak at 4,925 t/ day: below the 5,000 t/day. The mine, mobile equipment and raw coal handling facilities will be designed to accommodate this production capacity.

Section 19, which defines the Designated Projects requiring assessment under the IAA because of expansion of an existing mine states:

19 The expansion of an existing mine, mill, quarry or sand or gravel pit in one of the following circumstances:

(a) in the case of an existing coal mine, if the expansion would result in an increase in mining operations of 50% or more and the total coal production capacity would be 5 000 t/day or more after the expansion

The area of mine operations is defined in the Regulations as: “the area at ground level occupied by any open-pit or underground workings, mill complex or storage area for overburden, waste rock, tailings or ore.” Other components that are typically incidental to a mine, such as an off-site access road, air strip, transmission line, administration buildings, etc., are not included in the definition.

The TMM Project will require an expansion to the operations of approximately 150 ha of new disturbance: less than 50% of the existing TMM footprint. Figure 2, TMM Project Footprint, identifies the areas of mining activities within the TMM Mine Permit Boundary. The expansion of the area of mining operations under the proposed mine plan will be an increase of approximately 40% to the existing area of 373 ha (an additional 150 ha of new disturbance).

Section 9 describes the Minister of Environment and Climate Change's authority to designate a Project for review under the IAA. On June 28, 2021, the Minister designated the TMM Project as a project subject to the Act. The decision referenced that the TMM Project "*may cause adverse effects to transboundary environments, Indigenous peoples, and fish and fish habitat, given the uncertainty related to the effectiveness of proposed measures to avoid deposition of selenium and other deleterious substances."* The decision also referenced the *"public concerns related to these potential effects and the context that the entire Project is not captured in a single provincial assessment".*

9.0 A Summary of Project Components and Activities

The proposed TMM Project will include the following mine components and activities as illustrated in Figures 6 to 10 and summarized in the following sections.

9.1 Project Components and Activities

The primary component of the TMM Project design is to focus on (but not be limited to) an ongoing maximization of the mining within the existing permitted area. The existing access and infrastructures will be fully used possible. Existing components and activities that would support the re-start and expansion of the TMM Project include the access roads and main haul road, mine pits and waste rock storage areas, mine pit lakes; and transport of final coal product via rail to customer markets, including product that travels through port facilities in Vancouver.

New TMM Project components and activities will include new buildings and facilities (offices, warehouse, maintenance, fueling, etc.), power and utilities, expansion of mine pits and waste rock storage facilities, water supply and storage that aligns with the existing TMM facilities.

New mining equipment including drills, shovels, and haul trucks are required and will be sourced to support the overall mining and coal processing design. The train load-out and associated facilities, explosive facility and storage, manufacturing, and delivery systems, CHPP facility with associated coal stockpiles, and water and sewage treatment facilities.

TMM Project activities include the open pit excavation and recovery of coal from three coal seam groups: Seam No. 1; Seam No. 2; and Seam No. 4. The ROM coal will be loaded by hydraulic backhoes into large end-dump haul trucks (220 tonne) and hauled to the raw coal dump located near the southern extents of the proposed mining pit.

Mining activities will consist of the following:

- clearing, logging, and grubbing.
- coversoil removal and salvage.
- coal and rock drilling and blasting.
- coal and rock loading and hauling.
- rock disposal area grading.
- coal processing rejects material disposal.

- haul road maintenance.
- surface water management.
- coversoil re-distribution.
- re-vegetation and reforestation; and
- general mining operations support.

The TMM Project will be developed as a conventional open pit, truck-and-shovel operation because of the deposit's topography and coal seam thickness and geometry. Waste is to be hauled to waste storage facilities both external and internal (backfill) to the pit. Coal is to be hauled to a preparation plant just north of the mined pits.

Mining will primarily take place in the East Flank area, along with an adjacent area at the north end of East Flank, named Boulton Pit, which will be established early in the mine life. Phasing will be developed from north to south to establish a backfilling sequence. Backfilling can be advantageous to reduce cost, minimise disturbance, and facilitate mine closure with respect to saturated rock fills.

During the operation phase of the TMM Project, several pit phases will be actively mined concurrently. This is required to maintain safe and practical mining rates in any given working area as well as to generate a smooth overall mining rate and equipment fleet schedule over the life of mine.

Overburden, waste rock and inter-burden will be mined using conventional drilling, blasting, loading, and hauling. Drilling and blasting will be modified as the pattern approaches the mineable coal seams as most of the coal seams will not be blasted through.

By ensuring the completion of development of all available coal resources in the existing TMM Project area, Montem plan is to complete the development and closure of the TMM Project.

See Section 14.0 for rational and alternative means for the TMM Project activities

9.2 Pre-construction, Construction and Upgrades

Construction-related activities will occur throughout the TMM Project redevelopment. The only known seasonal timing constraint on the TMM Project would be related to pre-construction activities in terms of when pre-construction/upgrades can start (pending approvals). A detailed summary of mitigation measures will be included in the DPD. Pre-construction, Construction and/or upgrades activities are summarized as follows (but not limited too):

- development of construction schedule and defining workforce.
- development of a Construction Environmental Management Plan (CEMP) and related Environmental Management Plans and Monitoring Programs
- initial mobilization of equipment, blasting activities and earthworks (vegetation harvesting, clearing and soil salvage, soil stockpiling).
- site preparation for constructions areas such as laydown areas, access roads, fuel storage and other storage facilities.

- upgrades and construction to water management infrastructures.
- construction of the new CHPP and associated facilities; and
- construction of the TLO and loading facility (Figure 4).

There will be minor improvements to the existing infrastructure as some of the infrastructure has degraded over time (roads, etc.) and, more importantly, the standard of acceptable industrial activity to the community have changed during the suspension of mining activities. Access to the CHPP can be achieved using the existing road which branches off from the Crowsnest Highway. Similar improvements are anticipated with the coal transportation activity. Previously unprocessed raw coal was transported from the mine, via a public highway, to the CHPP in Coleman. After processing, it was loaded on trains and delivered to market. Montem is proposing to utilize the existing infrastructure to haul clean coal from the relocated on-site CHPP (approximately 16 km from Coleman) to a train load out on the nearby rail line. This will eliminate substantial haulage with the associated reduced risk to the public, reduced emissions from haulage and overall, more efficient operations. This will also reduce any potential for visual impact, with most infrastructure shielded from view, within the mine boundary.

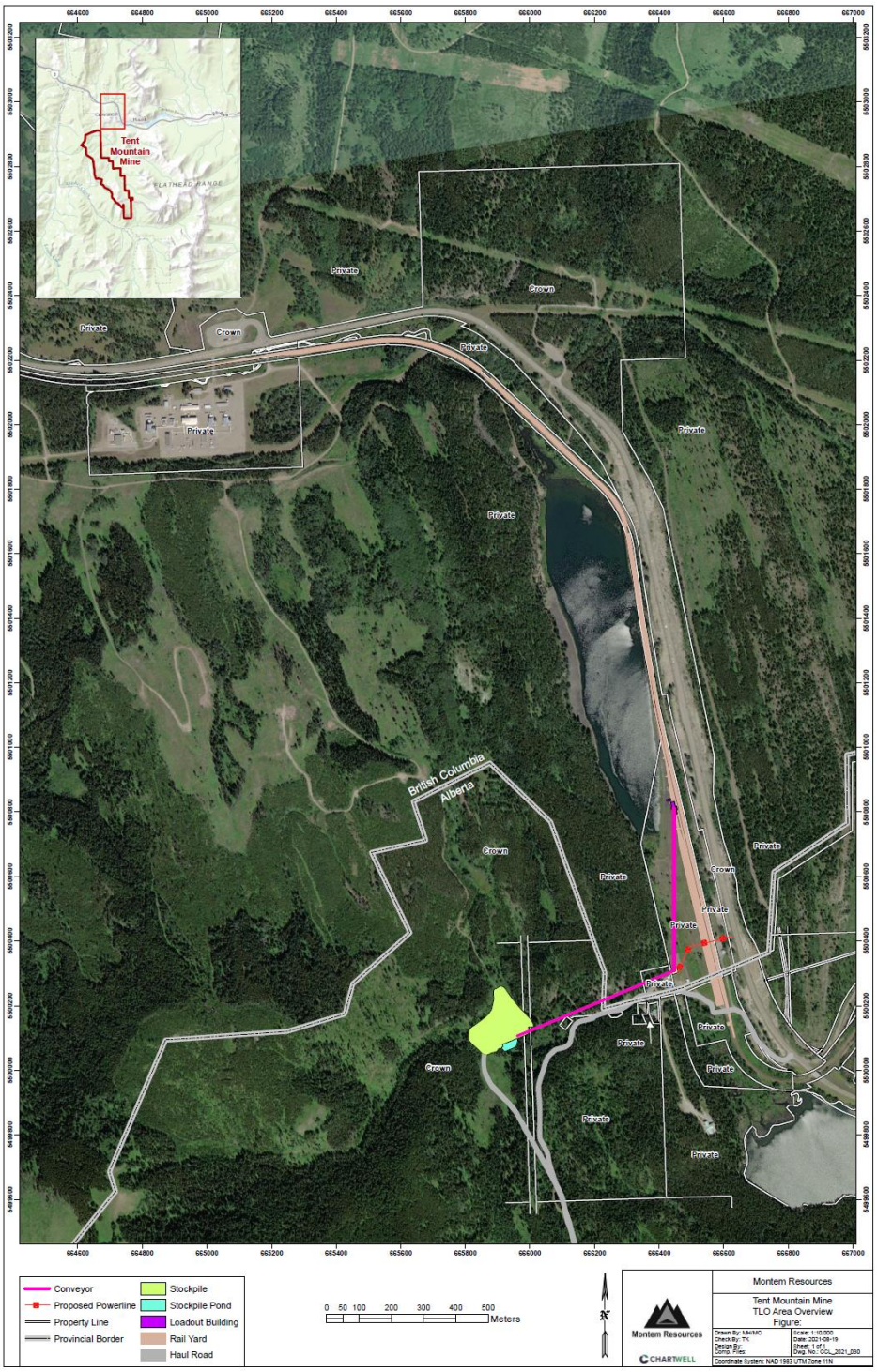

Figure 4: TMM Project TLO Location

9.3 Operation Phase

Overall, the TMM Project will have a mine life of 14 years, during which the required operation activities are summarized below (but not limited to):

- work force and training.
- provisions of onsite employee, contractors' transportation, and parking facilities.
- development of all application Management Plans, Operations Plans, Health and Safety, Monitoring Plans, Best Management Practices (BMPs).
- open-pit mining.
- mine site maintenance (mining facilities, processing, TLO, rail loop, site access, haul road, water management).
- rock storage site development.
- water management; and
- ongoing progressive site decommissioning and reclamation activities.

During the operation phase of the TMM Project, Montem is proposing to restart operations with a phased pit development overlapping and enlarging existing open pits concurrently. This is required to maintain safe and practical mining rates in any given working area as well as generate a smooth overall mining rate and equipment fleet schedule over the life of mine.

This proposed mine plan uses the existing pit development as a source of water for the wash plant and dust suppressant. The TMM Project will be developed as a conventional open pit, truck-and-shovel operation because of the deposit's topography and coal seam thickness and geometry. Waste stripping will be carried out by conventional drilling and blasting, equipment such as hydraulic shovels, and coal loaded by excavators and front end-loaders. Waste is to be hauled to WSFs both external and maximize internal (backfill) to the pit. Coal is to be hauled to a preparation plant just north of the mined pits, within the existing Mine Permit boundary.

Mining (see Figures 6 to 10) will primarily take place in the East Flank area, along with an adjacent area at the north end of East Flank, named Boulton Pit, which will be established early in the mine life. Phasing will be developed from north to south to establish a backfilling sequence. Backfilling can be advantageous to reduce cost, minimise disturbance, and facilitate mine closure with respect to saturated rock fills and reforming the landscape.

Overburden, waste rock and inter-burden will be mined as the blast pattern approaches the mineable coal seams as most of the coal seams will not be blasted through. Only coal seams dipping between 9 degrees to 45 degrees will be drilled through to facilitate blasting in the hanging wall and footwall at the same time.

The method applied for cleaning of waste rock from the coal seam hanging wall and the mining of the coal seam is determined by the dip of the coal seam in each area. For dip angles that allow the loading equipment to effectively reach the whole bench height, the hanging wall and coal seam will be mined as the whole 12m bench. When the coal is too steeply or too shallowly dipping

to effectively clean the hanging wall and mine the coal as a 12m bench without excessive dilution, the bench will be divided into 6m flitches.

The raw coal will be processed through the CHPP. The cleaned product coal will be hauled by truck on an approximate 8km designated haul road to clean coal stockpiles, and then loaded onto trains for transport to an export bulk commodity port in Vancouver. Product transportation, comprising rail and port, has also been addressed and relies on the existing systems in place that have extensive experience in handling similar coal products, and which have sufficient system capacity to accept the TMM Project's production.

9.4 Decommissioning, Reclamation and Closure Phase

The end land-use objectives for the mine site will be based on pre-mining use in the area to the extent possible. This will be guided by input from Indigenous peoples, stakeholders, and local communities.

Ongoing monitoring and maintenance requirements for closures will be developed in consultation with applicable regulators, Indigenous peoples, interest groups and communities.

Reclamation goals for the TMM Project must be consistent with regional plans and zoning. Montem's fundamental reclamation objective is to reclaim lands to meet the intended end land uses.

An ecosystem management approach is used as the basis for the TMM Project reclamation and closure plans, recognizing ecological integrity, adaptive management, and human interactions as key considerations. The following factors were considered:

- Ecological: The targeted reclamation conditions are biologically attainable and sustainable. They accommodate the biophysical factors of soil development (re-establishment and maturation of nutrient, water, physical and other processes) and ecosystem processes (vegetation and faunal development and interactions) within climatic limitations over time.
- Economic: Economic aspects of mining and reclamation operations are critical to the sustainability of TMM Project. Specific mining and reclamation activities, which are influenced by pit sequencing, include external dumping of waste rock, soil handling, the limitations of hauling soil over long distances and the ability to backfill.
- Social: The targeted reclamation conditions must be socially beneficial. Several provincial land use initiatives provide guidance for industrial and public access management in the region – the Coal Branch Integrated Resource Plan (AFLW, 1990) and the Coal Branch Access Management Plan (AFWL, 1994) are key planning documents that have been considered.
- Regulatory: The targeted reclamation conditions must meet or exceed regulatory requirements. Several provincial government documents provide legislation and direction regarding reclamation at the TMM Project.

The following five resource uses have been assumed for TMM Project's reclaimed landscapes. These values are compatible with government resource planning objectives and regulatory requirements and are ecologically and economically sustainable:

- **Watershed protection** - this value is paramount and is given highest consideration in all aspects of this plan.
- **Wildlife habitat** – emphasizing the maintenance and conservation of all wildlife in the region.
- **Fisheries habitat** - emphasizing the maintenance and conservation of native fish species in the TMM Project watercourses.
- **Forest re-establishment** - for watershed, wildlife, ecological processes, and scenic values.
- **Recreational uses** - in selected areas, to accommodate off-highway vehicle use and emphasize scenic values without negatively affecting wildlife and watershed values.

Upon cessation of coal production, the TMM Project site will be reclaimed to an appropriate state and end-use as determined by relevant legislation in effect at the time of closure and agreed to ahead of time with the regulators. This will include demolishing and levelling of buildings and revegetation with appropriate plant species. Initial revegetation will aim to establish a protective cover over reclaimed landscape to minimize wind and water erosion. Following that, the goal will be to re-introduce native species, which will assist with the forementioned wildlife values.

After the completion of mining in each phase, progressive reclamation will commence using industry standard practices to restore the land to a productive state. Where possible, lifts of waste materials will be re-sloped and reclaimed as they are completed.

All material facilities that have sloped surfaces or catch benches will be re-sloped to 2H:1V, which is required for revegetation. Facility crests will be pushed down with track dozers, filling in the toes of each catch bench and smoothing out the facility face to the overall slope angle.

A topsoil cap of 0.3 m thick will be placed on all disturbed areas from topsoil that was stockpiled during stripping. Topsoil will be loaded, hauled, and spread by a fleet of loaders, articulated haul trucks and dozers. The topsoil stockpiles have been sized according to the volumes required to complete reclamation activities and when reclamation is complete, those piles will be removed.

9.5 Water Storage

The TMM Project will utilise the water stored in the TMM's reclaimed "Pit 4", located in what will eventually be mined out as East Flank Phase 2, as process water and dust management in the first five years of operations. Subsequently, a new temporary water storage location will be established to receive and store water from the Pit 4 lake before it is mined. The Seam 2 Trench will be mined prior to the adjacent East Flank Phases 3 and 4 and will be available for water storage at the appropriate time. A summary of the two main water storage features and their storage capacities are shown in Table 5. They are illustrated in Figure 5.

The TMM Project's water balance incorporates the mine water sources, which includes two standing water bodies (Pit 4 and Seam 2 Trench) within the mine footprint and phase/pit water from the inflow sources such as precipitation and runoff. The TMM Project will not require additional water to be used for the purposes described above from the surrounding watersheds. The Pit 4 water has been stored in a static condition since the suspension of operations in the 1980's. Montem has examined the surface and ground water environment's surrounding Pit 4 and believes that a large percentage of this water is effectively "removed from," or "non-contributing to," the local watershed quantity.

Table 5: Water storage features and capacities

Water Storage Features	Storage Capacitary (m^3)
Historical "Pit 4"	4,530,000
Seam 2 Trench	2,500,000

Note: M3=cubic metres

9.6 Mine Dewatering

There are three types of water that will need to be managed at the TMM Project site:

- water in existing historical pits (the quality of which is suitable for discharge to the environment).
- precipitation and runoff before entering pits or WSFs (the quality of which is also suitable for discharge to the environment); and
- mine-affected water, namely precipitation/runoff/seepage directly interacting with pits and/or WSFs (the quality of which requires treatment in the form of saturated rock fills, biochemical reactors, and wetlands to attenuate selenium, nitrate, and other metals prior to discharge to the environment).

Management of water in existing pits and dewatering of active pits is detailed below, while management of mine-affected water is described in Section 9.7.

Mine water management of the open pits will utilize centrifugal pumps to remove ground water and precipitation. Water coming from Pit 4 will be the primary source of water for the CHPP for clean coal production. Concurrent to supplying water to the plant, water will be pumped from Pit 4 to the Seam 2 Trench once its excavation is complete. After the water has been drained out of Pit 4, the Seam 2 Trench will supply processing water for the remainder of the mine life. Water from Pit 4 not used directly by the plant or pumped to the Seam 2 Trench will be pumped to the sedimentation basin for discharging back into the environment at a required rate to not impact stream flow.

During the early stages of the mine life, water from the other pit phases will be recycled and temporarily stored in Pit 4 due to the lack of discharge capacity.

Water quality of Pit 4, Seam 2 Lake precipitation, and runoff collected within the pit or phase is currently meeting federal environmental release standards except for total suspended solids (TSS). To reduce TSS and meet the criteria, the mine water will be pumped into sedimentation basins to treat for TSS. An ongoing monitoring plan for water quality and TSS will be developed and implemented prior to operations.

9.7 Water Management

The current best practice that regulators and the public are expecting from coal mine applications is the use of a layered approach whereby there are several opportunities for selenium leaching to be avoided or treated. This allows for uncertainty of mining conditions and the expected performance of selenium management measures (see Section 21), so that compliance with selenium guidelines does not rely on any single method.

This layered approach can be described in terms of four principles for selenium management:

- **Avoidance**: substantially reduce selenium release and subsequent loading by selectively mining to avoid disturbing rock with high sulphide content, and siting waste rock to avoid active drainages and permeable strata.
- **Prevention**: impede selenium leaching and release of selenium-enriched water to the environment by surface water management, construction techniques, and covers to limit water and oxygen flux through the waste rock. Prevention strategies can reduce and potentially eliminate selenium at the source by modifying processes and reducing the volume of water that requires treatment.
- **Mitigation**: reduce the risks of selenium release by water capture, backfilling waste rock in pits, and saturated zones in ex-pit waste rock deposits.
- **Treatment**: remove contaminants from the environment, passive treatment measures will be implemented such as constructed wetland (utilising Pond 3), or bioreactors.

The mitigation methods to be incorporated into the TMM Project's selenium management plan include (but not limited to) saturated backfills (SRF) and the treatment methods include a biochemical reactor (BCR) and wetland (Figure 5).

Conceptual design work has been completed to evaluate water management features that will be required to convey water through and around the various components of the proposed TMM Project Water Management Plan (WMP).

On the northwest side of the mine (Crowsnest Creek), these features (Figure 5) include the following:

Pond 3 System:

- Sediment basins at the inlet of Pond 3 and Pond 0 to reduce flows and manage total suspended solids.
- Diversion ditch/berm to allow water in the Pond 3 catchment that is not mine-impacted to bypass Pond 3 and flow into Pond 2 and to convey flow events more than the design capacity of the wetland system.
- Pond 3 inlet ditch/berm and armoured chutes to convey water to Pond 3 and reduce erosion potential.

Dump Pond and BCR:

- Sediment basin at the BCR inlet to reduce flows and manage total suspended solids.
- BCR inlet, outlet, and spillway channels to manage flows through BCR.

Boulton Pit:

- Sediment basin at the outlet to reduce flows and manage total suspended solids.
- Outlet ditch/berm and armoured chute to convey water from Boulton Pit to Pond 2 and reduce erosion potential.

On the east side of the mine (East Crowsnest Creek), these features include the following:

Middle Pond:

- Conversion of existing Middle Pond to a sediment basin at the inlet of Lower Pond to reduce flows and manage total suspended solids.
- Inlet armoured chute to convey water to Middle Pond (sediment basin) and reduce erosion potential.
- Diversion ditch/berm to allow water in the Middle Pond catchment that is not mine-impacted to bypass Middle Pond and flow into the non-treatment portion of Lower Pond.

Lower Pond:

- Diversion ditch/berm to divide the existing Lower Pond into a treatment portion of the wetland that will reduce selenium from mine-impacted water and a non-treatment portion that will convey water that is not mine-impacted and/or flow events more than the design capacity of the treatment portion.

Treatment wetlands and the BCR were sized to achieve sufficient residence time to achieve the required selenium reduction to align with the predictions of the load balance model. Bypass or diversion channels were sized to convey peak flows up to a 24-hour, 1 in 100-year storm event.

Additional design work is required to define other localised water management features required to convey water within the mine site during mining operations.

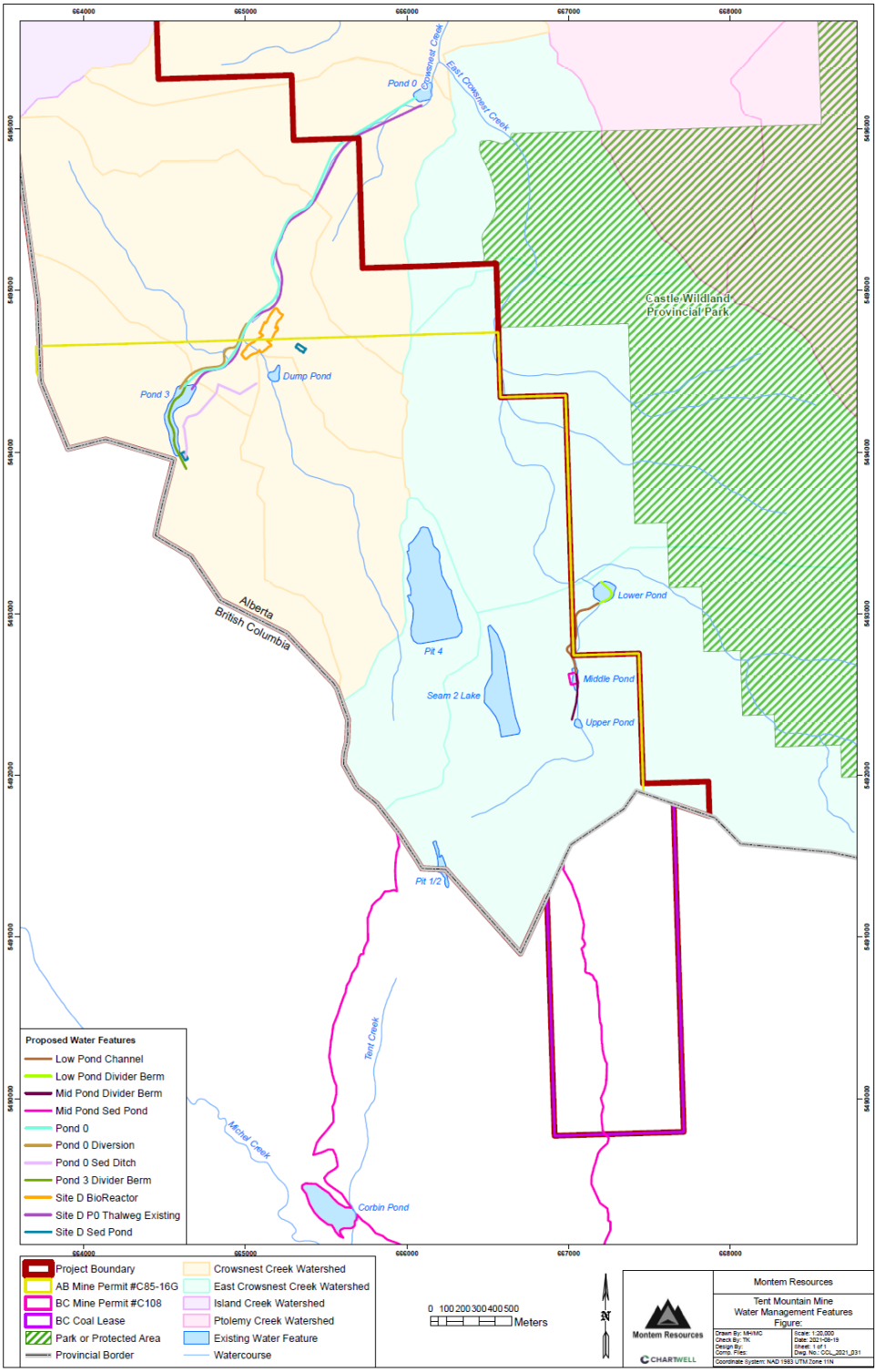

Figure 5: TMM Project Water Management Features

9.8 Coal Processing, Handling and Recovery

The CHPP for the TMM Project will employ proven technology found in modern metallurgical coal plants, including dense media separation, reflux classifiers and flotation.

The location of the CHPP facility is shown on Figure 2. This location was selected for its proximity to the pit and relative flatness, likely the same reasons that the old mining infrastructure from previous operations was also located here.

Haul trucks will deliver run-of-mine (ROM) coal from the pit and will dump directly onto the ROM stockpile. Raw coal from the ROM stockpile will be reclaimed by a front-end loader (FEL) and transferred onto the feeder breaker hopper. The feeder breaker will reduce the top size of the material to approximately 200-250 millimetres (mm) and then feeds the material onto the raw coal conveyor.

The raw coal conveyor will have a ferrous and non-ferrous metal detector to trip the conveyor and prevent damage to downstream equipment in the CHPP. It will elevate the raw coal directly into the CHPP, feeding into the secondary sizer feed chute. There will be a weigh scale installed on this conveyor to control the feed rate from the feeder breaker and to record instantaneous feed rate and cumulative tonnes.

The raw coal conveyor will discharge into the dual roll secondary sizer for reduction to a nominal -50 mm top size that discharges directly into the desliming screen feed box within the CHPP. The sizer will be low speed high torque centre sizing machines to minimise fines generation.

Raw coal will be fed to the CHPP via a multi-slope desliming screen. High flow rate sprays will assist the desliming operation and the undersize material and water will be collected in the desliming screen underpan and piped into the deslime cyclone feed sump. Oversize will discharge from the end of the desliming screen and will be flushed with correct medium into the dense medium cyclone (DMC) feed sump.

Coarse, fine, and ultrafine reject material will be combined on the rejects conveyor and will be discharged from the CHPP onto the rejects transfer conveyor, which will direct material into the rejects bin. The reject bin will have a storage capacity of 60 tonnes and will be designed to load articulated (or equivalent) 28t trucks for co-emplacement back in the pit. Mechanical drying of the fine and ultrafine rejects, and co-emplacing with coarse rejects negates the need for a tailings pond.

Coarse, fine, and ultrafine product material will be combined on the product conveyor and will be transferred from the CHPP and conveyed directly to a product loading bin. The bin will have a capacity of 150 tonnes and an overflow chute for emergency use.

A cross-belt sampler and weigh scale will be installed on the product conveyor to allow for product coal sample collection and the instantaneous product rate and cumulative tonnes to be monitored and recorded.

10.0 Estimate of Maximum Production

The TMM Project is expected to produce up to 1.1 Mt of clean coal per year. The CHPP targeted an annual production rate of 1.8 Mt ROM coal with a 50% ramp-up in its first month.

The schedule was driven by a balance of the following main factors:

- mining the lowest strip ratio coal early in the mine life.
- maintaining adequate water supply to the CHPP; and
- opening sufficient waste backfill capacity as required.

After satisfying these main drivers, further scheduling modifications were made to optimise loading and haulage requirements. A maximum of ten benches per annum was assumed for any given TMM Project mine phase. Raw coal inventories (total in-pit and ROM stockpiles) were kept to a maximum of 60,000 tonnes.

The mine operations are designed to release 250 t/hr over the anticipated operating schedule of the CHPP operating design. Maximum daily production will be based on expected operations of 16 – 18 hr/day and will peak at 4,925 t/day. The mine, mobile equipment and raw coal handling facilities will be designed to accommodate this production capacity.

11.0 Project Proposed Timelines

The major activities associated with the TMM Project phases include pre-construction, construction, operations, decommissioning, reclamation, and closure (Table 6). Montem is proposing to restart operations with the first coal delivery scheduled for Year 2 depending on regulatory decisions and approvals. As part of the long-range planning, optimizations of mining sequence and regulatory the proposed activities are subject to change.

The mine production schedule assumes a 24-hour, 365-day a year operation with certain operating constraints over winter during periods of heavy snowfall, especially for clearing and soil salvage operations.

Table 6: TMM Project key phases and activities

Year	TMM Project Phase	TMM Project Activities
0-2	Pre-construction and Construction	• Site clearing, grubbing, timber, and brush clearing • Soil salvage and stockpiling • Construction of powerline, TLO and CHPP • Upgrades and construction of water management structures and facilities • Construction of mine haul road to the Rail Loadout • Construction of supporting infrastructures
2-17	Operational	• Blasting and removal of waste rock • Mining and processing of raw coal • Water Management • Progressive reclamation opportunities • Transporting to market
18-20	Reclamation	• Contouring or waste rock dumps to acceptable configuration • Decommissioning and reclamation of roadways • Cover soil and seed for closure
21+	Decommissioning and Closure	• Contouring of waste rock dumps to acceptable configuration • Ongoing monitoring and maintenance • Decommissioning and reclamation of roadways and powerline corridors

Note: CHPP=Coal Handling and Process Plant; and TLO=Train Loadout

Pre-production activities associated with the mine plan commence in Year 0 - 2 with CHPP operations starting in Year 2. At the proposed production, the TMM Project is expected to continue at full production for 14 years. During that time, progressive reclamation will be undertaken to ensure that, as the mining operation progresses through the previously disturbed and partially mined areas, areas that are ready to reclaim are retired from the reclamation inventory.

Upon completion of the mining, the final reclamation will occur in years 15 to 20. As mining equipment is removed from the TMM Project, final reclamation will occur on the internal infrastructure (roads, powerlines, water management facilities). The CHPP currently proposed is a modular design that may be dismantled and re-used at another facility at the end of mining. Final reclamation of the TMM Project access road, clean coal haul route and load out facility will occur as the TMM Project is completed.

Figures 6 to 10 depict the mining sequence schedule.

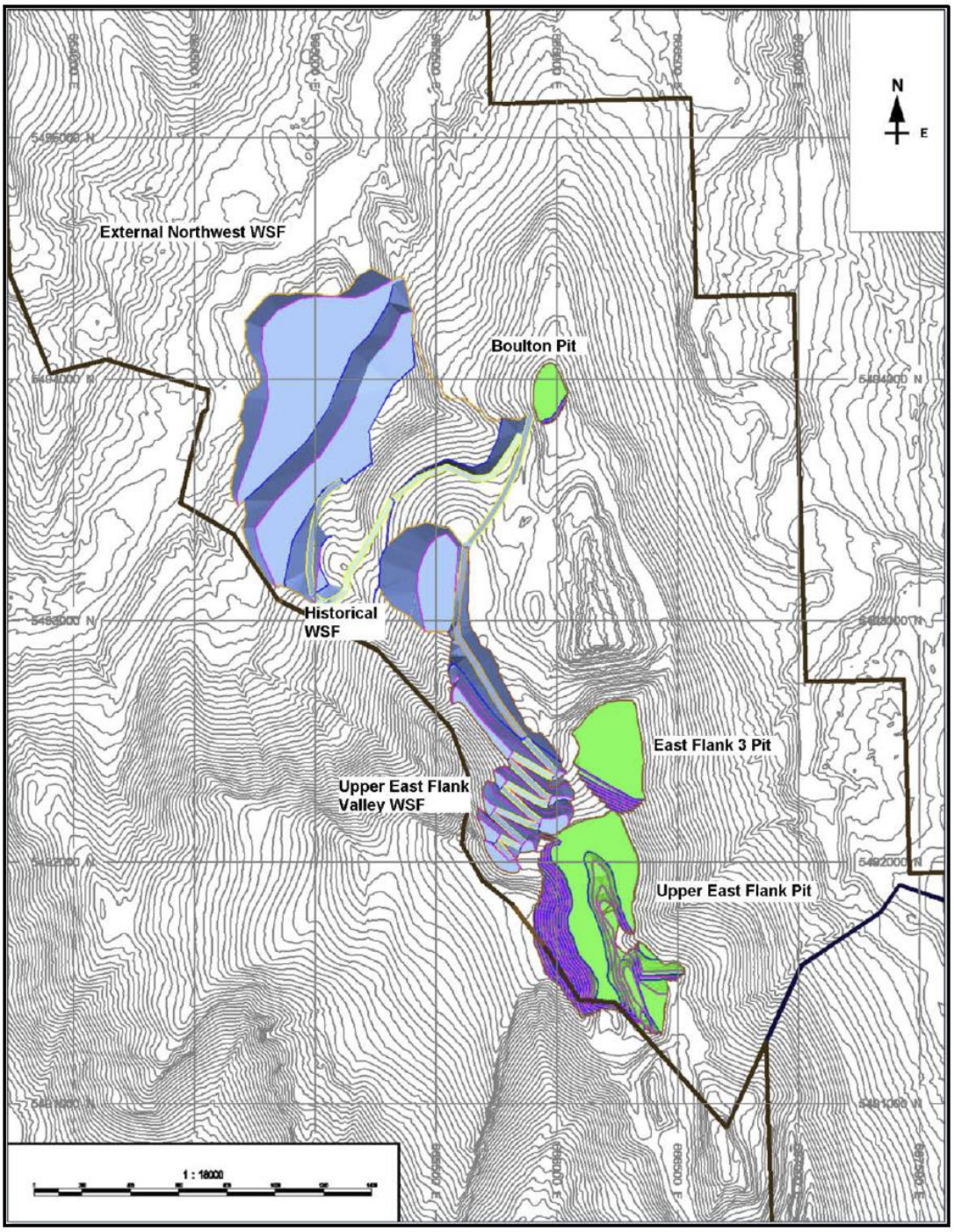

Figure 6: TMM Project Development (end of Year 1)

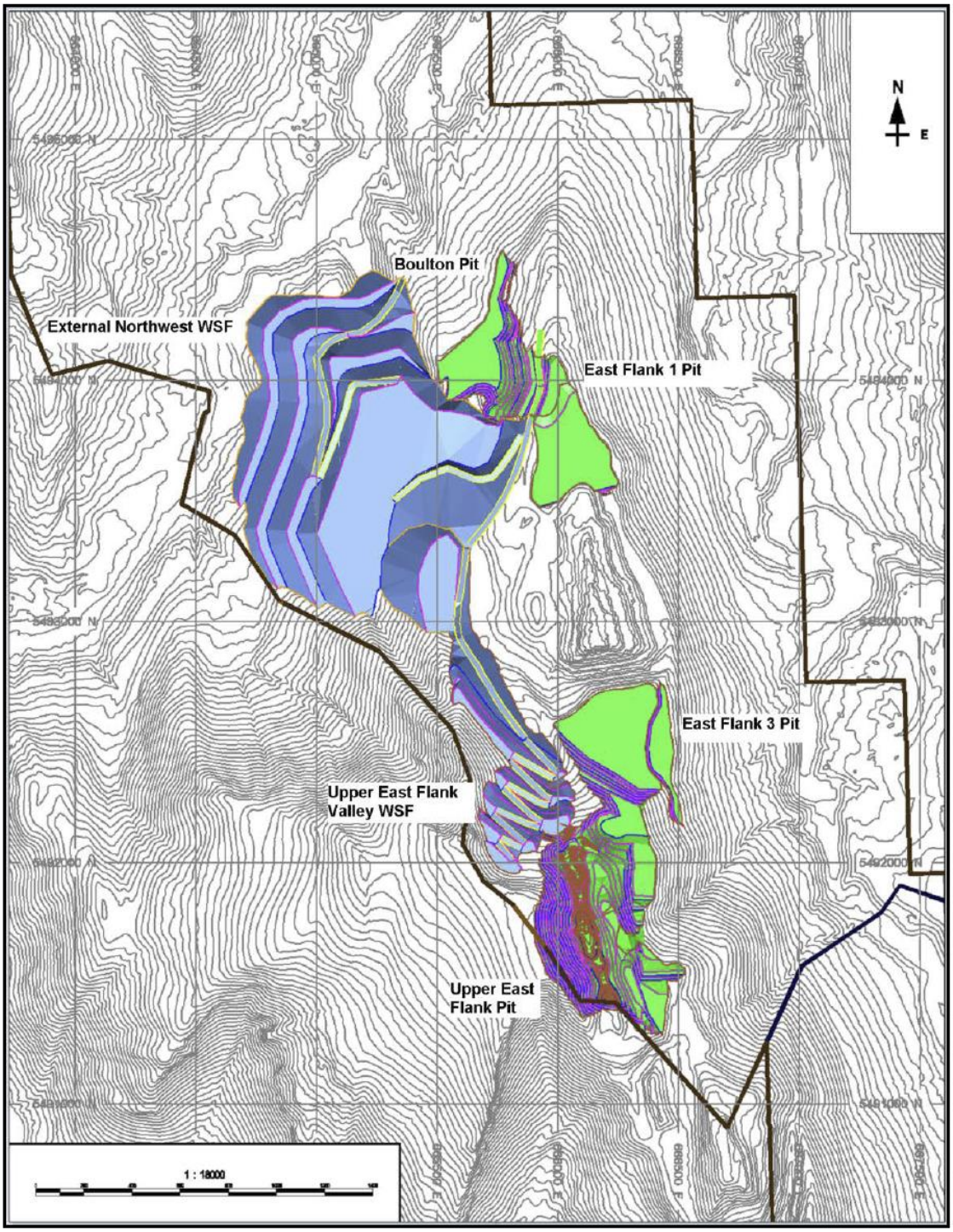

Figure 7: TMM Project Development (end of Year 2)

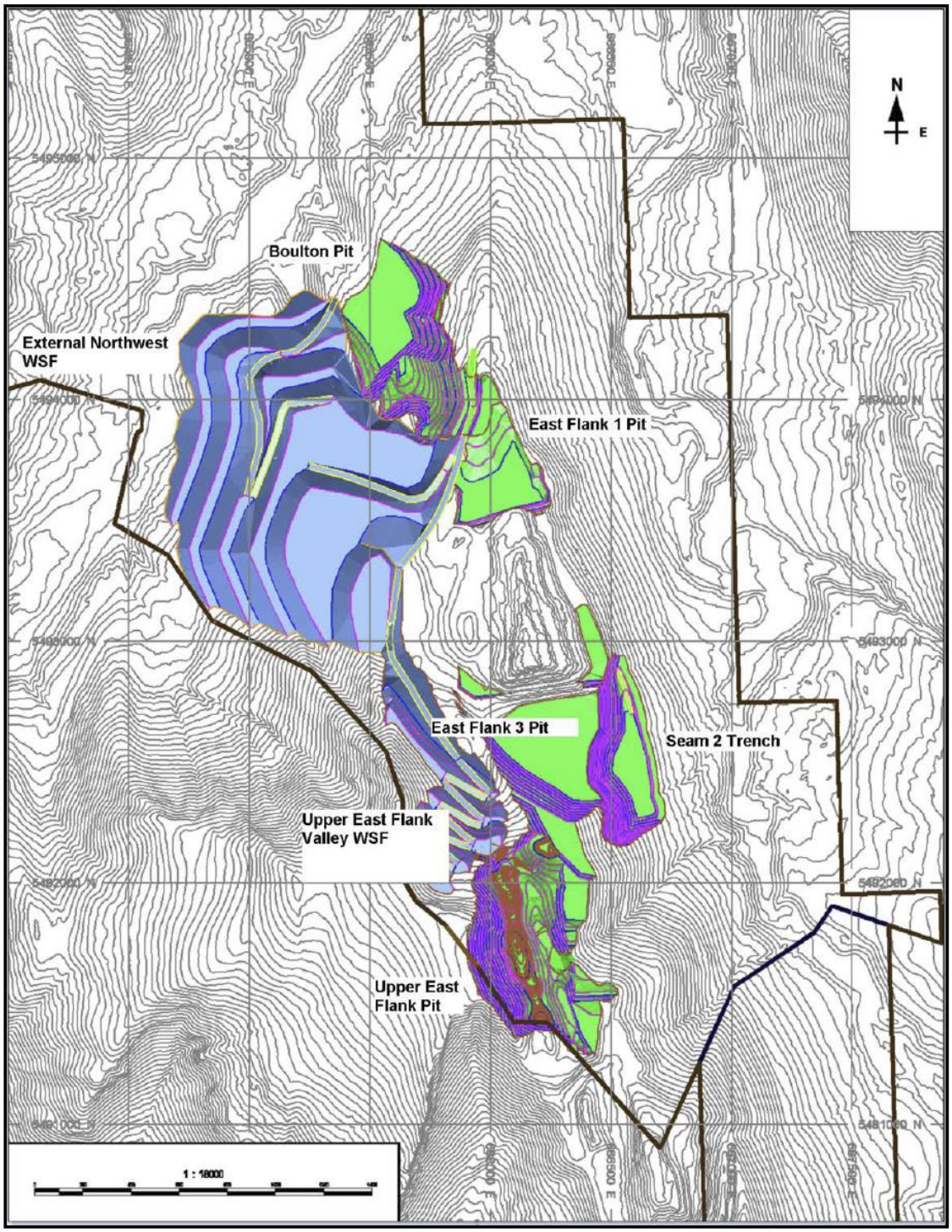

Figure 8: TMM Project Development (end of Year 3)

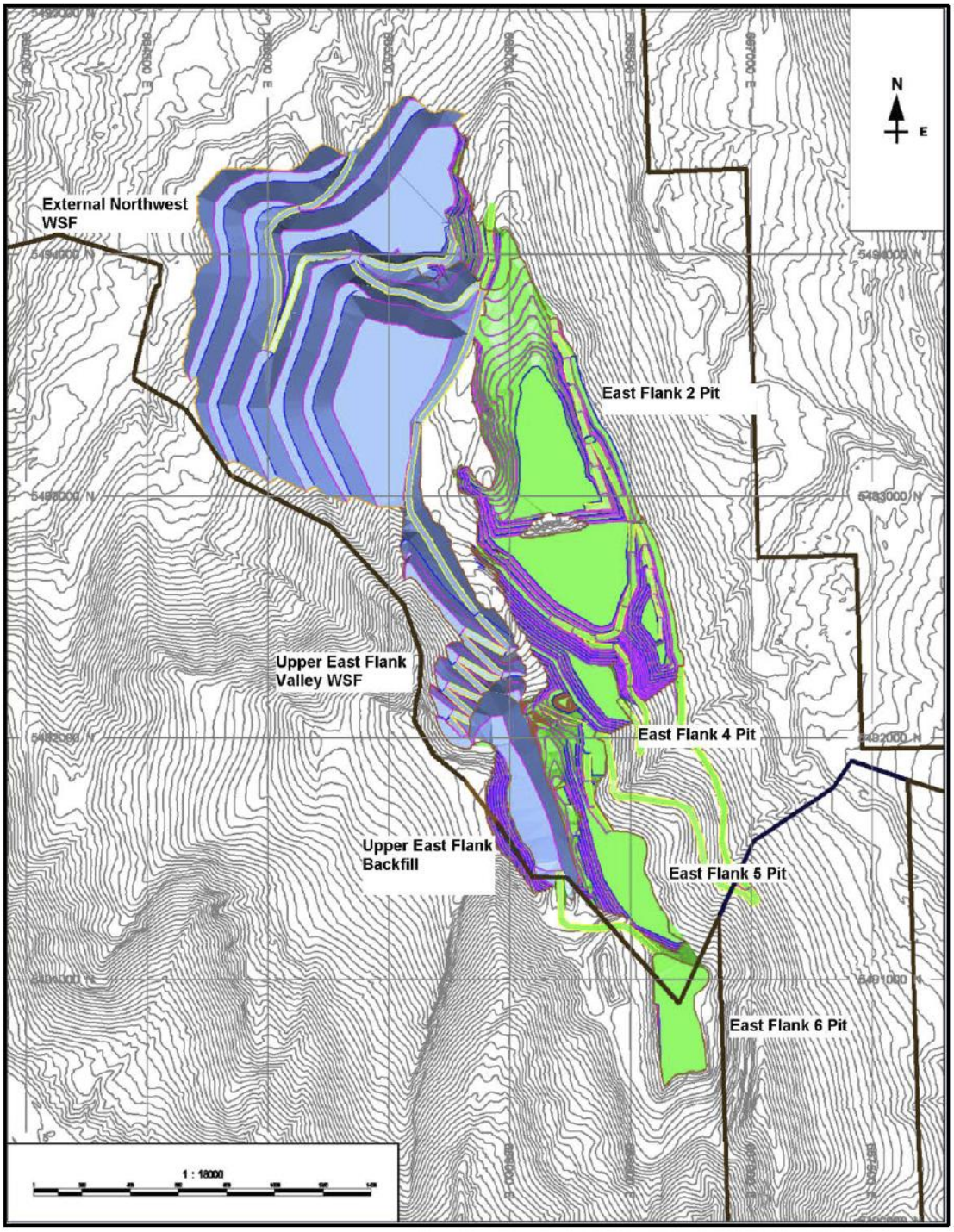

Figure 9: TMM Project Development (end of Year 5)

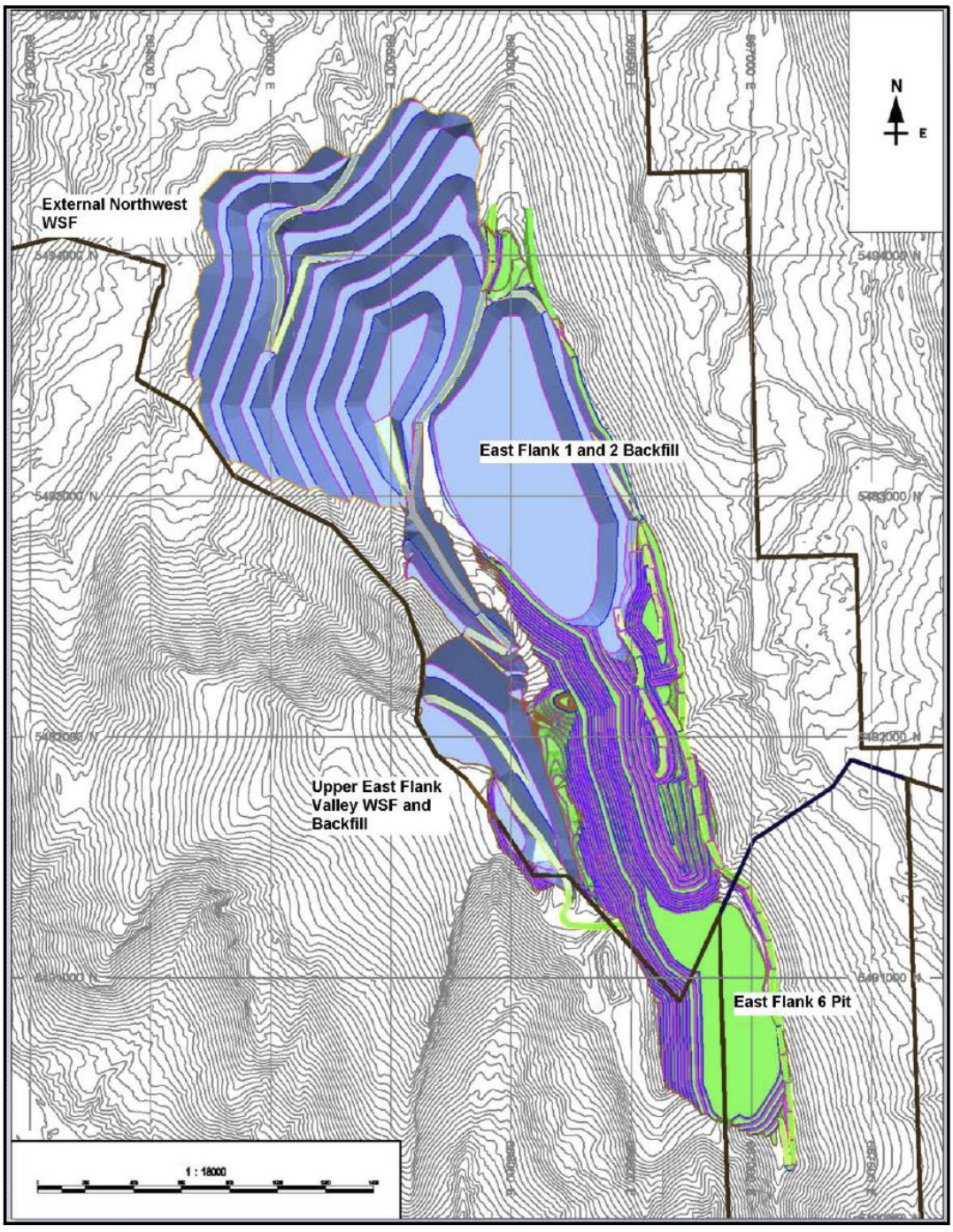

Figure 10: TMM Project Development (end of Year 10)

12.0 Alternatives Assessment

12.1 Alternative Means

The TMM Project is located on an existing mine-site, where mining activities were suspended in 1983. Previous mining at the TMM focused on relatively low-cost waste removal ratios. Montem is proposing to maximize recovery of the remaining resources. The re-start of the mine will allow for continued, economical metallurgical coal production for the TMM Project and provide contributions to the local and regional economy.

Montem completed a Mine Feasibility Study on the TMM Project in early 2020 and is committed to returning the site into the production phase. The TMM Project has been designed to ensure it is economically sustainable such that employees of Montem (and their families) and other stakeholders, including Indigenous Peoples, local communities, regional economics, and federal taxpayers would see economic and social benefits through the lifespan of the mine. Where possible, Montem strives to employ local people and companies to bring sustained employment opportunities and economic strength to Alberta and specifically the Crowsnest Pass.

The extent of alternatives to develop the resource available for assessment are therefore somewhat limited by the constraints of the existing and past activities. As part of Montem's TMM Project Mine Feasibility Study, a range of alternatives means assessments were carried out. All key components of mine planning execution were included in the alternative means analysis:

- mining type.
- mine configuration.
- rail and loadout facility location.
- clean coal transport.
- CHPP fines management (coal dewatering).
- water and selenium management.
- coal lease development.
- rail haul.
- energy source.
- water supply.
- employee accommodation; and
- non-rail transportation.

The approach utilized to assess the alternatives to the TMM Project was, where possible, to develop an engineering and economically feasible mine plan that mitigated key issues through design. The IAA defines "Alternative means" as various technically and economically feasible ways under consideration by the proponent that would allow a designated project to be carried out. For the TMM Project, to assist in developing the alternative means assessment, the Operational Policy Statement (OPS) addressing "Purpose of" and "Alternative Means" under the *Canadian Environmental Assessment Act, 2012* was referenced. The OPS aim to ensure that the requirements related to the purpose of a designated project and alternative means of carrying out the designated project are met.

In the Feasibility Study, alternative means options were evaluated against the following technical criteria wherever possible as follows:

- operability and constructability.
  - desirable – the mining method lends itself easily to the geologic conditions that are present on the site.
  - undesirable – the mining method cannot be implemented to its full potential due to the nature of the geology/geometry of the mine site.
- flexibility:
  - desirable – the method can adapt to unexpected changes in the site geology. Production rate can be modified to react to economic conditions.
  - undesirable – the method relies on an extremely high understanding the local geology to be successful. Limited ability to vary the production rate to match economic conditions.
- safety:
  - desirable – have a high probability of operating the site with minimal risk to human safety.
  - undesirable – subjecting the health and safety of workers to unacceptable levels of risk.
- resource recovery:
  - desirable – high recovery of the available coal resources on Montem's leases.
  - undesirable – low recovery of the available coal resources or sterilization of resources.

Additionally, wherever possible, economic feasibility of alternative means was based on an applicable/relevant subset of the following:

- construction/capital cost:
  - desirable - minimizing costs of earthworks, length of rail tracks, length of access roads, and length of conveyor systems.
  - undesirable - the presence of geographical, social, or environmental factors requiring high total construction cost.
- operating cost:
  - desirable - lower running costs including cost of energy and amount of transportation to the load-out, and ease of maintaining infrastructure.
  - undesirable - excessive amounts of infrastructure and/or novel infrastructure requiring high operating and maintenance costs.
- schedule risks:
  - desirable – a location with a high probability of successful permitting, construction, and operation.
  - undesirable - potential for delays in obtaining government approvals, areas requiring buy-in from the community, and a high amount of required environmental remediation.

- impact on community:
    - desirable - a location requiring little or no relocation of existing users (residential, commercial, recreational and/or industrial) with a low impact on adjacent properties and low safety/security hazard.
    - undesirable – locations with a high impact on current land use.

Once the technically and economically feasible alternative means were determined, the environmental effects of each overall feasible option were assessed. As noted in Section 1.0, Montem will gather feedback on the concepts raised in this IPD. Feedback will be considered and potentially inform future decision making on the TMM Project (responses will be provided in the DPD).

12.2 Alternative Projects

Montem has developed an approach to redevelop the TMM Project through its pre-feasibility and feasibility work that provides the greatest path to success. The site will be left in a significantly better and more productive state than currently exists. At the same time, the renewed operations will bring much needed economic benefits to the local community and social benefits to the community and Indigenous People in the region. All this is achieved in a manner that allows profitable operation of the TMM Project.

Alternatives to the development of the TMM Project and options considered included:

- Development of other predevelopment metallurgical coal properties available to Montem Resources
- Purchase of and expansion to other available existing Alberta based mining projects

All the alternatives to the development of the TMM Project require additional capital investment, incur the risk of significant delays, and were rejected in favor of the current plan for the TMM Project. The TMM Project offers the minimum risk of additional impacts associated with a new project, minimize the economic risks associated with the acquisition of an existing project and presents to maximum positive effects impacts associated with the resumption of activities/completion of the previous mining.

Montem believes the current mine plan is the best option from an economic, social and community perspective and most feasible.

As noted in Section 4.0, Montem has gathered feedback on the concepts raised in early engagement and will continue to gather feedback raised in this IPD. The feedback will continue to inform future decision making on the TMM Project. Montem has provided response to feedback and intends to continue to provide feedback and will be summarized in the DPD.

PART C: Location Information

13.0 Location

The existing TMM is located approximately 16 km southwest of the Town of Coleman within the Municipality of Crowsnest Pass and nearby communities include, Blairmore 20 km to the east and Sparwood (BC) is 22 km to the northwest (as noted in Section 2.1 of this document, Figure 1). The nearest residence to the TMM Project is greater than 5 kilometers from the proposed CHPP location. There are no other permanent, seasonal, or temporary residences potentially affected by the TMM Project. The TMM Project straddles the AB and BC border.

Access to the TMM Project is via historical mine haul road off Highway 3 (also known as Crowsnest Highway). The TMM Project is 6 km south of the main rail line operated by CPR, providing potential access to terminals in Vancouver. Montem is proposing to locate the CHPP on a pre-disturbed location within the Mine Permit area. As a result, Montem will not transport coal along Highway 3. Montem is pursuing an agreement with CPR to load clean product for transport to port on pre-disturbed lands closer to the mine.

The TMM Project geographic coordinates is centred at approximately:

UTM: 665,883.53 m N 5,493,599.17m N
Latitude: 49°34'20"N
Longitude: 114°42'20"W

The TMM Project area is owned by Montem and is comprised of freehold coal titles and coal leases that encompass an area of approximately 1,931 ha. It includes 11 AB coal leases, one BC coal lease and 10 freehold AB Land titles (Figure 3). In addition, Montem holds five freehold titles with surface rights only. Four of these overlap coal leases owned by Montem and one is northeast of the main TMM Project area covering the access road.

Various permits and approvals are required for exploration on the TMM Project. The current AB Mine Permit C85-16G (and Mine Number 1695) granted by the AER covers 750 ha and the remaining area of TMM Project in BC is located within Lot 4589, the District of Sparwood and is covered under the Mine Permit C-108 (covers 390 ha). This area is currently active and available for continued advancement of open-pit mining and storage of waste rock. The TMM Project is located within the AB legal land descriptions (LLD) found in Table 7.

Table 7: Legal land description for TMM Project (AB)

TMM Project Land Location									
Quarter Section	Sec	Twp.	Rage	Meridian	Quarter Section	Sec	Twp.	Rge	Meridian
NE 1/4	11	7	6	W5	NW	13	7	6	W5
NW 1/4	12	7	6	W5	SE 1/4	22	7	6	W5
	13	7	6	W5	NE 1/4	22	7	6	W5
E 1/2	14	7	6	W5	SW 1/4	23	7	6	W5
NW 1/4	14	7	6	W5	SE 1/4	23	7	6	W5
E 1/2	22	7	6	W5	NW 1/4	23	7	6	W5
SE 1/2	23	7	6	W5	NE	23	7	6	W5
W 1/2	24	7	6	W5	SW 1/2	24	7	6	W5
SE 1/4	24	7	6	W5	NW 1/4	25	7	6	W5
W 1/2	25	7	6	W5	SW 1/4	25	7	6	W5
E 1/2	26	7	6	W5	SW 1/4	26	7	6	W5
W 1/2	36	7	6	W5	SE 1/4	27	7	6	W5
SE 1/2	11	8	6	W5	SW 1/4	12	7	6	W5
W 1/2	1	8	6	W5	SW 1/2	12	8	6	W5

The TMM also has an EPEA Approval (EPEA#47679-02-00) which governs the operations within the mine permit and the road leading to Highway 3. This current EPEA does not allow mining and will require additional federal and provincial approvals to re-start mining. As well, a LOC 981599 covering three settling ponds is held by Montem.

Additional road agreements are required for access to the TMM Project. In AB, Montem has a road-use agreement with local coniferous timber licence holder (770538 Alberta Ltd.). In BC, Montem has an industrial Land Use Permit agreement with CanWel, a logging company operating in the area (assigned to Corbin Road Land Corporation).

14.0 Existing Environment

This section of the IPD includes a high-level summary of existing regional, physical, biological and humans' environmental conditions in the TMM Project region as they are today and in the recent past.

Summarizes of potential TMM Project environmental impacts are in Section 20. Montem will continue to engage with the appropriate regulators, Indigenous Peoples, and stakeholders to confirm the appropriate Value Components (VCs) and environmental assessment methodologies as part for the preparation of the required applications for the TMM Project.

14.1 Regional Environment

This area of the Country has a rich history of coal mining dating back to the late 1800's to early 1900's. The resource in this region represents significant coal and other mining opportunities.

When considered with the infrastructure, proximity to shipping ports and availability of local work force expertise, the Crowsnest Pass situated adjacent to the Elk Valley in British Columbia, is an important future mining area. Within the Municipality of the Crowsnest Pass, there are several historical and proposed mining operations. The TMM Project is the only AB operation that currently holds mining approvals for metallurgical coal in the region. Other mining development operators in the area include Riversdale, Cabin Ridge, Atrum, Jameson, North Coal, and Teck are at a variety of stages in their pre-development activities (as noted in Section 2.3).

Other activities within this region include the newly established Castle Provincial Park and Castle Wildland Provincial Park with the associated land use and access controls. Established as an extension of the Waterton Lakes National Park, the Castle is an important component in the preservation of the unique ecological features of this area. The Park is an important keystone in the increasingly important tourism and recreation activities within the region.

Petroleum and natural gas exploration and development is not a significant component of the region as past activities have proven to be less than successful and abandoned generally in favor of more easily developed areas. There is substantial hydrocarbon transportation infrastructure throughout the area with the presence of several interprovincial pipeline corridors in the region.

Large portions of the region are included in the Crowsnest Forest Products Ltd. Forest Management Agreement (FMA) 2100047 which came into effect May 1, 2021, and are subject to controlled timber and land management activities.

Transportation is an important component of the regional activities as well with the presence of a major interprovincial highway, one of the main east-west connectors for the CPR and several entry points for resource development and recreation access points to the Eastern Slopes in this area.

14.2 Regional Environmental Concerns

Environmental concerns in the TMM Project region are subject to Indigenous peoples, communities, local communities, regulators, and stakeholders. Montem has received feedback through early engagement parallel to the baseline studies progressing (prior to the submitting this IPD). Where applicable, inputs and concerns have been considered and/or addressed in the TMM Project design and planning. A summary of engagement is provided in Section 4.0.

14.3 Physical Environment

The TMM Project located in the Rocky Mountain Natural Region, which is characterized by highly variable topography, geology, and vegetation. The mountain is approximately 5 km long, trending north south and is approximately 1.5 km wide. The north to south and east to west variation in bedrocks across this Natural Region result in the highly variable physiographic nature of this region and the characteristic vegetation distributions. The vegetation is indicative of the Montane and Subalpine Natural Subregions.

The TMM Project mining footprint straddles the AB: BC border. Most of the footprint remains on the AB side except for the final 3 years of the mine plan, which extends into BC.

As part of the preparation for the resumption of the activities at the TMM Project, Montem began a series of scientific studies in the summer of 2018. In all cases, the studies are being conducted by the best available subject matter experts and in a manner to predict the eventual regulatory requirements. The studies are first gathering an update to all required baseline information, then are assessing the TMM Project resumption for the determination of any effects associated with that resumption. Finally, all disciplines are using the most recent mitigation determinations, including avoidance, if necessary, to assess the potential effects of the resumed activities.

The TMM Project within the Province of AB is located at the headwaters of Crowsnest Creek and East Crowsnest Creek, tributaries of Crowsnest Lake. Crowsnest Creek drain the western portion of the TMM Project Area while East Crowsnest Creek receives runoff from the eastern aspect of Tent Mountain and eventually flows into Crowsnest Creek approximately 2 km downstream of the Mine Permit boundary. Crowsnest Lake drain into Crowsnest River which then meets the Oldman Reservoir and overall Oldman River watershed. Crowsnest Creek and East Crowsnest Creek are the primary water bodies that drain the TMM Project area.

Island Creek exists to the north of the TMM Project and drains the area between Loop Peak and Trail Hill adjacent to the proposed haul road. It flows into Island Lake and subsequently enters Crowsnest Creek just upstream of Crowsnest Lake. Island Creek is a relatively small, swift flowing watercourse that is known to support cutthroat trout and rainbow trout.

Pit 4 is an end pit lake that exists on the northern plateau of TMM. It is not considered to be fish-bearing and it does not have a hydrological surface connection to adjacent watersheds.

The BC portion of the TMM Project drains from Tent Creek into Michel Creek through a permitted impoundment. The Michel Creek flows into the Elk River which contributes to Lake Koocanusa.

14.4 Biophysical Environment

14.4.1 Ecosystem and Vegetation

Human activities over the last century have had an influence on the ecosystem and vegetation in the Crowsnest Pass. Forestry, gas, and mining development have occurred in this area for more than 100 years. Other influences in the region surrounding the TMM Project include, but are not limited to, powerlines, well sites, pipelines, railways, rural developments, and the communities of Coleman, Blairmore, Frank, Bellevue, and Hillcrest (Crowsnest Pass, Figure 1).

The TMM Project is in the Montane and Subalpine Natural Subregions; part of the Rocky Mountain Natural Region of AB, which is characterized by highly variable topography, geology, and vegetation. The north to south and east to west variation in bedrocks across this Natural Region result in the highly variable physiographic nature of this region and the characteristic vegetation

distributions. The average amount of precipitation is lower in the Montane Natural Subregion relative to precipitation being in the summer months. Soil conditions in the Subalpine and Montane Subregions are strongly influenced by elevation and topography, as well as parent material.

Wetlands are uncommon in both the Subalpine and Montane Natural subregions (approximately 2% of each subregion); however, where present, wetland soils are typically characterized by Gelisols or Organic soils. The vegetation and soil indicatives of the Montane and Subalpine Natural Subregions, which are characterized as follows:

- **Montane Natural Subregion** – occurs on lower slopes and valley bottoms of the Front Ranges of the Rocky Mountains. This subregion is generally situated between 825m and 1850m and is characterized by mild summers, and warm winter conditions due to frequent Chinooks. It is also characterized by a pattern of open forests and grasslands, with modal sites having forested stands of Douglas fir (*Pseadotsuga menziesii*), lodgepole pine (*Pinus contorta)*, white spruce (*Picea glauca*), aspen (*Populus tremuloides*), or mixtures of all. Limber Pine (*Pinus flexilis*) may be present, but is commonly restricted to dry, exposed ridge tops. While dry sites on south and west facing aspects are characterized by open fescue (mountain rough fescue – *Festuca camperstris* and blue fescue – *Festuca idahoenis*) grassland communities. Abrupt changes in vegetation can occur over very short distances due to high variability in microclimates from differing aspects, slope positions, and wind exposure. Wooded areas on valley slopes within this subregion are characterized by Orthic Dark Grey Chernozems, Grey Luvisols and Dystric Brunisols. Black Chernozems are typical of grassland dominated communities.

- **Subalpine Natural Subregion** – occurs on midslopes of the Front Ranges and lower slopes of the western Central Range of the Rocky Mountains (Natural Resources Committee 2006). This subregion is generally situated between 1,300 and 2,300m and is characterized by short, cool, wet summers; long, cold winters; and heavy snow fall. A broad range of vegetation species are characteristic as dry and mesic sites due to significant variations in elevation. Vegetation communities at lower elevations are dominated by fire-origin lodgepole pine (*Pinus contorta*), Engelmann spruce (*Picea engelmannii*), and subalpine fir (*Abies bifolia*) as a component of the upper tree canopy. Soils are characterized by cold temperatures, increased precipitation, steep slopes, and coarse textured parent material in this subregion often facilitate the development of Orthic and Brunisols and Regosols are common in areas dominated by fluvial and glaciofluvial deposits with the valley bottoms and flood plains.

Flowering and non-flowering rare plant species have been identified on site. Of note was whitebark pine, which is a federally and provincially listed species with a provincial recovery plan to maintain and restore species.

Land use within the TMM Project Study area includes relatively forested lands with small pockets of grassland throughout. Three main watercourses (and associated tributaries) are within the TMM Project which include Island Creek, Crowsnest Creek and East Crowsnest Creek (Figure 1). A substantial portion of the TMM Project footprint has been previously disturbed by historical anthropogenic activity, including the existing TMM, timber harvest operations and associated

infrastructure (e.g., logging roads), and recreational activities (e.g., OHV trails). Limited reclamation work was conducted at the former TMM following the suspension of mining operations in the 1980s. Spoil piles were left sparsely vegetated and currently provide poor forage quality.

14.4.2 Wildlife and Wildlife Habitat

The TMM Project area and adjacent areas provide habitat to a multitude of wildlife species for breeding, foraging, and roosting. The proposed TMM Project is located within mountain goat (*Oreamnos americanus*) and bighorn sheep (*Ovis canadensis*) range as well as grizzly bear (*Ursus arctos*) range. None of the species that have been documented to date are listed federally SARA, however, grizzly bear is listed as "Threatened' under the *Alberta Wildlife Act* (AWA) and COSEWIC as species of 'Special Concern'. The following historical wildlife observations that have been documented to date are as follows:

- Golden Eagle (*Aquila chrysaetos*, COSEWIC as species of 'Not at Risk')
- Snow Bunting (*Plectrophenax nivalis*)
- American Badger (*Taxidea taxus*, COSEWIC species of 'Special Concern')
- Bobcat (*Lynx rufus*)
- Canada Lynx (*Lynx canadensis*, COSEWIC as species of 'Not at Risk')
- Cougar (*Puma concolor*)
- Elk (*Cervus elaphus*)
- Grizzly Bear (*Ursus arctos,* AWA as species of 'Threatened', COSEWIC as species of 'Special Concern')
- Mule Deer (*Odocoileus hemionus*)
- Northern Gray Wolf (*Canis lupus occidentalis*, COSEWIC as species of 'Not at Risk')
- Wolverine (*Gulo*, COSEIC as species of 'Special Concern')

As part of the ongoing baseline studies, in total, 151 different wildlife species were documented through multiple surveys in 2018 and 2019 within the TMM Project area. Of these species, two were amphibians, 116 were birds and 33 were mammals (3 suspected). The diversity is expected due to the variety of habitat types that are present in the TMM Project study area within the Montane and Subalpine Natural Subregions. Of the bird species observed in the TMM Project area, 20 species of breeding birds are considered 'Sensitive' to 'May be at Risk' in AB. The olive-sided flycatcher (*Contopus cooperi*) observed in the TMM Project area, has a general status of 'At Risk' in AB. The olive-sided flycatcher is also a federally listed as "Threatened" under SARA. Sixteen mammal species were observed during the general wildlife surveys. As noted above the grizzly bear is considered a species of concern in AB. Very little suitable habitat is present for mountain goats in the TMM Project area, which typically prefer high elevation alpine habitats in proximity to suitable escape terrain consisting of extremely steep slopes. One sensitive amphibian species, boreal toad (Anaxyrus boreas), was also observed during these surveys. The boreal toad is listed as 'Sensitive' in AB and is considered a species of 'Special Concern' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Many of the mammals were observed using game trails, water courses (Crowsnest and East Crowsnest Creek), existing roads, UTV trails and cutlines. Appropriate mitigation measures have been considered in the proposed design and planning. Mitigation measures and monitoring programs will be developed prior to the restart of mining activities at TMM Project to address all potential wildlife related issues.

Federally and provincially listed bat species were identified at site. However, no potential bat hibernacula were identified during the wildlife surveys.

14.4.3 Fish and Fish Habitat

The TMM Project study area for the assessment of existing aquatic conditions was established based on the Mine Permit boundary and included all waterbodies that are within the Mine Permit boundary and/or drain the TMM Project area. These include:

- Crowsnest Creek and headwater tributaries that drain the northwestern portion of the TMM Project area.
- East Crowsnest Creek, which drains the eastern portion of the TMM Project area and is a tributary to Crowsnest Creek approximately 2 km downstream of the Mine Permit boundary: and
- Island Creek, which will be crossed by the proposed haul road.

Habitat reconnaissance was conducted to obtain a preliminary understanding of the fish habitat potential of waterbodies within and adjacent to the TMM Project area. The habitat reconnaissance to date has confirmed that there is limited habitat diversity in both East Crowsnest and Crowsnest Creek. No fish were observed in either creek as there is a natural waterfall acting as a fish barrier shortly after the confluence of the creeks. Calcite formation within Crowsnest and East Crowsnest creeks from the previous mining activities are virtually absent.

Below the waterfall, there is fish and fish habitat supporting *Oncorhynchus mykiss* Rainbow Trout (RNTR), *Salvelinus fontinalis* Brook trout (BKTR) and *Oncorhynchus clarkii lewisi* Westslope Cutthroat Trout (CTTR). The fish sampled are healthy and have whole-body selenium levels below current applicable guidelines in AB and Canada. CTTR is a federally and provincially listed species. The federal government recently deemed the areas immediately downstream of Crowsnest Lake as critical habitat for CTTR.

As the BC fish and fish habitat assessment was scheduled for after understanding the TMM Project regulatory pathway, studies are to be continued as assessed according to the Federal and BC provincial requirements. Specific water quality studies outlined in Montem’s water lease permit on Corbin Pond are also ongoing.

15.0 Health, Social and Economic Environment Regional Information

The TMM Project is situated within the Alberta Health Services, South Zone and the BC Health Services, Interior Zone. Using previous assessments in the public forum[1], and existing publications, Montem can provide the following general description regarding the health, social and economic regional information. As the assessment process continues, updated data will be gathered, and the assessment refined.

In 2006, Alberta Health and Wellness published the Report on the Health of Albertans (AHW, 2006), which examined the relative health status of people living in various areas of the province based on 2003 data. The report compared the health of all Albertans in terms of several health determinants, including self-perceived health status; tobacco use; cancer screening; body weight; nutrition; disability and functional limitations; alcohol and drug use; and physical activity. The study also examined mental health and non-communicable diseases. The available statistical data did not disseminate the data specific to smaller populations within the area (e.g., specific towns or Aboriginal communities).

In the 2019 BC Provincial Health Officer's Annual Report the relative health status of people living in the Interior Zone was released. This report examined the health and well-being of British Columbians in the interior zone, the population and overall public health and including the examination of overall health priority settings across the province.

Based on previous assessments[1], the health and overall well-being of citizens in the potentially affected area of the TMM Project could include considerations that in 2003 approximately 60% of the population in the region reported their health as very good or excellent, compared to approximately 64% of Albertans. Similar percentages of the population were considered overweight and obese in the region and in Alberta in 2003. In 2011-2012, the overall values regarding general health remained similar, while a significantly higher percentage was classified as obese in the region when compared to the Alberta population.

The incidence of smoking was lower in the region (approximately 20%) compared to the Alberta population (approximately 23%) in 2003, however by 2011-2012 this trend had reverse within the region reported to be 27% and 22% in Alberta as a whole. The incidence of heavy drinking was similar in the regions compared to Alberta overall. The prevalence of treated substance abuse in the region was significantly higher than the provincial average (1.1 compared to 0.7 per 100 in 2003). Fewer individuals consumed more than five servings of fruits and vegetables daily compared to the overall province (36%) in 2003, with similar results between the region (35.8%) and the overall province (39.6%) in 2011-2012. The percentage of individuals describing themselves as physically active or moderately active was similar in the region compared to the province in both 2003 and 2011-2012.

[1] Benga Mining Ltd. Grassy Mountain Coal Project Human Health Risk Assessment, July 2016

The socio-economic potential for the TMM Project is expected to be primarily in the communities of Crowsnest Pass due to its proximity to the mine, and Sparwood, which is the nearest service centre for the large-scale local mining industry. Using previous assessments in the public forum[2], Montem can infer that while the level of unemployment and percentage of people considered to be of low income was similar in the region when compared to that of the province as a whole in 2011-2012, the population change in the Alberta portion of the region during the 2001 to 2011 period was negative, as the population declined at an average annual rate of 1.2%, a marked contrast to the 2.1% annual growth in the province overall. The population in the Alberta portion of the RSA is also considerably older than the population of the province overall. The median age in the Crowsnest Pass, where most of the population is located, is 50.5 years, well above the provincial measure of 36.5. This may create some challenges with resourcing the TMM Project.

There is also non-permanent population in the region that will be assessed. It fluctuates seasonally and with the level of industrial activity. The non-permanent population consists of:

- visitors with secondary residences in Crowsnest Pass;
- tourists, primarily during the summer months;
- mobile workers who reside permanently outside but work in the region and reside in rental accommodations in the Crowsnest Pass or Sparwood during their shifts;
- and seasonal construction workers.

Mobile workers are accommodated primarily in rental accommodations but also in hotels and motels. The administrations of the S.M. of the Crowsnest Pass and the Town of Sparwood estimated in 2015 that their non-permanent populations are approximately 1,500 to 2,000 and 400 to 1,700 respectively.

The wage economy of the region is driven primarily by the mining, quarrying, and oil and gas extraction industry, which accounts for approximately 22% of all jobs in the Alberta portion and 33% of jobs in the B.C portion. These numbers are well above the provincial averages of 7% and 1%, respectively. The primary employer in the region is Teck Coal Ltd., which operates four mines in the region and directly employs 800 workers (2015) who live in Sparwood. Other large employers in Sparwood include mine service companies such as Finning Canada and Joy Global.

The labour force participation rate in the Alberta portion of the RSA is 61%, well below the provincial average of 73%. This is reflective of the fact that persons aged 65 and over make up 22% of the population of Crowsnest Pass as compared to 11% in Alberta overall. The unemployment rate for the Alberta portion of the RSA is identical to the provincial rate of 5.8% . The labour force participation rate in the B.C. portion of the RSA is 69%, which is slightly above

[2] Benga Mining Ltd. Grassy Mountain Coal Project Socio-Economic Risk Assessment, July 2016

the provincial average of 65%. The unemployment rate for the B.C. portion of the RSA (5.5%) is well below the provincial rate of 7.8%.

The key socio-economic value components currently proposed for the assessment fall into the following categories:

- employment.
- personal and business income.
- government tax and royalty income.
- population.
- regional infrastructure and services, including:
- housing, including worker housing.
- social infrastructure (e.g., health, education, policing, emergency, recreation, and social services).
- municipal infrastructure and services.
- transportation effects; and
- traditional land use.

The TMM Project will create positive economic and fiscal effects for the community. The TMM Project is estimated to create:

- 30 person years of engineering employment prior to and during construction.
- 200 person years of on-site and off-site employment related to the construction of the plant, facilities, and infrastructure for the mine between Year 0 to 2: and
- approximately 175 long-term operations positions to be hired from Year 2.

Once fully operational, the TMM Project will add an estimated $1.5 million annually in property taxes to the Crowsnest Pass. The TMM Project will also contribute to provincial and federal corporate income taxes and provincial royalties over the 14-year operating life of the TMM Project.

The jobs created by the TMM Project are expected to be filled primarily by residents of the region, thereby maintaining the permanent population in the community, and avoiding undue growth pressures on the local community. Within AB, the population impact of the TMM Project is expected to fall primarily on the Crowsnest Pass, particularly the communities of Blairmore and Coleman, as they are closest to the TMM Project.

PART D: Federal, Provincial, Territorial, Indigenous and Municipal Involvement

16.0 Project Financing Support

This TMM Project has not applied for, been approved for, or received any financial support from Federal authorities. In addition, it is not proposed or anticipated that the TMM Project will receive financial support from Federal authorities.

17.0 Federal Lands Use

No federal land will be used for the restart of the TMM Project. Table 5 summarizes the LLD.

18.0 Jurisdictions with Power, Duties or Functions

The Federal jurisdictions potentially having powers, duties, or functions in relation to the environmental effects assessments of the proposed TMM Project is listed in Table 8.

Table 8: Federal jurisdictions and legislative acts

Federal Jurisdiction	Legislative Acts	Related/Expected Permits
Impact Assessment Agency of Canada	• *Impact Assessment Act*, 2019 • *Migratory Birds Convention Act*, 1994 (MBCA) • *Species at Risk Act*, 2002 (SARA) • *Fisheries Act*, 2019	Notice of Determination and Decision statement for Impact Assessment (if required)
Environmental and Climate Change Canada	• *MBCA*, 1994 • *SARA*, 2002 • Fisheries Act, 2019	*SARA* Permit
Fisheries and Oceans Canada	• *SARA*, 2002 • *Fisheries Act*, 2019	*Fisheries Act* Authorization *SARA* Permit

Note: MBCA= *Migratory Birds Convention Act*; SARA=*Species at Risk Act*

Subject to review by IAAC, and governed by the passed IAA, this document serves as the Initial Project Description for the proposed TMM Project.

An Integrated EIA with concurrent permit applications will be in preparation for AER to review under the AB provincial legislation. Other provincial authorities will review and dispense permits as required prior to construction and/or operation of the TMM Project.

The regulation of coal mines, and the associated infrastructure, is captured in Provincial and Federal statutes and regulations. Starting with the initial public interest discussion and decision on whether a new project should commence, the regulatory project plan is well documented and understood.

As previously described, Montem is proposing a re-start and expansion of the historical open-pit TMM. The TMM was the subject of a public interest discussion and decision during the 1970's through the submission and review of applications and an EIA. The subsequent Mine Permit, Licences and a variety of other operating approvals have been cared for in a suspended mode since the mine suspended active operations in the 1980's. Throughout the ensuing years, and a variety of owners, the TMM has been maintained as a "future" project. Considerable value has been attached to the suspended nature of the TMM over a series of ownership transactions. A program of care and custody of the TMM has been implemented and maintained by the past and current owner/operator.

Under the provincial legislation, Montem holds several operating Approvals. An updated EPEA Approval #0004769-02-00, that regulates the opening up, operation and reclamation of the TMM, was re-issued to Montem in 2018. Similarly, Mine Permit # C 85-16G was re-issued to Montem in 2018. These approvals are not sufficiently detailed to adequately encompass a modern mine, plant, and infrastructure. For instance, the monitoring requirements for air emissions in the 1980's were silent on the greenhouse gas emissions of industrial facilities. Also, the mining industry had not yet begun to understand and mitigate for the effects of enhanced selenium releases associated with mining operations.

The TMM Project mining operations will stay within the currently approved mine operating areas, wholly within the AB Mine Permit C85-16G and BC Mine Permit C-108 boundaries. With the abandonment of the CHPP, previously located in the Town of Coleman, and replaced within the existing AB Mine Permit boundary, the overall size of the area of disturbance of the operation will decrease significantly, as hauling coal on Highway 3 to the town of Coleman will no longer be required. The construction and eventual operation of the new CHPP and a new loadout facility will require regulatory approvals.

Montem is therefore undertaking a comprehensive update to the existing baseline information to understand the current state of the TMM Project. Montem is utilizing recognized experts in the various disciplines under the applications and are preparing the submission in accordance with the existing guidelines and policies of the AER and IAAC.

Montem will require updated approvals to capture, collect, treat, and manage surface runoff and groundwater as part of the water management program. The existing end pit lake will, under the current mine plan, be utilized as an on-site water source for as long a practical. Final reclamation plans are being concluded now; however, it does appear that the final reclamation will include the development of a replacement end pit lake.

Montem will also require approvals for surface and groundwater diversion licences and approvals under the *Water Act.* Information will be provided in these Provincial applications regarding the activities and need for these approvals.

The TMM Project will involve both privately owned lands and lands owned by the Province of AB. Montem has either agreements from the private landowners or is the owner of the required lands. Some small portions of the TMM Project will require the use of crown lands. These will require public lands dispositions to be obtained to allow surface development to occur.

Montem has applied to the AER for a Mineral Surface Lease (MSL) to accommodate the resumption of surface activities. A minor amendment to the MSL will be submitted to the province with the integrated application.

Part E: Potential Effects of the Project

19.0 Project Effects Summary

The TMM Project could be affected by several environmental factors (physical, biological and humans' environment) in the TMM Project region as they are today and in the recent past. Existing environmental conditions is summarized in Section 14. Potential effects of the TMM Project on environmental, social, heritage and human health will be assessed through AER and IAAC assessment processes.

In preparation for submission of the application to the AER and IAAC, Montem is building from the original assessment and adding a comprehensive update of baseline information. Montem will continue to engage and/or collaborate with the appropriate regulatory agencies, Indigenous Peoples, and stakeholders to confirm the appropriately selected VCs and environmental assessment methodologies in the preparation of the required applications for the TMM Project.

The assessments of potential effects to VCs would include consideration of:

- mitigation measures, BMPs and plans to avoid, minimize, restore, or offset impacts.
- feedback from Indigenous people, public, regulatory agencies, and stakeholders; and
- residual incremental and cumulative effects associated with the TMM Project and reasonably and foreseeable developments.

The following subsections provide high-level summaries of potential effects of the TMM Project based on early review and engagement.

19.1 Air Quality and Climate Change

Montem recognizes Canada's goal for net-zero emissions by 2050 as well as Canada's current target under the Paris Agreement to reduce Greenhouse gases (GHG) emissions by 30% below 2005 levels by the year 2030. The TMM Project incorporates GHG emission reduction strategies that aim to reduce and minimize the different emission sources that exist within and that are associated with the operations. These opportunities include the consideration and use of best available technologies (BATs) and best environmental practices (BEPs) for reducing GHG emissions including emissions from the proposed TMM Project (See Section 23 and 29).

The TMM Project was developed from an existing but idle site that will be the most modern metallurgical coal operation servicing the Asia-Pacific (APAC) steel making markets. It is designed and constructed to minimize its carbon impact.

The study area encloses the TMM Project emission sources. Other regional emission sources within the study area will be included in the air quality assessment for assessing cumulative

effects. Specific (or sensitive) receptors will be included in the air dispersion modelling. These receptors include the nearest settlement, local towns, campsites, mountain resorts, and built-up land use areas (such as residences and provincial recreation areas).

Air quality changes associated with air emissions from the TMM Project will be assessed for substances of concern (e.g., nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO), particulate matter ≤ 2.5 µm ($PM_{2.5}$), particulate matter ≤ 10 µm (PM_{10}), total suspended particulates (TSP)). Fugitive dust emissions are expected from mining activities such as drilling and blasting, mine equipment, excavation, material handling, wind erosion from stockpiles, and traffic on unpaved roads and wind erosion. Fuel combustion exhausts from mining equipment and trucks will also have air emissions.

Examples of mitigation measures that Montem could implement to minimize and/or avoid potential effects of the TMM Project:

- The used of tier 4 diesel engines for all the mining and mobile equipment.
- For days with no precipitation, road dust can be controlled by watering four times a day or apply dust suppressants to achieve 80% of emission reduction.
- Water can be applied as a mitigation measure to increase the raw coal and overburden moisture contents to 8% in the material loading and unloading points and stockpiles.
- Water spray can be applied as a mitigation measure to increase the raw coal and overburden moisture contents to 8% in the bulldozing areas.
- Limit the speed of graders.
- Speed limits on the haul road and pit roads to reduce dust emissions.
- Development and implementation of an air quality, dust and noise control plan and monitoring programs.
- Minimizing on-site vehicle idling to reduce Criteria Air Contaminants (CAC) emissions.
- Plant trees surrounding the mine and haul roads to provide a barrier for dust emissions.
- Use of noise minimization of equipment where appropriate.
- Investigation of other options/alternatives technologies to reduce air emissions and noise.

19.2 Fish and Fish Habitat within the *Fisheries Act*

The proposed TMM Project may cause changes to fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*. This section provides a summary of the potential TMM Project effects of planned mining operations at the TMM Project on aquatic resources.

The local study area (LSA) for the aquatic impact assessment will consider the limits of the Mine Permit boundary, local drainage basin characteristics and will encompass the watercourses where TMM Project-specific effects may occur. The LSA will include the entire length of Crowsnest Creek, its headwater tributaries within the Mine Permit boundary (including East Crowsnest Creek), and sections of Island Creek that could potentially be affected by the proposed haul road. The regional study area (RSA) for the aquatics assessment will be consistent with the

RSA that was established for the surface water quality assessment and will encompass the Crowsnest River downstream to the mouth of the Oldman Reservoir.

The characterization of existing aquatic conditions in the vicinity of the TMM Project relied on historical information, results from field investigations (conducted in 2018 and 2019), and ongoing field investigations. A detailed description of existing aquatic conditions within and adjacent to the TMM Project area will be provided in the IAA.

TMM Project information and reports describing proposed mining activities, the location of facilities (e.g., plant, buildings, roads, settling ponds), impacts to flows and water management strategies, impacts to water quality, and proposed reclamation plans were reviewed to identify potential TMM Project-related aquatic impact pathways to date. These potential impact pathways were then evaluated to assess the potential for the TMM Project components and/or activities to affect aquatic resources. Potential TMM Project-related effects on aquatic resources have been analysed and described based on historical information and data collected during the assessment of existing conditions. Quantitative and qualitative data will be used as the primary basis for evaluation of potential effects; professional judgement will also be employed throughout the effects assessment process for AER and IAAC applications.

The potential effects to aquatic resources because of the TMM Project are expected to change over time, depending on the activities that occur during each phase of the TMM Project. There are several TMM Project components/activities that could trigger changes to water quality, flow regime, direct fish mortality, direct habitat impacts, changes to fish movement, and Whirling Disease and Aquatic Invasive Species (AIS) will be included in the IA. The aquatic IA will be conducted based on the TMM Project phases (e.g., baseline settings, construction, operation, reclamation, and post closure).

Mitigations to minimize potential adverse effects to aquatic resources will be identified. The development and implementation of these mitigation measures will be technically, environmentally, and economically feasible. Examples of recommended mitigation measures related to aquatic resources are summarized below:

- Avoidance (reducing or preventing adverse effect by changing an aspect of the TMM Project).
- Design change (reducing or preventing adverse effect by redesigning an aspect of the TMM Project).
- BMPs (minimizing or eliminating adverse effect through implementation of proven, general practices and/or procedures).
- Specific management plans and/or scheduling (minimizing or eliminating adverse effect through development and implementation of specific practices and/or procedures.
- Monitoring and Adaptive Management (completion of monitoring to assess mitigation effectiveness and modification of mitigation based on monitoring results); and

- Offsetting (development and implementation of measures that counterbalance unavoidable death of fish and/or HADD of fish habitat) if determined to be necessary.

In general, Montem has developed a mine plan that minimizes the amount of infrastructure on or immediately adjacent to fish-bearing waterbodies. Specific avoidance and/or design measures to avoid impacts to aquatic resources include:

- Use of existing transportation routes (where feasible).
- Use of clear span watercourse crossing structures on fish- bearing waters.
- Use of or upgrade of existing water management facilities (where feasible).
- Maximization of site water for reuse.
- Mine plan that incorporates the implementation of selective mining practices and sequencing, to enable sulphide rich rock to be avoided.
- Mine plan that designs waste dumps to be established at locations that are outside active drainages areas or permeable strata.

19.3 Selenium Management Plans

Montem and its expert consultants will develop a selenium management plan (SMP) for the TMM Project which will describe the proposed approach to minimize potential selenium-related impacts. The proposed management strategies are also expected to mitigate the effects of other contaminants including nitrate, sulphate, and other metals. The SMP will incorporate a multi-layered approach that focusses on the four operating principles summarized in Table 9.

Table 9: Summary of key operating principles of the selenium management plan

Principle	Description
Avoidance	➢ Implementation of selective mining practices and sequencing to assess and avoid sulphide rich rock. ➢ Establishing waste dumps at locations that are outside active drainages areas or permeable strata.
Prevention	➢ Coverage of dumps to retard infiltration of precipitation and runoff to limit the amount of water contact with waste rock so that potential selenium leaching is minimized. ➢ Backfilling of waste rock to reduce the footprint of the mine disturbance and to limit the number of watersheds that are impacted by waste rock dumping. ➢ Clean water diversion to limit water contact with waste rock dumps and mine disturbance areas.
Mitigation	➢ Increase retention time of impacted water through the capture and storage in mine pits or passive treatment systems. ➢ Development of saturated rock fills to create the anoxic conditions required for selenium and nitrate reduction, thereby promoting in situ selenium attenuation by microbially mediated redox process.

Principle	Description
	➢ Construction of waste rock deposits from the bottom up in specified lifts, compacting the waste rock materials between lifts with fine-grained sand which will retard water infiltration and contribute to low-oxygen conditions.
Treatment	➢ Implementation of passive techniques (if required) including a bioreactor and engineered wetlands.

19.4 Offsetting

Montem does not expect the TMM Project as currently proposed to result in the death of fish or the harmful alteration, disruption, or destruction (HADD) of fish habitat. Therefore, an offsetting plan is not considered to be necessary to fully mitigate potential adverse effects to fisheries resources. However, Montem is committed to undertaking the TMM Project in a manner that does not contravene the *Fisheries Act* and will consult with Fisheries and Oceans Canada (DFO) to ensure compliance with federal regulations.

19.5 Monitoring

A comprehensive suite of monitoring programs will be developed and implemented to evaluate potential TMM Project-related effects and the effectiveness of mitigation strategies. Results from these programs will be used to determine if and how response actions will be implemented if there are indications that adverse effects to aquatic resources have not been mitigated.

19.6 Construction Monitoring

Environmental monitoring during in-water construction activities will consist of two main components as described below.

- Environmental monitoring to ensure that the TMM Project activities are carried out in a manner that is consistent with:
  - environmental legislation.
  - permits, authorizations, and approvals; and
  - TMM Project-specific mitigation plans described in this application.
- Turbidity/total suspended sediment monitoring program when in-water construction is being conducted.

19.7 Water Resources Monitoring

Water resources monitoring consisting of the following three main components:

- Monitoring of groundwater wells.

- Monitoring of surface flows.
- Monitoring of surface water and sediment quality.

19.8 Aquatic Resources Monitoring

An Aquatic Resources Monitoring Program (ARMP) will be developed to evaluate potential TMM Project-related effects on the aquatic environment. The ARMP will define the location of sample sites (reference and exposure) and monitoring frequency and will be developed to meet the Environmental Effects Monitoring (EEM) requirements that are expected to form part of the forthcoming Coal Mining Effluent Regulations proposed by Environment and Climate Change Canada (2020). The ARMP will set out monitoring timelines, define effect indicators and endpoints, and will describe the process by which additional investigations will be implemented if effects are confirmed in one or more of the monitoring components.

19.9 Climate Change Considerations

In general, climate change in AB is predicted to result in an increase in annual precipitation, changes in the timing and magnitude of stream flows, and more frequent extreme events (Bush and Lemmen 2019). More specifically, in mountainous regions, warming associated with climate change is predicted to result in earlier spring freshet and lower flows during the summer and early fall, although water temperatures in the winter may be cooler (Macdonald 2013). The process by which these changes could affect aquatic resources is complex and could involve both direct and indirect influences on multiple ecological processes (Poesch *et al.* 2016). In addition, the effects of climate change do not operate in isolation and associated impacts to aquatic resources have the potential to compound existing natural or anthropogenic stressors.

19.10 Cumulative Effects Considerations

The TMM Project consists of the resumption of coal mining operations in a RSA that has been historically impacted by municipal developments, coal mining, timber harvesting, agriculture, road and railway corridors, and oil and gas exploration activities. In general, these land uses are expected to continue in the region in the future.

Overall, proposed mitigation strategies are expected to minimize potential TMM Project-related effects to aquatic resources such that residual adverse effects are considered unlikely to occur. As such, the TMM Project is not expected to directly interact with other existing, planned, or reasonably foreseeable projects or land uses to the detriment of aquatic resources. The potential for the TMM Project to indirectly affect aquatic resources in the RSA is also judged to be limited since the TMM Project-related changes to flow regimes and water quality are predicted to be minimal. Analysis of cumulative effects to these components will be summarized in the IAA for surface hydrology and surface water quality.

19.11 Species Listed Under Schedule 1 of the *Species at Risk Act*

The TMM Project area and adjacent areas provide habitat to a multitude of wildlife species for breeding, foraging, and roosting (Section 14). None of the wildlife species that have been documented to date are listed federally SARA, however, grizzly bear is listed as “Threatened’ under the AWA and COSEWIC as species of ‘Special Concern’. Of the bird species observed in the TMM Project area, 20 species of breeding birds are considered ‘Sensitive’ to ‘May be at Risk’ in AB. The olive-sided flycatcher (Contopus cooperi) observed in the TMM Project area, has a general status of ‘At Risk’ in AB. The olive-sided flycatcher is also a federally listed as “Threatened” under SARA. One sensitive amphibian species, boreal toad (Anaxyrus boreas), was also observed during these surveys. The boreal toad is listed as ‘Sensitive’ in AB and is considered a species of ‘Special Concern.’

A detailed summary of the approach and methodology that will be undertaken to assess the potential effects of the TMM Project will be provided in the DPD. The appropriate mitigation measures, monitoring and management plans identified for species listed under Schedule 1 of the *Species at Risk Act* will be developed and implemented through the phases of the TMM Project (construction, operations, reclamation, and post closure).

19.12 Migratory Birds within the Migratory Birds Convention Act

The proposed TMM Project may affect migratory birds as defined by the *Migratory Convention Act*. Potential TMM Project-related effects on migratory birds are expected to be largely related to direct (e.g., vegetation clearing) and indirect (e.g., noise/sensory disturbance) loss and/or alteration of habitat, and increased mortality risk (e.g., nest destruction, collision with TMM Project infrastructures).

Other potential effects on migratory birds resulting from construction, operations, and closure of the TMM Project may include increases in ambient concentrations of criteria air contaminants, or accidental spills of deleterious substances (e.g., wildlife health).

The TMM Project is not expected to create any new effects on the local and regional wildlife. The TMM Project will be using existing and upgraded infrastructure to access the mine and deliver clean coal. There may be additional, temporary effects with increased traffic, noise, and human interactions.

19.13 Mitigation Measures and Monitoring

To address the environmental aspects of the proposed TMM Project, Montem is committed to the following appropriate adaptive BMPs to identify, analysis and consider economically achievable practices and mitigation measures during the life of the mine. Monitoring programs and mitigation measures will be developed to address potential impacts. A Construction Environmental Management Plan (CEMP) will be prepared prior to construction activities. This CEMP will be based on applicable provincial and federal regulations and permit requirements and will be implemented during construction and adapted to operations and closure activities.

As the TMM Project is immediately adjacent to the Castle Wildland Park, Montem is expecting additional operational engagement with the Park's staff on site specific wildlife and habitat mitigations and enhancement opportunities.

20.0 Other Lands

20.1 Federal Lands

The nearest Federally controlled areas of interest are the Dominion Coal Blocks, located 2.5 kilometers to the west of the TMM Project. As there are no publicly announced plans to develop these resources and the TMM Project will not have any direct impacts to this property, there are no expected changes to Federal Lands because of the carrying out of the TMM Project.

20.2 Other Provinces

Mining operations for the TMM Project will occur primarily within the Province of AB. Initial mining activities, the construction of the new CHPP and most infrastructure improvements are within the Province of AB. During the later stages of the mining activities, the previously disturbed areas within BC will be reactivated and expanded.

The TLO facility, including trackage, loading equipment and associated equipment will occur in the initial construction phases in the Province of BC. Loading and transportation of clean coal will occur in both the Provinces of AB and BC. There are no expected changes on lands in other Provinces because of the carrying out of the TMM Project.

At no time will inter provincial transfers of water occur between AB and BC when in operation. The surface runoff originating within the respective Province will be maintained throughout the operations and in closure of the TMM Project may divert water from BC into AB via a small end pit lake.

20.3 Other Countries

There are no new anticipated and/or expected changes to the environment in other Countries because of the carrying out of the TMM Project.

21.0 Impact to the Indigenous People of Canada

The TMM Project is within the traditional lands of 13 Indigenous groups, as set out in Table 3, and is 68 km to the nearest reserve, the Piikani Nation. Montem has specifically focused on engaging with a broad range of surrounding Indigenous communities as the original TMM approvals in the 1970's did not include the same levels of engagement.

Based on this early engagement, and the dialogue that continues, Montem is confident that any potential adverse effects to Indigenous Peoples will be identified and understood. As work

continues to resume the operation, Indigenous groups are conducting a variety of site visits, tours, and studies of their individual traditional and current uses of the TMM Project.

To date, Montem's engagement with Indigenous communities have not identified any adverse effects because of the restarting operations at the TMM Project on the physical and cultural heritage, the current uses of the TMM Project area for traditional purposes or identified any significant structures, sites, or things. This is due to several factors. Most notably is that the engagement with Indigenous communities has just begun. Also, most of the lands associated with the TMM Project have either been previously disturbed by prior mining activities, or have been affected by the active forestry, recreation, oil and gas or quarrying activities carried out in the region.

A historical, archaeological, and paleontological study will be carried out. Any cabin sites, spiritual sites, graves, traditional trails, resource activity patterns and other traditional use sites considered historical resources under the historical Resources Act, will be documented (dependent if the Indigenous community or group is willing to have these locations disclosed).

Montem will strive to understand any traditional land use areas including fish, hunting, trapping, water use and nutritional, medicinal, or cultural plant harvesting by affect Indigenous peoples (if these locations are to be disclosed by Indigenous groups).

Montem will gather information, including potential impacts, related to Indigenous physical and cultural heritage, traditional land use, and historical archaeological or architectural significant for the proposed TMM Project during the consultation process with Indigenous communities. Collected information will support and be incorporated into the TMM Project's EIA, development, conservation, and reclamation plan, and monitoring and mitigations to determine the impacts of the TMM Project on traditional, medicinal, and cultural purposes and identify possible mitigation strategies of the proposed TMM Project activities to Indigenous communities.

22.0 Impacts to Indigenous People of Canada on Health, Social or Economics

The TMM Project is within the traditional lands of 13 Indigenous groups, as set out in Table 3, and is 68 kilometers to the nearest reserve, the Piikani Nation. Montem is confident that any potential adverse health, social and economic impacts caused by the TMM Project to Indigenous Peoples will be identified and understood. Health risk assessment, socioeconomic impact assessment and gender-based plus (GBA+) assessment will be undertaken and discussed within the regional and local study area of the IAA. These will specifically focus on the potential changes to the Indigenous peoples.

From our preliminary work, it is expected that the Indigenous People of Canada will benefit from business/employment opportunities from the TMM Project construction and potential partnership for direct economic benefits to uplift Indigenous wellbeing and wellness. Montem's early

engagement with these communities has been positive in that there is a general willingness to engage on future economic opportunities should the TMM Project proceed.

Montem was in frequent dialogue with the groups identified and will resume engagement and consultation with directly and indirectly affected stakeholders.

23.0 Greenhouse Gas Emissions

GHG emissions in the atmosphere caused by human activity result in climate change. GHG emissions include carbon dioxide (CO_2), carbon dioxide equivalent (CO_2e), methane (CH_4), and nitrous oxide (N_2O). A change in GHG concentrations may result in a higher frequency of extreme weather conditions (e.g., floods, droughts, wildfires, violent storms) as well as changes to local temperature patterns and ambient air humidity.

The proposed TMM Project will generate GHG emissions throughout the life of the mine (construction, operations, and closure). Potential sources of GHG emissions during mining activities include stationary and mobile equipment/truck fuel, fugitive methane, and electrical energy (see Section 20.1).

Table 10 provides preliminary GHG values that were calculated for the TMM Project). Based on the Initial preliminary data, the GHG emissions are roughly estimated to be 112,056 tonnes of Co2e (approximately 0.016% and 0.04% of the national and the provincial totals. These numbers are subject to change based on the TMM Project mine design and operations. Detailed information on the annual estimates of GHG emissions (contributions to climate change) from the TMM Project will be provided in the IA.

Table 10: Preliminary GHG Emissions for TMM Project

GHG Emission Sources TMM Project	GHG Emissions (tonne)				Contribution (%)
	CO_2	CH_4	N_2O	CO_2e	
Mobile Combustion Sources	84,640	2.63	7.03	86,800	77.5%
Locomotive	437	0.02	0.16	486.73	0.43%
Fugitive Methane	-	990	-	24,750	22.1%
Electricity Consumption	-	-	-	19.12	0.02%
Total	85,077	993	7.19	112,056	100.0%

Note: GHG=Greenhouse gases; %=percentage; CO_2=carbon dioxide; CO_2e-carbon dioxide equivalent; CH_4=methane; and N_2O=nitrous oxide

The assessment and modelling of the potential effects to air quality in the TMM Project is underway. GHG emissions from the TMM Project were quantified and will be modelled to assess the GHG emissions from the TMM Project compared against the Provincial and National Emission Inventory both in AB and BC. Based on the site operation process, the following emission sources will be included in the GHG emission inventory:

- On-site mobile emissions
- Mining operation equipment (diesel)
- Trucks (diesel)
- Fugitive emissions of coal bed methane
- Indirect GHG emissions from purchased electricity

Some propane is also used at site for space heating. The contribution of GHG emissions from propane is insignificant, thus is treated as minimum source.

The TMM Project will use diesel equipment/vehicles that have low engine emission levels meeting the US EPA Tier 4 emission standards. The tier 4 equipment has higher fuel efficiency than previous engines models, resulting in less energy consumption and GHG emissions. In addition, the CHPP will not have a dryer which will also result in less energy consumption and GHG emissions.

GHG emissions can be mitigated by implementing programs such as regular maintenance, minimizing idling time, and efficient use of equipment. GHG emissions will cease after mine closure. Possible residual effects from GHG are considered reversible and air quality is expected to revert to its original state after the TMM Project ceases to operate.

24.0 Waste and Emissions

Waste is defined as any unwanted non-recyclable solid or liquid material that is intended to be treated or disposed of. Waste also includes refuse and garbage. As outlined in the Alberta User Guide for Waste Managers (AEP, 1994) the generator is responsible for classifying its waste and determining the proper disposal procedure for each waste product. Montem will investigate and evaluate required waste disposal activities.

Waste is also materials expected to be generated by the TMM Project that require specific handling, disposal, or remediation planning. These materials include:

- Waste rock from mining operations
- Fine materials produced by the CHPP
- Fine materials released during the coal transportation and loading process.

Waste Rock: Montem has undertaken a geochemical characterization of mine wastes for the TMM Project to support the development of geochemical design criteria for water and waste

management, and the development of geochemical inputs into water quality predictions. The program design was site-specific but based on learnings and experience from similar programs in the Elk Valley that have resulted in an appropriate level of characterization of host rocks and process wastes. The specifics of the characterization and management of the potential impacts associated with rock handling and disposal will be reviewed as part of the assessment process

The geochemical and water quality effects assessments for the TMM Project have shown that specific waste and water management measures may be needed to mitigate selenium leaching and the potential leaching of explosives residuals on water quality and stream sediments.

The geochemistry and mitigation results will be provided as part of the AER EPEA and *Coal Conservation Act* (CCA) operating approvals amendments. Initial assessment results anticipate that, with known management and mitigation techniques, the effects of mine wastewater can be avoided or mitigated.

Fine Materials. The process of mining, cleaning and transportation can at several points create fine particulate matter in the form of coal and rock fines that will be reviewed as part of the assessment process. Rejected and fine materials, unsuitable for shipment as a finished product, is diverted from the CHPP for handling and disposal. Also referred to as coal tailings, Montem's design is to dewater this material at the CHPP and return the dry coal material to the mining area for incorporation into the backfilling operations.

The TMM Project may also produce fine (dust) material susceptible to wind erosion and potential releases from the operations. During mining operations, dust mitigation will be required to ensure that all on-site and off-site releases of dust are managed to follow the anticipated operating conditions. Coal dust can also be a potential impact associated with the clean coal loading and transportation processes. As part of the assessment process, Montem will examine potential effects associated with this aspect of the TMM Project and develop mitigation plans and processes.

Part F: Plain Language Summary

The Plain Language Summary, both in English and French, has been submitted under separate cover to the Impact Assessment Agency.

Appendix 1: Annex I of Practitioner's Guide – Concordance Table

Information Requirement	Document Section	Tables/Figures
Part A – General Information		
1 The project's name, type or sector and proposed location.	2.0 The Project's Name, Type, Sector and Location	Figure 1
2 The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.	3.0 Proponent's Name and Contact Information	
3 A summary of any engagement undertaken with any jurisdiction or other party, including a summary of the key issues raised and the results of the engagement, and a brief description of any plan for future engagement.	4.0 Summary of Engagement	Table 1
4 A list of the Indigenous groups that may be affected by the carrying out of the project, a summary of any engagement undertaken with the Indigenous peoples of Canada, including a summary of key issues raised and the results of the engagement, and a brief description of any plan for future engagement.	4.2 Summary of Indigenous Engagement	Table 3
5 Any study or plan, relevant to the project, that is being or has been conducted in respect of the region where the project is to be carried out, including a regional assessment that is being or has been carried out under section 92 or 93 of the Act or by any jurisdiction, including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.	5.0 Studies or Plans Relevant to the Project	
6 Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the Act.	5.1 Past and Present Enviro. Studies in the Region	
Part B – Project Information		
7 A statement of the purpose of and need for the project, including any potential benefits.	7.0 Purpose and need for the Project	
8 The provisions in the schedule to the Physical Activities Regulations describing the project, in whole or in part.	8.0 Physical Activities Regulation	
9 A list of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation and decommissioning of the project.	9.0 Summary of Project Components	Figure 4 Figures 6 to 10
10 An estimate of the maximum production capacity of the project and a description of the production processes to be used.	10.0 Estimate of Maximum Production	Tables 4, 5, and6
11 The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.	11.0 Project Activities 9.1 Project Schedule	Figure 4
12 A list of		
(a) potential alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best available technologies; and	12 Alternative Assessment	
(b) potential alternatives to the project that the proponent is considering and that are technically and economically feasible and directly related to the project.	12.1 Rationale for Project Components and Activities	
Part C – Local Information		
13 A description of the project's proposed location, including		
(a) its proposed geographic coordinates, including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project and a description of the spatial boundaries of the proposed study corridor;	13.0 Location	Table 7
(b) site maps produced at an appropriate scale in order to determine the project's proposed general location and the spatial relationship of the project components;	13.0 Location	Figure 1, 2, 3, 4
(c) the legal description of land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot;	13.0 Location	Figure 1, Table 7
(d) the project's proximity to any permanent, seasonal, or temporary residences and to the nearest affected communities;	13.0 Location	Figure 1, Figure 3
(e) the project's proximity to land used for traditional purposes by Indigenous peoples of Canada, land in a reserve as defined in subsection 2(1) of the Indian Act,	13.0 Location 4.1 Summary of Indigenous Peoples	Table 25, Figures 1,3 and 4

First Nation land as defined in subsection 2(1) of the First Nations Land Management Act, land that is subject to a comprehensive land claim agreement or a self-government agreement and any other land set aside for the use and benefit of Indigenous peoples of Canada; and		
(f) the project's proximity to any federal lands.	13.0 Location	Figure 1 Figure 4
14 A brief description of the physical and biological environment of the project's location, based on information that is available to the public.	14.1 – 14.3.3 Existing Environment	
15 A brief description of the health, social and economic context in the region where the project is located, based on information that is available to the public or derived from any engagement undertaken.	15. Health, Social and Economic	
Part D – Federal, Provincial, Territorial, Indigenous and Municipal Involvement		
16 A description of any financial support that federal authorities are, or may be, providing to the project.	16.0 Project Financing 17.0 Federal Lands Use 18.0 Jurisdictions Discussion 19.0 Project Regulatory Discussion	
17 A list of any federal lands that may be used for the purpose of carrying out the project.	16.0 Project Financing 17.0 Federal Lands Use 18.0 Jurisdictions Discussion 19.0 Project Regulatory Discussion	
18 A list of any jurisdictions that have powers, duties, or functions in relation to an assessment of the project's environmental effects.	16.0 Project Financing 17.0 Federal Lands Use 18.0 Jurisdictions Discussion 19.0 Project Regulatory Discussion	
Part E – Potential Effects of the Project		
19 A list of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within the legislative authority of Parliament:	19.0 Project Effects	
(a) fish and fish habitat, as defined in subsection 2(1) of the Fisheries Act,	19.0 a) Fish and Fish Habitat	Table 9
(b) aquatic species, as defined in subsection 2(1) of the Species at Risk Act; and	19.0 b) Listed Species	
(c) migratory birds, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994.	19.0 c) Migratory Birds	
20 A list of any changes to the environment that, as a result of the carrying out of the project, may occur on federal lands, in a province other than the province in which the project is proposed to be carried out or outside Canada.	20.0 Federal Lands	
21 With respect to the Indigenous peoples of Canada, a brief description of the impact-that, as a result of the carrying out of the project, may occur in Canada and result from any change to the environment-on physical and cultural heritage, the current use of lands and resources for traditional purposes and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.	21.0 Impact to the Indigenous People of Canada	Table 3
22 A brief description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.	22.0 Impact to the Indigenous People of Canada,	
23 An estimate of any greenhouse gas emissions associated with the project.	23.0 Greenhouse Gas Emissions	
24 A list of the types of waste and emissions that are likely to be generated-in the air, in or on water and in or on land- during any phase of the project.	24 Waste and Emissions	
Part F – Summary		
25 A plain-language summary of the information that is required under items 1 to 24 in English and in French.	Separate Cover	

Appendix 2: List of Abbreviations

Abbreviations	Definition
AAAQO	Alberta Ambient Air Quality Objectives
AB	Alberta
AEP	Alberta Environment and Parks
AER	Alberta Energy Regulators
AIS	Aquatic Invasive Species
APAC	Asia-Pacific
ARMP	Aquatic Resources Monitoring Program
Atrum	Atrum Coal Limited
Cabin Ridge	Cabin Ridge Coal
CTTR	*Oncorhynchus clarkii lewisi* Westslope Cutthroat Trout
BATs	Best Available Technologies
BC	British Columbia
BCR	Biochemical Reactor
BEPs	Best Environmental Practices
BKTR	*Salvelinus fontinalis* Brook trout
BMP	Best Management Practices
CAC	Criteria Air Contaminants
CanWel	CanWel Building Materials Group Limited
CCA	*Coal Conservation Act*
CEMP	Construction Environmental Manage Plan
CHPP	Coal Handling and Processing Plant
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CPR	Canadian Pacific Railway
DPD	Detailed Project Description
DFO	Fisheries and Oceans Canada
DMC	Dense Medium Cyclone
DPD	Detailed Project Description
EEM	Environmental Effects Monitoring
EIA	Environmental Impact Assessment
EPEA	*Environment Protection and Enhancement Act*
FEL	Front End Loader
FMA	Forest Management Area

Abbreviations	Definition
FRL	Fish Research License
GBA+	Gender-based plus
GHG	Greenhouse Gases
HADD	Harmful, Alteration, Disruption or Destruction
IA	Impact Assessment
IAA	*Impact Assessment Act*
IAAC	Impact Assessment Agency of Canada
IPD	Initial Project Description
LLD	Legal Land Descriptions
LOC	License of Occupation
LSA	Local Study Area
Jameson	Jameson Resources Limited
Manalta	Manalta Coal Limited
MBCA	*Migratory Bird Convention Act*
Montem	Montem Resources Alberta operations Ltd.
MSL	Mineral Surface Lease
NO	Nitrogen Monoxide
N_2O	Nitrous Oxide
NO_2	Nitrogen Dioxide
North Coal	North Coal Limited
OHV	Off-Highway Vehicle
OPS	Operational Policy Statement
PM	Particulate Matter
PM_{10}	Particulate Matter ≤ 10 µm
$PM_{2.5}$	Particulate Matter ≤ 2.5 µm
Riversdale	Riversdale Resources
RNTR	*Oncorhynchus mykiss* Rainbow Trout
ROM	Run of Mine
RSA	Regional Study Area
SARA	*Special at-Risk Act*
SMP	Selenium Management Plan
SO_2	Sulphur Dioxide
SOCs	Statement of Concerns
SRF	Saturated Backfills
Teck	Teck Resources Limited
TLO	Train Loadout
TISG	Tailored Impact Statement Guidelines
TMM	Tent Mountain Mine
TMM Project	Tent Mountain Mine Redevelopment Project

Abbreviations	Definition
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
UTV	Utility Task Vehicle
VCs	Value Components
WMP	Water Management Plan
WSFs	Waste Storage Facilities

Appendix 3: List of Units

Units	Define
°C	Celsius
ha	hectare
hr/day	hours per day
km	kilometer
m^3	cubic meter
mm	millimeter
Mt	million tonnes
µm	micrometer
%	percent
t/hr	tonnes per hour
t/day	tonnes per day