

Montem Resources Spring 2021 Community Update

Keeping Your Water Clean

Last week we talked about the importance of water and how Montem will implement the best practices and technology to mitigate the effects of our Tent Mountain Mine Re-start Project on the community. This week we continue the conversation on water and our thoughts and commitments on water quality.

Mining operations across Western Canada manage, utilize, and release significant amounts of water. Advancements in science and the infrastructure of mining have evolved so that mining companies can ensure their mines exceed regulatory requirements and community expectations pertaining to water.

We have been gathering information on the quality of the water currently being released from the Tent Mountain Mine site. We have been assessing this information, and in the context of our new mine plan, developing the best water quality management strategies and practices for the project. We have been working with regulators and studying other mining operations in Alberta to identify the physical and chemical attributes we need to monitor and manage at the mine site prior to any water release. At a minimum, the physical and chemical attributes of water that need to be considered include BOD, BTEX, Colour, Oil & Grease, Phenols, Total Phosphorus, Sulphate, TDS, Temperature, Total Sulfide, Selenium, Hardness, and TSS (this is a long list of acronyms so please see the footer below for explanations).

Selenium is an issue of particular attention for Montem. We are also hearing clearly this is a topic of concern for the community. It is a complex issue and our intent with this week's update is to provide useful information to make it more understandable. We discuss that selenium is a naturally-occurring component of the Earth's crust, and vital to all life. We also discuss how mining can be responsible for the release of selenium, what impact that can have, and what we will propose to do at the mine to minimize and treat selenium-affected water before we release it.

We fully expect that our conversation on water quality will continue. Montem is committed to ensuring the community understands our plans and our project proposal. We would be happy to chat with you by phone, e-mail or at our community market booth.

Keep an eye on this space next week when we will be discussing mine rehabilitation.

*Sincerely,
Peter Doyle, Managing Director and CEO*



Selenium

Selenium is a naturally-occurring element that is present in varying concentrations in rocks, soil and water around the world. It is essential, in small amounts, to all living things. In humans, selenium has strong anti-oxidant properties and is critical for reproduction, thyroid hormone metabolism and DNA synthesis.

Beef, poultry, oily fish, and certain nuts are all high in selenium and a natural source of selenium for humans. These animals build up high levels of selenium through their diet whereas certain nut trees absorb the element from the soils in which they grow.

We Need Enough—Just Not Too Much

While selenium is critical to all plants and animals, excessive amounts can be harmful. When inorganic selenium - the type that is commonly found in rocks and soil - is consumed by microorganisms, such as algae, its concentrations can move up the food chain, and the amounts in each link of the food chain can increase. If the quantity or concentration of selenium gets too high in some types of animals that lay eggs, like fish and birds, it can have a negative impact on them. At Montem, we spend a lot of time and resources monitoring and understanding the levels of

selenium at the Tent Mountain Mine site. As an already-disturbed mine site, we anticipated there could be some elevated concentration levels of selenium and our work has confirmed that. The data collected to date is critical for us as we assess which methods to include in our Integrated Water Management Plan to have the best effect at abating the issue of concentrated selenium. The data has guided us in our design to reduce the selenium levels at the mine site as part of our Tent Mountain Mine Re-start Project.

The Integrated Water Management Plan will be implemented in the first phase of our Tent Mountain Mine Re-start Project once the necessary approvals are obtained. As Montem finalizes the comprehensive environmental impact assessment, the appropriate mitigations and controls will be identified to ensure we can avoid, and minimize the adverse effects to water quantity and water quality.

During operations we will continue to use best management practices by monitoring and evaluating our water management mitigations and controls to ensure we are achieving our objectives and adhering to regulatory requirements throughout the life of the mine.

Selenium and Water Management

A robust and responsible water management program is absolutely critical for any coal mining project, no matter where it is located—including here in the Crowsnest Pass. Since the original Tent Mountain Mine suspended operations almost 40 years ago, our understanding about how coal mining can impact selenium levels in water and our knowledge about how to effectively mitigate its potential impacts has grown enormously.

Mining activity can expose broken rock to oxygen, which can cause the selenium in the rock to begin to oxidize. Once selenium becomes oxidized it is more easily absorbed in water. If water comes into contact with the oxidized rock, selenium can be absorbed and then carried to wherever the water flows.

There are a number of methods we can implement to manage, minimize and reduce selenium exposure and selenium movement in the environment at the Tent Mountain Mine site.

To demonstrate current best management practices and to meet regulators' requirements, Montem is proposing the use of a layered integrated approach whereby there are several opportunities for selenium leaching to be avoided or treated. As such, compliance with selenium guidelines will not rely on any single method.

This layered approach can be described in terms of four principles for selenium management: Avoidance; Prevention; Mitigation; and Treatment.

AVOIDANCE

Substantially reduce selenium release and subsequent concentration levels by selectively mining. For example:

- Avoid disturbing rock with high selenium content
- Avoid placement of waste rock in active drainages



AVOIDING EXISTING WATERCOURSES

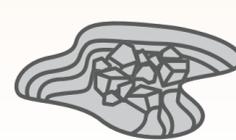
PREVENTION

Control selenium leaching and the release of selenium-enriched water by active surface water management, construction techniques, and covers that will limit water and oxygen exposure to the waste rock. These prevention strategies can reduce and potentially eliminate selenium at the source and decrease the volume of water that requires treatment. For example:

- In-pit waste rock backfilling to reduce disturbance footprint and selenium oxidation
- Water diversions to limit the volume of water contacting waste dumps



CLEAN WATER DIVERSIONS



WASTE ROCK BACKFILLING IN MINED PITS

MITIGATION

Reduce the risks of selenium release by water capture, backfilling waste rock in pits, and saturated zones in waste rock piles. For example:

- Capture mine-impacted water for storage in mine pits
- Use saturated rock fills (submerged waste rock dumps to reduce oxidization)



WASTE ROCK COVERS (RECLAMATION)



WATER REUSE



SATURATED ROCK FILL (SRF) DEPOSITS

TREATMENT

Remove contaminants of concern from the environment, and implement passive treatment measures such as constructed wetlands and/or bioreactors. For example:

- Engineered treatment systems to remove and reduce selenium from mine-impacted water
- Engineered bio-chemical reactors that use microbes to reduce and remove selenium from water
- Natural and constructed wetlands and pit lakes to slow water flow allowing selenium to fall out of the water and allow natural bio-reactor process



PUMP-BACK SYSTEM



PASSIVE TREATMENT (WETLAND)



BIOCHEMICAL REACTOR



NUTRIENT-ENHANCED SRF

List of Acronyms

BOD: biological oxygen demand

BTEX: benzene, toluene, ethylbenzene, xylene

Hardness: the amount of dissolved calcium & magnesium

TDS: total dissolved solids

TSS: total suspended solids

Please keep an eye out for further information on our website (www.montem-resources.com) and in the paper over the coming weeks. We are planning a number of public disclosures to help people better understand our plans, and the regulatory process we are going through to re-start the mine.