ENVIRONMENTAL COMMITEE

Canada Nickel Company —Crawford Nickel-Cobalt Sulphide Project

4th MEETING REPORT

MEETING INFORMATION		
DATE	September 27th 2023	
TIME	13:00 PM to 14:30 PM	
LOCATION	Videoconference—MICROSOFT TEAMS	
PARTICIPANTS	**Members**	**Presence**
	Jared Alcock, Town of Cochrane	
	Brian Finner, Town of Iroquois Falls	
	Scott Tam, City of Timmins & Mattagami Region Source Protection Committee	✓
	Eric Neilson, Town of Smooth Rock Falls	✓
	Michel Dupuis, Friends of the Porcupine River Watershed	
	Lianne Catton, Porcupine Health Unit	✓
	Angie Corsen, Friends of the Porcupine River Watershed	✓
	Suzanne Lajoie, Porcupine Health Unit	✓
	Lino Morandin, Cochrane Local Citizen Committee	✓
CANADA NICKEL	✓ Gabriella Desmarais-Brunet, Community Relations & Communications Coordinator ✓ Mathieu Boucher, Environmental Manager	
FACILIATION	✓ Isaac Gauthier – Facilitator – Transfer Environment and Society (TES) ✓ Stéphanie Cotnoir – Note taker – Transfer Environment and Society (TES)	
AGENDA	1. Welcome and Roundtable 2. Meeting Agenda Review & Approval 3. Crawford Project Updates 4. Water Management Plan 5. Preliminary Group discussion 6. Next Steps/Next meeting	

MEETING HIGHLIGHTS

ISSUES AND CONCERNS	
✓ **Committee Members**	☐ The treatment methods of drinking water and wastewater and the potential impacts on public health.
✓ **Committee Members**	☐ Water quality parameters and criteria accounted for in the proposed water treatment methods.

COMMITMENTS	
✓ **Canada Nickel**	☐ To share further information on drinking water quantities once feasibility study is published.
✓ **Canada Nickel & TES**	☐ Potential effects and mitigation measures will be shared at the next committee meeting

1. WELCOME AND ROUNDTABLE

Mr. Gauthier, the meeting facilitator, initiates the meeting and welcomes the participants.

Mr. Gauthier highlights that the meeting is one of three that will focus on Canada Nickel's water management plan for the Crawford Project. He invites committee members to ask questions and share comments throughout the presentation. The objective of this first meeting is to take it slow, to share information on the proposed water management plan so everyone has the same level of information and understanding. Subsequent meetings will allow for deeper and more focussed discussions regarding specific concerns, issues, and preliminary mitigation measures.

Mr. Gauthier welcomes everyone. Miss Desmarais-Brunet introduces herself followed by the participants.

2. MEETING AGENDA REVIEW AND APPROVAL

Mr. Gauthier presents the proposed meeting agenda and invites the members to share other topics they wish to add. He also invites members to share any comments regarding the previous meeting report.

Everyone agrees on the proposed agenda. No questions or comments were raised regarding the previous meeting report.

3. CANADA NICKEL UPDATES

Miss Desmarais-Brunet presents an update on the latest community relations activities. Of note, Canada Nickel organized a site visit with medicinal educators and representatives from partner Indigenous communities to share their knowledge of country foods and how certain plants are used.

Miss Desmarais-Brunet provides an overview of the baseline studies conducted so far, from July to September 2023, in participation with the project's Indigenous partners.

Before pursuing with the presentation of the proposed water management plan, Miss Desmarais-Brunet shares a reminder of the initial intention and objectives of the environmental committee, to highlight the importance of the members' participation. Their feedback is highly valued as well, and Canada Nickel also counts on the members to act as an information relay within their respective networks.

Miss Desmarais-Brunet also informs the committee members that she will continue using Doodle in the future to identify the most suitable schedule for committee meetings.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q & I 1	A member shares that the responsibility of relaying the information with other actors is difficult to ascertain. Their participation has been more from a public health standpoint.	Mr. Gauthier responds by emphasizing that the expectation is not for the members to be spokespersons for the project. Rather, he invites the members to share the information provided in the committee meetings with their respective organizations, per their capacity to do so.

4. BASELINE STUDIES

Mr. Boucher shares a reminder of the different baseline studies that were conducted at Crawford since July. For more details, please refer to the presentation available in the Appendix.

5. WATER MANAGEMENT PLAN

Mr. Boucher begins by mentioning that the proposed water management plan is still a work in progress. Even if Canada Nickel does not yet have all the answers, he invites the committee members to share their input to help improve the design.

Mr. Boucher shares the main highlights of the proposed plan, to which he provides more details throughout the following slides:

- The project will have a positive water balance (the site will "generate" more water than it will "use") due to on-site water recycling. Excess water will be treated and discharged back into the environment;
- Canada Nickel will not withdraw water from outside the project's site (no external water withdrawals);
- Geochemical analyses conducted so far show a low risk of metals leaching. The main element to manage with respect to water quality will be suspended sediments, due to the amount of clay on site;
- Two main scenarios are currently being considered for the discharge location. The preferred scenario would be to discharge excess water into the West Buskegau and North Driftwood rivers, rather than into a single location.

Watersheds and Site constraints: The initial site layout (including stockpiles of waste rock and low-grade ore, the tailings management facility, open pit, etc.) would likely impact three main watersheds: the North Driftwood River, the West Buskegau River and the Mattagami River (via Jocko Creek). The initial layout is informed by site constraints to avoid overprinting on lakes to the West and the West Buskegau River to the East. The only watercourse that can't be avoided is the North Driftwood River, which currently flows through the projected open pit location. The diversion of this waterway will require a compensation plan for loss of fish habitat.

Contact and Non-contact water: The proposed water management plan relies on the concepts of contact and non-contact water, where the first relates to all water that enters into contact with the site's footprint and infrastructure (for example, through precipitation, natural flow or groundwater) and the second relates to all water that does not enter into contact with the site. In CNC's case, all contact water will be monitored and treated before the excess is discharged back into the environment. Non-contact water will need to be managed through waterway diversions, to ensure its quality.

Water Usage on Site. There are four main water uses required for the mine's operation: 1) the process plant (to separate and recover the minerals from the waste rock), 2) for fire protection, 3) for the preparation of reactives (to prepare chemical products for treatment process), and, 4) for drinking water.

The key decision point on the required type of water (contact water or non-contact water) for each usage is based on the required water quality. For the process plant, for example, a lot of water is needed every day, but the required water does not need to be potable. This allows for the use of contact water from the site itself. Regarding drinking water, Canada Nickel will rely on groundwater wells. Water usage will depend on the number of workers at the site. For more details, please refer to page 19 of the presentation, available in the Appendix.

Water discharge scenarios: The project will have a positive water balance (i.e., will generate more water than what it uses), therefore excess water will need to be treated and discharged into the environment. Water treatment methods will be established per the water quality criteria that will be determined by the receiving environment and the province's guidelines.

Currently, there are two main discharge scenarios being considered. The overarching goal in assessing the different scenarios is to minimize the discharge's impacts to the environment, including local water quality and quantity.

The first discharge scenario is a combination of the West Buskegau River and North Driftwood River, to reproduce the natural flow regime of the watersheds. With this scenario, the discharge criteria (established based on the water quality of the receiving environments) is more stringent. Water treatment would therefore be more challenging and costly. Despite these constraints, it is still the preferred option.

The second scenario would be a single discharge pumped into the Mattagami River. The discharge criteria would be less stringent given the size of the watershed. The location would also be downstream of a hydro dam allowing good mixing. Since the river doesn't freeze in the winter, water can be discharged year-round. However, the river is located 8km from the project site. The infrastructure would have to cross existing roads and would thus take more energy. The Mattagami River is also of special significance to Indigenous communities. Another key impact of this second scenario would be a reduction of the water that is available in the West Buskegau watershed. Since the project is located in the West Buskegau watershed, any discharge outside of this same watershed would reduce the natural flow of the West Buskegau and North Driftwood rivers.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q & I 2	A member asks what the advantage is of having two discharge locations rather than one.	Mr. Boucher responds that will be explained throughout the following slides.
Q & I 3	A member asks if exploration activities will continue in parallel, considering that the project will mine the ore faster than it will mill it.	Mr. Boucher explains that the open pit will be the main and only pit used to mine the ore. Further exploration has been done at neighbouring sites.
Q & I 4	A member asks, regarding the water treatment system for contact water, if the idea is similar to the way cities manage storm water. They also ask how the water treatment system will be established and if CNC will wait for monitoring results before setting the system.	Mr. Boucher explains that the plan is to have an advanced water treatment system that would be used to treat all contact water that leaves the site. When planning a water treatment system, Canada Nickel will first look at the minimal required water quality criteria and will use specific tools to assess the water quality results per this scenario. From these results, a water treatment plan will then be established to meet and surpass this minimal criteria.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q&I 5	A member asks if the project will require an on-site landfill facility for domestic waste.	Mr. Boucher confirms that no landfill facility is currently planned. The project will rely on existing infrastructure in the region.
Q&I 6	A member asks what is meant by the statement '*Ensuring availability for natural ecological functions'* in the presentation. They also ask why would EDF (environmental design flow) water be directed to the open pit, if water in the pit is to be pumped out again.	Mr. Boucher explains that, as part of their water management plan, Canada Nickel wants to make sure that water returns naturally to the environment, meaning that any diverted water stays within the same watershed and continues to feed local rivers and lakes. The figure included in the presentation illustrates the management of contact and non-contact water and doesn't illustrate how EDF water is redirected back to the environment. In this figure, EDF water redirected to the open pit pond demonstrates the preferred scenario in the event of a major flood. The overflow from the ditches/ponds would be directed to the open pit in emergency situations only. Thus, the open pit would be used to store excess water temporarily. Considering its size, operations could still be managed even with water present. This method also allows to treat the water before being discharged.
Q&I 7	Mr. Gauthier asks when will more information be available regarding the necessary amount of drinking water.	Mr. Boucher explains that once the feasibility study is complete, they will have a better understanding of the number of employees present on site, from which the volume of drinking water required can be estimated.
Q&I 8	A member emphasizes that the treatment of drinking water and wastewater will be important to consider from a public health perspective.	Mr. Boucher thanks the member for the comment and confirms this will be considered.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q & I 9	A member asks if there is more water being generated on site than what will be needed for the mine's operations.	Mr. Boucher confirms there will be a discharge and that the water recycled on site will be used for the mine's activities. Despite this, there will still be an excess of water that will need to be treated and returned to the environment.
Q & I 10	A member asks if the current site layout includes the water ponds to collect contact water and whether nutrients such as phosphorus and ammonia have been considered in the water treatment methods.	Mr. Boucher explains that the location of the water ponds is shown in the presentation (see page 17 for reference) as blue rectangles and that the modelling to establish the water treatment methods and criteria is still ongoing. So far, the mine wouldn't generate a significant amount of phosphorus. Additionally, phosphorus is already present in high concentrations in the environment. Canada Nickel is also looking to use explosives that lead to less issues regarding ammonia or nitrogen. Certain types of explosives such as emulsions are more expensive but introduce less nitrogen into the environment. This still needs to be confirmed, but otherwise the water treatment plant doesn't need to be designed specifically for nitrogen.
Q & I 11	A member asks if CNC will still require a permit to take water from the pit even though no external water is needed for operations.	Mr. Boucher confirms that a permit to take water will still be required. The water doesn't belong to the mine, so CNC will need a permit to use the water within the project footprint.
Q & I 12	A member asks CNC to explain what they mean by "worst-case" scenario used for the water treatment plan.	Mr. Boucher first mentions that Canada Nickel will look to surpass this "worst-case" scenario in terms of water treatment and explains that it refers to the lowest possible water quality criteria that can legally be discharged into the environment. In this case, the federal discharge criteria are used to establish the "worst-case" scenario as they are less stringent when compared to the provincial criteria. Based on these criteria and a hypothetical permit to discharge water 365 days a year, Canada Nickel wanted to model the assimilative capacity of each river system

QUESTIONS AND INTERVENTIONS		ANSWERS
		for potential discharge. This can then be used as a decision-making tool to help predict discharge impacts on each river and decide which discharge location is best. Even per the federal criteria, the project's impacts to water quality would be negligeable. He reiterates that Canada Nickel will go beyond the "worst-case" scenario criteria, likely per the more stringent provincial discharge criteria. He also adds that dam failure scenarios and assessments are done separately and are not considered in the water treatment plan. Mr. Gauthier summarizes that the federal criteria is less stringent than the Ontario water quality criteria and that CNC is not aiming for the federal level criteria but rather used it in their modelling to assess river system capacity. Model results show that even with the less stringent federal criteria, the impact on water quality would still be negligeable.

6. POTENTIAL EFFECTS:

Due to amount of time left, this topic will be discussed at the next meeting.

7. MITIGATION MEASURES

Due to amount of time left, this topic will be discussed at the next meeting.

8. PRELIMINARY GROUP DISCUSSION

Mr. Gauthier suggests discussing the potential impacts and associated mitigation measures of the water management plan at the next committee meeting, due to a lack of time. With the time remaining, a preliminary discussion is proposed to gather early comments and answer questions. Members are invited to further consider the information shared in the meeting, in preparation of a more in-depth discussion at the next meeting.

Mr. Gauthier invites members to share any initial comments or concerns.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q & I 13	A member shares an observation that rivers in the north are very dynamic with flow rates varying throughout the year. They ask whether CNC has assessed the impacts of pumping effluent into water systems on water levels and flow rates.	Mr. Boucher explains that they don't have the full picture yet and that detailed modelling is still needed to assess impacts on monthly or weekly flow rates.
Q & I 14	A member asks how much water will be discharged in the environment.	Mr. Boucher estimates that the total volume would be roughly 35 to 45 million m^3 per year. Whereas the total capacity for the water treatment would be about 120 to 150 000 m^3 per day, condensed over 9 months instead of 12 months.
Q & I 15	A member asks why Canada Nickel is aiming to discharge into the rivers instead of neighbouring wetlands.	Mr. Boucher explains that this is due to the fact that Canada Nickel needs to demonstrate the assimilative capacity of the receiving environment prior to having its plans accepted by regulatory authorities. This is more difficult to demonstrate technically and from a regulatory standpoint in wetlands.
Q & I 16	A member asks if the Ontario Ministry of Natural Resources has confirmed the regulatory parameters of what CNC can and can't do. They mention that while the committee can share input, the Ministry will have the final say. The member answers that having the Ministry participate at the meeting to share their input and confirm that Canada Nickel has met regulatory requirements could be helpful.	Mr. Boucher states they have not had a discussion so far with the Ministry of Natural Resources to obtain their feedback on the proposed water management plan, but that the Ministry of Natural Resources will look at all studies. He adds that that all feedback, including from the committee, will be accounted for in the various permit requests. He further asks if the member would feel more comfortable including the Ministry in future meetings? Mr. Gauthier reminds committee members that the federal Impact Assessment Agency will also review the water management plan and that will give consideration to community input and perceptions of the plan when it will review the project.

QUESTIONS AND INTERVENTIONS		ANSWERS
Q & I 17	A member asks if the plan is to have two water treatment plants at the site.	Mr. Boucher explains that the plan is to have a total of five ponds and that each will have its own water treatment plant. Water will accumulate in the ponds with gravity, after which it will be pumped, treated and discharged into the environment.

9. NEXT STEPS

Mr. Gauthier goes over the next steps and objectives for the next committee meeting in November, which will again be focused on the water management plan. A survey will be sent with the Meeting Report inviting members to identify specific topics of interest to help structure the scope of the next committee meeting.

Miss Desmarais-Brunet reminds the participants that the Feasibility study should be released soon. She will also keep members updated on the Canada Nickel's engagement following her upcoming dinner with the local mayors.

APPENDIX I

PRESENTATION