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June 11, 2015

**Re: Update on the Deloro Mine Site Cleanup Project**

This letter is to provide you with information on discharges of construction wastewater and stormwater from the Young's Creek Area of the Deloro mine site, and a subsequent Order issued to the ministry by the Canadian Nuclear Safety Commission related to those discharges. It is also to provide you information about the ministry's controlled discharge of stormwater accumulated behind temporary aqua barriers in the Young's Creek area.

The discharge of construction wastewater and stormwater, Young's Creek

On April 29 and 30 the ministry's construction contractor, Quantum Murray LP, reported two discharges of construction wastewater and stormwater to the Young's Creek Area of the Deloro mine site. The contractor reported the discharges to the Ministry of the Environment and Climate Change's Spills Action Centre.

Ministry staff ensured water sampling of Young's Creek, the Moira River and Moira Lake in six locations downstream of the site, including the outlet of Moira Lake. Results of that sampling show no impact on aquatic life and no risk to human health and safety.

The first discharge happened when a temporary aqua barrier was breached. The second was a discharge of turbid water, a result of the contractor's efforts to repair the temporary aqua barrier.

A temporary barrier is commonly used in construction to make sure that any surface water that comes in contact with contaminated soil or sediment is contained. Normally that water is treated before being discharged onsite.

The ministry estimates up to 20,000 cubic metres of construction wastewater and stormwater was discharged from behind the temporary barriers. The volume is less than 0.5 per cent of the natural flow that went into the Moira River that day. The water was largely rain and seasonal melt water. The discharged wastewater and stormwater did not push contaminated sediment into the river.

The construction wastewater and stormwater that was released from the temporary barrier in Young's Creek flowed into the Moira River. At the time of the discharges the ministry's contractor was not excavating or handling contaminated sediment.

### The actions of the ministry's Deloro team

Ministry staff ensured that water sampling was conducted downstream of the site in six locations including Young's Creek, the Moira River, Moira Lake and the outlet of Moira Lake. Samples were collected the day the spill occurred and for eight days afterwards. Samples were tested for arsenic, cobalt and other metals typically found at the Deloro site. Routine testing at these locations is part of the normal sampling program and will continue for the duration of the construction project.

Results show that the levels of the contaminants of concern within the Moira River were within normal ranges (and below the "No Observable Effect" concentrations). The construction wastewater and stormwater that discharged from the site had slightly elevated levels of arsenic and cobalt, but results of that sampling show no impact on aquatic life and no risk to human health and safety. No radiological material was spilled. The ministry did sampling for radionuclides and all results were below the Guidelines for Canadian Drinking Water Quality.

On April 29 the ministry's Deloro team issued directions to the contractor and construction contract administrator to contain the spill, prevent further releases and begin sampling to assess the event. By May 1<sup>st</sup>, the ministry's contractor had completed installation of an additional aqua barrier to help prevent additional discharges.

The ministry's contractor has also installed additional erosion control measures including installing sandbags to control water movement through a drainage pathway adjacent to Hwy 7, and placing a silt curtain, silt fencing and straw bales on site, at the southern end of Young's Creek. These measures provide additional layers of protection.

The ministry has a notification protocol in place in the event of spills at the site. On April 30 and May 1 the ministry notified the following organizations about both discharges:

- Municipality of Marmora and Lake
- Municipality of Centre Hastings
- Township of Stirling-Rawdon
- Quinte Conservation Authority
- Moira Lake Property Owners' Association
- Hastings Prince Edward Public Health.

The ministry continues to keep these organizations informed about sampling results.

On April 30 the ministry's Deloro team directed the contractor to initiate analyses to determine cause(s) of the event. That work is ongoing.

The ministry's Deloro team directed the manufacturer of the aqua barrier to inspect every existing barrier and prepare a report with recommendations

### The role of the Canadian Nuclear Safety Commission (CNSC)

The ministry is under licence from the Canadian Nuclear Safety Commission (CNSC) because up to six per cent of the waste at the Deloro site is low-level radioactive material.

The ministry notified the CNSC of the discharge of construction wastewater and stormwater on May 1, and submitted a follow up report to the CNSC on May 21. The CNSC conducted a site inspection on May 28.

On June 3, the CNSC issued an Order to the ministry. While the Order acknowledges that the "release resulted in no significant impact to the environment," the CNSC has asked the ministry to ensure that adequate contingency plans are in place to prevent further discharges.

The ministry is working with the CNSC to ensure that we fully comply with the Order in the timelines set out for us. I can assure you that our first priority with our contractor is to finish the remediation of the Deloro mine site and to do it in a way that protects the environment.

### Spill from the industrial and mine area, June 8

On June 8 the ministry's contractor in the industrial and mine area of the site reported a spill that happened when heavy rainfall overwhelmed erosion control measures. The spill lasted about an hour and half and was controlled by noon.

Rain water washed clean soil from this area into the Moira River which resulted in turbid water.

The ministry's construction contractor, Tervita Limited, used all available means to redirect storm water and to mitigate impacts to the river. This included installing and repairing silt fencing, installing rock dams, and trenching to channel water to a containment area.

The ministry directed staff from Ontario Clean Water Agency to take water samples from the river during the spill and for eight hours afterward at six locations downstream of the site as far as Moira Lake.

Sampling results show that arsenic concentrations at the bridge at Highway 7 were slightly elevated but within the normal range for this river.

### Controlled discharge from Young's Creek area

On June 10 the ministry's contractor in the Young's Creek area of the site reported an additional release of stormwater when heavy rainfall dislodged one of the temporary aqua barriers causing water to flow under the barrier.

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As a result of recent heavy rainfall, the ministry is taking action to avert a potentially more serious breach of the aqua barriers at Young's Creek, by ensuring there is a controlled discharge of excess water directly to the Moira River on the Deloro site, upstream of Young's Creek.

The Canadian Nuclear Safety Commission approved this measure with conditions, as did the ministry.

We will conduct rigorous water quality sampling at locations downstream of the site, as far as Moira Lake, and we will continue to work with our construction contractor, Quantum Murray, to address the priorities on the site.

We will continue to update our regulators and key stakeholders as part of our notification procedure.

Upcoming Public Liaison Committee meeting

The ministry will host a Public Liaison Committee meeting at the Deloro community centre on Wednesday June 24, 2015 at 7 p.m. to provide an update on the project. The public are welcome to attend.

If you have questions or concerns, please feel free to call me at: 613-540-6824.

Sincerely,



Katharine Faaren, P.Eng.  
Manager Deloro Mine Site Cleanup Project