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## ***Kiggavik Project Spill Report***

### ***Drill Cuttings Discharge***

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# 1 Introduction

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On July 16, 2014, a spill of drill cuttings was detected in a water body on the AREVA Resources Canada Inc. (AREVA) Kiggavik lease, which is located 80 km west of the community of Baker Lake, Nunavut. The unauthorized discharge of cuttings was discovered during an annual inspection of the project by AANDC Water Resource Officers in the Bong area at 64°24'51" N, 97°42'24" W (14W 562318E 7143802N).

The incident was reported to the NT-NU Spill Report Line at approximately 1:30 pm on July 17. This 30 day report is required in accordance with Nunavut Water Board (NWB) Licence No. 2BE-KIG1318 and AREVA's Spill Contingency Plan. Reporting is completed accordance with the NWB licence Part H item five and the Aboriginal Affairs and Northern Development Canada (AANDC) Land Use Permit N2014C0001 item 32. The report is distributed to AANDC, NWB, the Kivalliq Inuit Association (KIA), and Environment Canada within thirty days of the incident. The following summary describes the incident and the status of the corrective and preventative measures.

## 2 Incident Summary

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At approximately 3:15 pm, as the AANDC Water Resource Officers and AREVA staff flew over the drilling rig at Bong-065A for an inspection, a white discoloration was noted in the edge of a small water body located nearby (See Figure 2-1). Upon initial inspection, it appeared that a hose discharging clean water from a nearby pump flowed downslope into the cuttings discharge site of a previous non-mineralized drill hole located at 64°24'51" N, 97°42'31" W (14W 562225E 7143800N). Initially it appeared that the water intercepted the lightly coloured cuttings and transported the material into the water body.

Upon returning to the site for further investigation, it was determined that the excess water from the hose had not come into contact with the cuttings discharge site near the water. The discharge material appeared to have been remobilized independently of the pump water; likely by recent heavy rains, and flowed downhill into a rocky area. Here, it was allowed to penetrate below the ground surface where the cuttings then traveled to the adjacent water body and were observed collecting at the water's edge. It was difficult to measure the amount of discharged cuttings as it was suspended in the water, however the photos below depict the amount of material located at the water's edge which was approximately two feet across.



**Figure 2-1 Unauthorized Cuttings Discharge near Bong 065A – July 16, 2014**

### **3                      Corrective and Preventative Measures**

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Various corrective and preventative measures were implemented following the spill identification. To limit the spatial extent of the spill, the pump discharging clean water was stopped, and the hose was relocated to the opposing side of the drill. As the existing cuttings discharge area was migrating downhill towards the drill, the discharge hose was moved a considerable distance to the west to eliminate the return flow of drill discharge to the drill pad. The drill crews on site were subsequently instructed not to place their excess clean water hoses in places that could create a potential uncontrolled runoff into a water body and to alert AREVA staff if discharge fluids are accumulating around the drill. A sandbag berm was constructed around the cuttings discharge site the following day to ensure there was no further drainage of cuttings into the water. The site was monitored over the days following the spill and by July 18 the white discoloration of the water was no longer visible. Water samples were taken the day of the spill and again two weeks following the incident. The placement of drill discharge sites and follow-up inspection by AREVA staff and contractors was reviewed to ensure all personnel were aware of the requirements.

### **4                      Conclusion**

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It was concluded that the spill of non-mineralized drill cuttings entered the water body of the Bong area following remobilization from heavy rain. This allowed the cuttings to flow downhill away from their original location and eventually collect at the proximal edge of the water body. Pump water and drill discharge hoses in the area were relocated and a sandbag berm was built to contain the discharge site in an effort to prevent the further spread of the discharge material. Increased diligence in the appropriate placement of future drill discharge sites will be used to prevent any repeat occurrences.

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## Photographs

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**Photograph 5-1 Unauthorized Cuttings Discharge – July 16, 2014**



**Photograph 5-2 White Discoloration in Water – July 16, 2014**



**Photograph 5-3 Bermed Cuttings – July 17, 2014**



**Photograph 5-4 Bong Water Body – July 26, 2014**