

Mount Nansen – Tailings Dam Pest Control

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Background:

During the June site inspection at Mount Nansen, conducted by Richard Trimble of EBA, it was observed that there was an increase in the number of ground squirrel holes and burrows along the dam crest of the tailings dam facility. As a result of this, recommendations were made to remove/relocate the ground squirrels from the dam crest and have their burrows backfilled. Failure to remove the ground squirrels could potentially result in damage to the buried liner, as well as create seepage paths for water if the level of the pond was to increase.

Assessment and Abandoned Mines contracted Orkin Canada to conduct a multi-site visit in order to address the issue of increased ground squirrels within the tailings area. Based on previous applications (Hydroelectric Dam, Whitehorse), it was determined that the most efficient and effective technique to control the ground squirrel population was through the use of Rozol, which is an anticoagulant or multiple-feed rodenticide. The first of two visits was conducted on August 25th, 2014, with a follow up to occur on September 8th, 2014 in order to monitor the effectiveness of the treatment.

Orkin Canada has obtained the service permit (Issued Pursuant to Part 6 of the Environment Act and section 17 of the Pesticides Regulation) and is authorized to use or apply the pesticide for the prevention or control of pests included under the class Insecta and the order Rodentia, inside structures or on exterior surfaces of structures, as set out in the terms and conditions of the permit.



Photo 1. Several burrows located within the Seepage Pond Area – Looking East.

Fixing and Administering the Rodenticide

Preparing the rodenticide used at Mount Nansen consisted the mixing of 190 ml of Liquid Rozol and 260 ml adjuvant (peanut oil) into 6 kg of rough oats and mixing well (Photo 2). The peanut oil mixed with the Rozol aids in coverage of the grain during mixing and also provides a smell and taste favorable to the ground squirrel.



Photo 2. Leith, of Orkin Canada, preparing the bait prior to its application.

After preparing the bait, approximately 1.5 hrs. of reconnaissance took place throughout the site in order to locate burrows and apply the rodenticide. Within each burrow, one scoop (57 grams) of treated grain was placed 8 to 12 inches into the hole, working out to approximately 1.81 ml of Rozol per burrow (Photo 3 and 4). Placing the grain approximately a foot within the hole eliminates some potential of primary poisoning of any non-target animals that are also located on site. A total number of 85 burrows were treated with one scoop of Rozol baited grain. This included:

- 53 burrows within the seepage pond;
- 11 burrows along north side of interceptor ditch (east of road);
- 4 burrows along south side of interceptor ditch (east of road);
- 15 burrows north of the diversion ditch (north side of tailing pond); and
- 2 burrows on the south side of the tailings pond.



Photo 3. Leith, of Orkin Canada, administering the bait within burrows located at the Seepage Pond.



Photo 4. Baited grain placed approximately 8 to 12 inches within the burrow to avoid primary poisoning of non-targeted animals located on site.

As well as baiting 85 burrows, exterior bait stations were set up in high traffic areas where ground squirrels were in abundance (Photo 5-8). Two Scoops (114 grams) of treated grain was placed within these sealed black boxes that were secured to the surface via a metal pin; this works out to approximately 3.62 ml of Rozol is placed within each bait station. There were a total of 10 black boxes placed throughout the areas mentioned above. This included:

- 6 near the seepage pond;
- 2 east of interceptor ditch (west side of tailings); and
- 2 located south of diversion ditch (north side of tailings).



Photo 5. Preparing the exterior bait boxes – Showing the metal pin that is hammered into the ground in order to secure the box.



Photo 6. Preparing the exterior bait boxes – Two scoops of baited grain placed within the box and the lid is securely fastened.



Photo 7. Exterior bait box installed on south side of the Seepage Pond – Looking East.



Photo 8. Label located on bait box.

Areas the Rodenticide was Administered

Four locations in and around the tailings dam were targeted as areas of high concentration of burrows. These areas include:

- Seepage Pond (including dam crest facing seepage pond);
- Areas south of site access bridge (both east and west of excavator parking);
- Areas south of the tailings pond, near disturbed/undisturbed area; and
- Areas east of the interceptor ditch.

A follow up trip during the first week of September, 2014 will determine the success of the Rozol and further monitoring of activity will take place if need be. As well, more rodenticide may be administered within the burrows of low quantity in order to attempt to remove all ground squirrels. This would be the last visit to site prior to the squirrels hibernating for the winter season.



Photo 9. Placement of baited grain within the Seepage Pond Areas – Looking East.



Photo 10. Placement of baited grain on the west side of the Tailings Pond – Looking East.



Photo 11. Placement of baited grain on north side of Tailings Pond – Looking East

Once the Program is Completed

Following the completion of the program, all holes and burrows within the tailings dam that were created by the ground squirrels will be filled and compacted with earth in order to increase its stability. This process will likely occur following May, 2015's monitoring program, which will be critical in determining the effectiveness of the administered Rozol to control the ground squirrel population at Mount Nansen.