2011 North Bell Dump Reclamation Report

Background & Introduction

As a requirement of Mine Permit M-200, Mount Polley continues to conduct reclamation activities on an on-going basis.

In 2011, reclamation work at Mount Polley Mine focused on the de-activated North Bell waste rock dump (NBD). Between July and October 2012 approximately 10.6 hectares at the NBD was reclaimed.

Re-sloping

Re-sloping of the NBD area was undertaken to establish the 2:1 dump face slope required for long-term stability as provided by the geotechnical engineering consultant retained by Mount Polley (Golder Associates). Re-sloping was completed using internal personnel and equipment.

Manufacture and Application of Soil

A soil was "manufactured" on site for application on the NBD (Figure 1). The soil was constructed by intimately mixing biosolids, soil, and rock (1:2:1 by volume respectively) on site; a ratio designed by SYLVIS (retained by Metro Vancouver, provider of the biosolids) who were designated as the Qualified Person in calculating biosolids application and mix rates.

Figure 1: Manufacturing Soil

The soil was then applied to a designated depth of 20 cm, totaling 2,051m^3 (32,502 tonnes at the measured bulk density of 1.41tonnes/m^3) of material placed. (Figure 2)

Figure 2: Placement of soil on North Bell Dump

After the soil was applied, woody debris collected from other projects on the mine property was placed over the area (Figure 3) at the recommendation of Moss Giasson of Montane Environmental Services (retained by Mount Polley as a reclamation consultant).

Figure 3: Coarse Woody Debris placed on North Bell Dump

Seed Application

The NBD reclamation seed mix (Table 1) was chosen through consultation with Moss Giasson, P Ag and Premier Pacific Seed Ltd. While the native seed mix used on the NEZ dump in 2010 (Appendix O) was very successful there were two grasses in particular that did not show strong growth and were therefore removed from the mix. Also, the cost of the forbs (lupins) was considered too high this year therefore it was removed from the mix. As discussed by Moss Giasson in Appendix O, lupins and other native forbs around the property will re-seed naturally on this slope.

Table 1: Reclamation Seed Mixture

Seed	%
Mountain Brome	20
Native Red Fescue	10
Rocky Mountain Fescue	15
Wheatgrass, Bluebunch	25
Blue Wildrye	25
Lupinus polyphyllus	4
FIreWeed	1

Seeding was done on snow without the use of mulch or adhesive. The prescribed application rate was 35 kg/ha however the final application rate, calculated by the actual weight of seed applied, was 30 kg/ha. Figure 4 shows the seed application rate on the snow. Most of the seed was applied using a hydro-seed method (by a contractor - Any Season Holdings Inc) and some was hand seeded. Figure 5 shows the areas where seed was applied.

Figure 4: Seed application rate

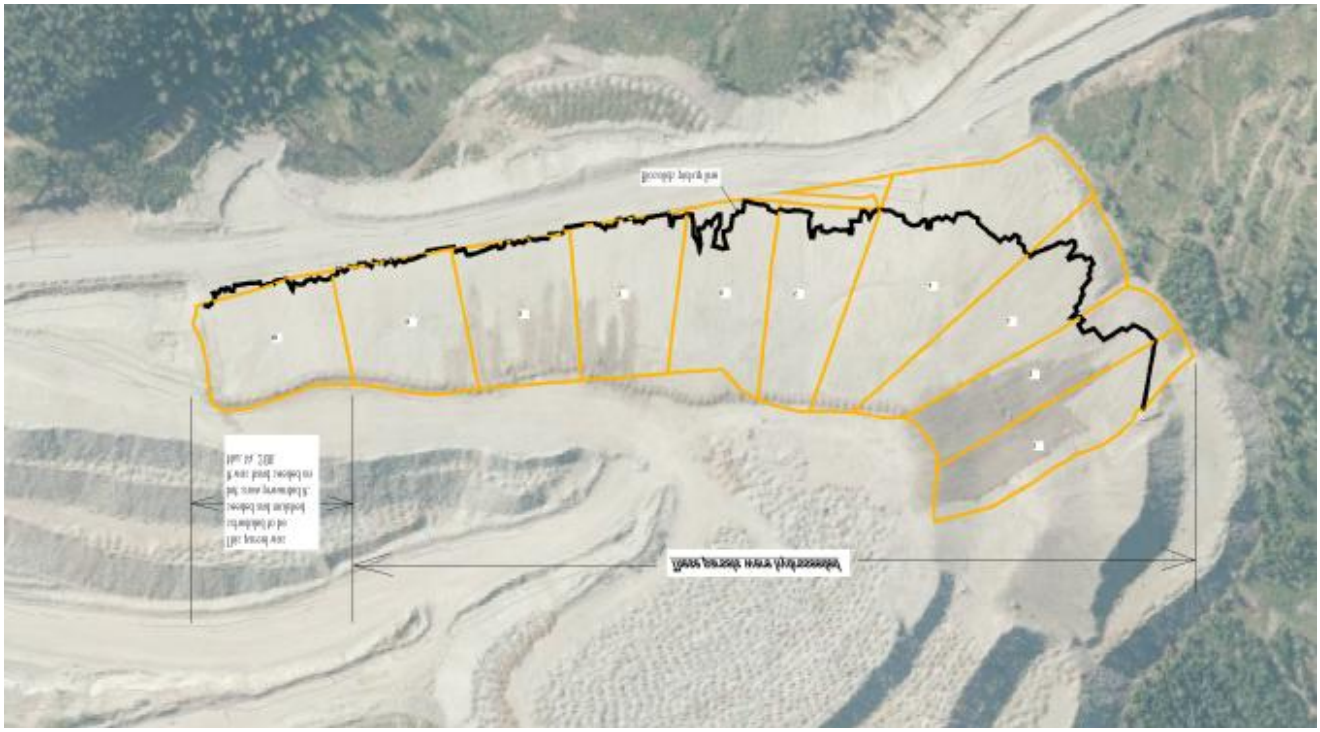

Figure 5: Seed application areas on NBD

Fertilizer Application

One of the goals for using biosolids amended soil at Mount Polley is to increase nutrients in the constructed soil. Therefore there was no additional fertilizer applied to the NBD seeded area.

Discussion and Recommendations

To date most reclamation activities at Mount Polley have been successful and the same success is expected on the NBD. The slightly lower than required grass density will likely have good results and be satisfactory for providing erosion control and slope stabilization; the coarse woody debris will also assist erosion control. Furthermore, lower grass densities have been shown to allow for improved conifer growth in reclamation.

A 1 hectare parcel of land at the South end of the North Bell Dump and a portion of the East RDS (overlooking the warehouse) were scheduled to be treated with mulch and adhesive, however this was not completed due to the presence of snow. This should be treated in early 2012.

A 10 to 30 m wide strip running approximately 400 m parallel to the west side of the road (estimated to be 0.4 to 1.2 ha) was not treated due to the compact nature of the site and its proximity to the road. This area should be reclaimed in 2012.