

Memorandum

To: File
CC:
From: Chris Garrett, SWCA
Date: May 12, 2013
Re: Calculations for vegetation disposal

The purpose of this memo is to document the calculation of the amount of woody material available for disposal from the project site, the amount that can be used for reclamation activities, and the approximate timing of the availability of woody material. It should be noted that the calculations contained in this memo are meant only to be a rough estimate, in order to determine in a gross manner whether the amount of material made available by clearing could be used in its entirety for reclamation purposes, or whether there would be material remaining that would need to be sold or disposed of.

Amount of Woody Material Available

Based on conversations with Margie DeRose with the Coronado National Forest, the Nogales District has cruised the available fuelwood on the project site and determined that approximately 23,000 cords of fuelwood would be made available by clearing. It is assumed for purposes of this memo that the larger trees that would be considered fuelwood are the same larger trees that the Coronado would find desirable to place on reclaimed slopes to promote stability and promote microclimates and variability in vegetation. At 128 cubic feet per cord, the total volume of larger woody material is equivalent to approximately 3 million cubic feet.

Assuming an approximate density of 44 pounds per cubic foot for wet oak, this correlates to approximately 66,000 tons of material.

Timing of Material Availability

Based on the most recent reclamation and closure plan, during the first phase of construction approximately 2,700 acres of land would be cleared (CDM Smith 2013, Tables 13-1 and 13-2), which corresponds to approximately 65% of the ultimate acreage to be cleared (~4,200 acres for the Barrel Alternative, only within the security fence).

Therefore it can be roughly estimated that approximately 65% of the woody material would become available for use during the initial clearing phases, or approximately 43,000 tons of woody material.

Ability to Use Material for Reclamation

The Coronado National Forest has determined that maintaining large stockpiles of woody material over the life of the mine is not desirable, for several reasons: fuel loading, aesthetics, and promotion of wood-destroying insects. Therefore the larger woody material cleared from the site either needs to be used for reclamation purposes relatively quickly or otherwise disposed.

During the first few years of active mining, approximately 283 acres of the waste rock perimeter buttress are scheduled for concurrent reclamation. Based on conversations with Chris Stetson, fuels specialist with the Coronado National Forest, roughly 20 to 25 tons per acre of material could be used for reclamation purposes, by placing the material on the slopes of the waste rock buttress. Thus, roughly 5,700 to 7,100 tons of woody material could potentially be used during the first few years to support reclamation activities.

This is less than 20% of the amount of material that would be available from the initial clearing. Therefore, while use of woody material for reclamation is planned and desirable, there would be much more material available that would need to be removed, either by sale as fuelwood or by disposal.

References

CDM Smith 2013. Preliminary Reclamation and Closure Plan for the Barrel Alternative, Rosemont Copper Company. July 2012.