

### 3.5.3 Post Mining Contours

The projected postmining topography of Trapper Mine is shown on Map M12, Postmining Topography. This map depicts the expected configuration of the permit area at the end of 2027. The postmining topography map was developed using actual topography from aerial surveys in 2017 and December 2021 topography from drone surveys, along with engineering estimates of material movement from 2023 through 2027. Map M-14A includes a series of cross-sections that provide a comparison of pre and post mining topography in the active mining area for the current permit term (2023-2027).

Postmining topography cannot be predicted exactly, however, the best estimate given today's technology is presented. Map M12 is, therefore, an approximation of the re-contouring limits with a representation of the shape of the topography that will most likely be produced. However, by March 15th each year of the permit term, Trapper will submit to the Division a map showing actual postmining topography for the previous year. Appendix W will contain each year map.

As production fluctuates to reflect changes in economic and natural conditions, the areas requiring regrading may change to a limited extent. Lengthening or shortening of various cuts may occur as they are more precisely designed, and thus cause some deviation from the map as presented. Cut lengths may be affected as a result of better or worse economic conditions which affect the economic stripping limit, or as a result of differences between inferred coal oxidation limits from existing drill data versus the actual limits encountered when mined.

If changes in cut lengths occur, the locations of the pits as of December 2022 may also be affected as the progression of the pits is a function of their lengths. The pit locations may also be affected by several other factors such as changes in the characteristics of the overburden and interburden which in turn affect digging rates or by changes in scheduled digging times resulting from labor or equipment problems. These influences could cause an increase or decrease in the areas requiring regrading as compared to those shown on Map M12. Regrading areas depicted on Map M12, Postmining Topography, and Map M10 series, represent regrading under maximum production.

As explained in section 3.1.4.1, a permanent fill resulting from K pit truck/loader operations was constructed in the Horse Gulch drainage area. This fill resulted in a raised topography in the affected area. The fill location is shown on Map M10A. The postmining configuration is shown on Map M12. Final geotechnical designs for the Horse Gulch fill are included in Appendix T. A description of the fill is explained below.

#### **Horse Gulch Fill**

Mining of K Pit with a truck and loader fleet required the use of a head of hollow fill capable of storing approximately 24.6mm BCY of excess spoil. The fill was necessary to ensure the safety of men and equipment during mining operations. Spoil placed upslope of the active T/L fleet could have potential to fail, moving downslope onto the T/L or coal loading operations.