

3.3 DRILLING

3.3.1 Types of Drilling

At Trapper Mine there are three types of drilling: blast hole drilling, exploration drilling and development drilling. Blast hole drilling occurs only within the permit area and is required for the blasting operation. The holes are needed for placement of explosives to fragment overburden, interburden and coal. Holes sizes, depths and spacings vary according to the thickness and nature of the material to be blasted. Because the holes are drilled just ahead of, or within an advancing pit, they are removed by stripping or mining within several months or less. For more detail on blasting, see Section 3.4.

Exploration drilling occurs outside the permit area and is required to determine the extent of the coal reserves and to provide information on coal depth, thickness and quality. All exploration drilling is conducted in compliance with applicable U.S. Bureau of Land Management and State of Colorado regulations and will be handled by separate permits.

Development drilling is required to provide data for planning pit dimensions, sequencing activities and equipment scheduling. Typically, development drilling is conducted at or near the projected coal cropline and the economic stripping limit ahead of advancing pits and where new pits are planned within the permit area. Drilling depths needed to further define the cropline are usually only to the coal in question. Depending upon the information obtained, drilling may be conducted defining the cropline to within 25 feet horizontally. The economic stripping limit is defined in much the same manner except it is not necessarily located as accurately as the cropline.

Prior to stripping, the overburden is drilled and blasted. Overburden drilling and blasting precedes stripping by one to five pit widths. Before the overburden is drilled and blasted, the topsoil is removed. Topsoil removal is conducted during the fair weather months of May through October. Therefore, each year's