

## **Chapter 2**

### **Alternatives, Including the Proposed Action**

#### **2.1 Introduction**

This chapter discusses the Proposed Action and Alternatives. Descriptions of current environmental resources at the American Colloid Company bentonite mine and potential impacts on these resources resulting from the Proposed Action and alternatives are presented in Chapters 3 and 4, respectively. Mitigation measures are identified as a result of the impact analysis and are a part of the Alternative.

#### **2.2 Development of Alternatives**

Alternatives present different management options in response to the purpose and need for the proposed action and address the relevant major issues related to the proposed action.

#### **2.3 Proposed Action (Alternative A)**

Amendment #10 involves adding 1,487 acres to the existing 3600 acre permit of which 583.8 acres are BLM surface, and 903.2 acres are private surface. These lands are further identified as the West Area and the East Area. The West Area is located approximately 13 miles northwest of Alzada, Montana and contiguous to permitted lands and current mining. The East Area is approximately 6-10 miles northwest of Alzada and contiguous to permitted lands; access is directly from Highway 212. Mining on Amendment #10 will occur in 12 proposed pit sequences in the West Area and 14 proposed pit sequences in the East Area. Approximately 686 acres will be affected by ACC's proposed mine plan over 10 years or less, with 205 acres to be affected on BLM surface and 481 acres on private surface. Mining schedules and the sequence of the pits to be stripped will depend upon customer needs (Figure 1.1).

The ACC mining operation will consist of stripping several small pits and backfilling one into the other. New haul road segments will be constructed over non-maintained existing trails and over backfilled pits or proposed pits within the mining sequences. Any newly constructed road spurs will be reclaimed. No permanent main stretches of haul road are proposed. The West Area lands will be accessed by ACC's main haul road which runs through permitted lands. The East Area lands will be accessed at Highway 212, approximately six miles northwest of Alzada.

ACC will surface mine to an estimated maximum depth of 50 feet, although in many places, the bentonite outcrops at the surface or is only a few feet below the surface.

The following equipment will be most commonly used in ACC's mining operations: Caterpillar 637 Scrapers, Caterpillar D-9 Dozers, Caterpillar 988 Front-end loaders, Caterpillar patrol/blade, haul trucks and water wagons.

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Topsoil from all affected areas will be salvaged with rubber-tired scrapers prior to disturbance. The depth of soil salvage depends on the type and availability of soil and ranges from 0 to 17 inches. Topsoil and subsoil for areas designated as temporary

overburden stockpiles, haul road segments and pits will be stockpiled. These materials will be clearly marked with signs reading “Topsoil” and “Subsoil”. Topsoil and subsoil not stockpiled will be direct-hauled (livespread) onto previously backfilled and contoured areas. Prior to spreading topsoil, all compacted areas will be ripped with shanks attached to the D-9 Cat or patrol/blade. Ripping will be from 10 to 12 inches deep and done in two passes at right angles. This procedure has been used for several years and has proven to be an effective reclamation procedure.

The soils survey identifies some toxic soils in the mining area. It was recommended that they not be salvaged and that they not be used as surface reclamation materials.

Overburden from each pit will be ripped with a D-9 dozer and stripped using scrapers. It will be temporarily stockpiled or backfilled into a previously opened pit. Bentonite will be removed and either stockpiled with scrapers or extracted from the pit with front-end loaders and loaded onto haul wagons and haul trucks, which will haul the bentonite to ACC’s processing plants at Colony, Wyoming.

Open pits will be backfilled in a “tier” system. Generally, the material found lowest in the pit is the poorest quality for revegetation and is replaced in the bottom of the pit. When the final contour configuration is approached, the tiers would be blended to approximate surrounding topography. Past experience has shown that overburden swells sufficiently due to breaking up of the platy shale to compensate for bentonite removal. As a result, the post-mine contours will be approximately equal to the original contours and will be suitable to the post-mine land use of livestock grazing and wildlife habitat.

During the reclamation phase of the operation, after the pits are backfilled and contoured, subsoil and topsoil will be respread. This will be followed by either

ripping with a motor patrol or immediately seeding with a modified chisel plow/range seeder. This method provides an uncompacted, moderately rough seedbed which reduces erosion and traps moisture in the furrows for vegetation establishment.

If any solid waste is generated during mining operations, it will be disposed of at ACC’s permitted landfill on a biweekly basis.

Protective berms will isolate mining disturbance from undisturbed areas and help reduce the amount of storm water run-on which enters a mining area; controlling the run-on will help reduce run-off.

## **2.4 Alternative A – No Action**

### **BLM**

The No Action Alternative involves rejecting the amendment in its entirety. The Agencies could deny or withhold approval of the amendment application if it is found that the proposal would result in unnecessary or undue degradation of the public lands or could not comply with the measures found in the Opencut Act. This alternative represents the status quo. Mining under the current plan would still occur until permitted reserves are exhausted.