

EXHIBIT E
Reclamation Plan

3.0 RECLAMATION PLAN

Reclamation would be carried out progressively or concurrently with mining activities because of the need to dispose of inert, un-economic material (intraburden/overburden) as mining progresses. Overburden and intraburden from each successive mining stage would be backfilled or stockpiled in the area of the depleted stage above the area of active mining. The overburden and intraburden are kept in the same stockpiles, while topsoil (growth medium) is kept separately for final reclamation efforts. Intraburden/overburden storage areas would be partially removed and used as backfill material for the final pit areas, with remaining material regraded to a 2.5H:1V (or flatter) slope. Sequencing of mining and stockpiling is listed within Table 3.1 and with locations provided within the attached drawings and volumes provided within the Exhibit L. To create a final surface that mimics natural topography, extremely long slopes would be shortened by creating a bench or grade break and periodic downslope channels would be incorporated into the reclamation grading. Figures 1-3 and Drawings 11-13 shows conceptual reclamation grading for the pits and roads included with this Revision.

Following active mining and pit reclamation, haul roads would be regraded to expose culverts, using excavated material as backfill in remaining reclamation activities for the pits and roads. Culverts would be removed and native drainage channels would be re-established at pre-construction grades (ranging from grades less than 5% to over 50%). Erosion protection measures such as rock vortex weirs or riprap would be installed as necessary based on the conditions encountered during channel grading.

Backfill material in all reclaimed slope areas would be compacted and sloped at a 2.5H:1V slopes or flatter, achieving 3.0H:1V where possible, and track-walked with a dozer or similar equipment to roughen the reclaimed slope prior to revegetation. Track-walking and revegetating reclaimed slopes would limit erosion and promote surface water infiltration. Growth medium stockpiled from clearing operations would be placed on the re-sloped areas in layers of 6 to 12 inches. The reclamation seed mixture used with successful current reclamation efforts would be seeded during the fall months. If the accumulation of growth medium stockpiles exceeds the on-going reclamation and revegetation requirement (not anticipated), excess growth medium stockpiles would also be seeded during the fall months to facilitate stabilization.

Juniper and pinion trees cleared ahead of the active mining area would be utilized in the reclamation process, placed perpendicular across reclaimed slopes. Pinion and juniper slash cleared at the Lower Pit have historically added success to revegetation plots. The technique has consisted of placing slash over plots graded with volcanic ash growth medium and then seeding the plot. The slash has shown to aid revegetation by providing shade for the early seedlings, helping to stabilize and control erosion of the plots, and eventually adding organic nutrients back into the soil.

Table 3.1 lists required information and where it can be found in the provided reclamation maps.

TABLE 3.1: RECLAMATION MAP GUIDE

Required Information	Drawing Number
Gradient of all reclaimed slopes	Figure 1, Drawing 11
Cross-sections of reclaimed slopes	Figures 2 and 3, Drawing 12
Where vegetation will not be established and general areas for shrub or tree planting	Drawing 11 (all reclaimed areas would receive the same revegetation treatment)
Shore configuration of ponds and shallow areas if future land use is for wildlife	N/A
Average thickness of replaced intraburden/overburden by reclamation area or phase	Figures 2 and 3, Drawings 12 and 13
Average thickness of replaced growth medium by reclamation area or phase	Drawing 12

3.1 Drill Hole Plugging

Drilling may occur throughout the active mining phase of the proposed Upper Pit expansion and East Pit development. Prior to completing additional drilling, American Gypsum would develop drilling plans and obtain required permits, including drill hole plugging and reclamation plans. Drill holes would likely be mined out as the Upper Pit and East Pit are developed; however, drill holes would still be plugged to prevent impacts to aquifers (i.e. mixing), impacts to beneficial uses, downward/upward water loss, surface water flowing into the hole, or an open surface hazard.

Drill holes would be plugged in a manner appropriate to water conditions encountered during drilling, according to procedures outlined in the BLM Solid Minerals Reclamation Handbook (BLM, 1992) and Colorado Division of Water Resources (CO DWR) Code of Colorado Regulations (CCR) 2 CCR 402-2 (CO DWR, 2018). This would include the following:

- Removing casing;

- If more than one aquifer was perforated in single drill hole, backfilling with a cement grout plug at the confining layer above aquifers;

- Backfilling unconfined/unconsolidated aquifers to the static water level with drill cuttings, clean sand, or clean gravel;

- If water is not encountered, backfilling with drill cuttings; and

- Backfilling the upper 5 feet (minimum) with clean native clay, cement, or high solid bentonite grout, including adequately compacting fill to prevent settling.

Materials used for backfilling would be clean, inert, and free from contaminants.

3.2 Regrading/Reshaping

The Lower Pit, Upper Pit and East Pit would be backfilled using overburden or intraburden from open pit mining activities. Backfill material would be regraded to 2.5H:1V slopes or shallower, covered with 6 to 12 inches of growth medium, and track-walked using a dozer or similar equipment to aid in revegetation. Where possible, regrading will attempt to mimic surrounding topography, incorporating benches on long slopes and periodic downslope channels.

Following active mining and pit reclamation, haul roads would be regraded using cut-to-fill methods. In the case of the Upper Pit 6900 Access Road, the stand-alone reclamation grading included with the permit submittal (Tierra Group, 2019) would need to be revised to accommodate the larger Upper Pit. The reclamation grading shown on Figure 1 and Drawing 11 reflects the changes to the Upper Pit 6900 Access Road to accommodate the larger Upper Pit footprint.

The original haul road would be abandoned and reclaimed during the Upper Pit development. Since the Upper Pit 6900 Access Road partial removal cannot occur until the new Upper Pit Access Road (shown on Drawing 06) is constructed, there would likely be two segments of the Upper Pit Access Road operating during the Upper Pit and East Pit development. As the Upper Pit encroaches on the southern half of the Upper Pit 6900 Access Road, the road will be abandoned and reclaimed. Based on construction timing, there may be a short window of time where all three roads on west side of the Upper Pit are actively used. Efforts would be made to reduce this time period and reclaim roads no longer needed as soon as possible.

3.3 Mine Reclamation

Mine reclamation would be ongoing throughout the active mining phase, as overburden and intraburden removed during gypsum mining would be used to backfill the Lower Pit, Upper Pit and East Pit. Backfilling the Lower Pit, Upper Pit and East Pit concurrently with mining activities achieves the following:

- Reduces the level of effort required post-mining;
- Reduces the portion of exposed steep slopes; and
- Provides a storage repository for overburden and intraburden within disturbed areas, thus reducing the overall Mine footprint and surface disturbance.

3.4 Riparian Mitigation

Dry creek beds at the Mine rarely flow (only during isolated major storms). Following cessation of mining activities, culverts (constructed to convey flows under road fills during storm events) would be removed and road fill excavated to reestablish native drainage channels. As necessary, based on the conditions encountered during culvert removal, natural channels would be constructed with rock vortex weirs or isolated sections of riprap lining to prevent erosion.

3.5 Wildlife Habitat Rehabilitation

After cessation of mining activities, disturbed areas would be regraded and revegetated to provide wildlife habitat according to existing permits.

3.6 Growth Medium Handling

Growth medium removed from the native ground surface during East Pit clearing and grubbing activities would be stockpiled west of the Upper Pit (Drawings 06 and 08). An estimated 244,000 cubic yards of growth medium would be removed from the East Pit area, using an assumed depth of 6 inches over the northern two-thirds of the East Pit footprint. All material removed during clearing and grubbing (including volcanic ash, biological soil crust, etc.) will be stockpiled in the location identified on Drawings 06 and 08, although efforts will be made to salvage biological soil crust in shallower areas of the stockpile.

The estimated 244,000 cubic yards of growth medium is not a sufficient volume of material to cover the proposed disturbance (including the Upper Pit expansion, East Pit, and roads) post-reclamation grading with 6 to 12 inches of growth medium. Additional growth medium would be required, using finer-grained inert overburden or intraburden encountered during open pit mining.

This finer-grained material would be mixed with native growth medium (where possible), placed in uncompacted layers (6 to 12 inches deep) over regraded slopes, and track-walked to promote vegetation growth.

Within the current disturbed area, approximately 37 acres have had growth medium applied and been revegetated (see 2023 Annual Report Map). The two known stockpiles of growth medium currently on site are estimated to contain 13,000 CY. The location and quantities contained in the piles is shown on Figure 1.1 in Exhibit L. The site has used different blends of growth medium and intraburden in order to determine the ideal mixture for reclamation. While there is not a sufficient record regarding the percentage of materials used in each blend, successful revegetation has been achieved with as little as 2 inches of growth medium placed and compacted with dozer (heavy and deep grousers). Until further work is completed supporting a variance from the current reclamation plan, American Gypsum proposes planning on 6 inches of growth medium consisting of equal parts topsoil and finer-grained material available on site, placed in uncompacted layers over regraded slopes, and track-walked to promote vegetation growth. The approach to different areas will be documented and monitored for success and adapting the approach to the most successful practices. Mulch or other organic materials may be added to supplement the shortage of topsoil on site.

3.7 Revegetation

Areas disturbed during proposed mining activities would be regraded, track-walked, and hydroseeded according to previous approvals (BLM, 2019) using an approved and certified weed-free seed mix. No seeding would occur until seed tags and or/other official documentation of the correct seed mix are submitted and approved by the BLM (BLM, 2013). Table 3.2 lists the proposed seed mixture, including application rate in pounds per acre (lb/ac).

TABLE 3.2: PROPOSED SEED MIXTURE

Species	Variety	Application Rate (lb/ac)
Bluebunch wheatgrass	CO/UT source preferred or Anatone, Goldar	2.8
Bottlebrush squirreltail	Fish Creek (preferred) or VNS	1.4
Thickspike wheatgrass	Critana (preferred) or Bannock	2.5
Indian ricegrass	White River (preferred) or Paloma or Nezpar	2.5
Sandberg bluegrass	UP CO (preferred) or High Plains or VNS	0.4
Muttongrass	Ruin Canyon (preferred) or VNS	0.3
Yellow rabbitbrush or Rubber rabbitbrush	Chrysothamnus viscidiflorus or Chrysothamnus nauseosus, CU/UT source preferred	0.25
Winterfat	CO/UT source preferred	1.5

Approved fertilizers (BLM, 2016) may be used but are not anticipated based on previous experience.

Revegetation success will be determined and monitored according to the BLM Northwest Colorado District Recommended Outline for Surface Reclamation Planning (BLM, 2013) using current methods (USDA, 2017). An Annual Reclamation Report would be submitted by 31 December each year. If revegetation is not successful or making progress toward meeting successful revegetation criteria by the third growing season, additional action would be taken such as reseeding or adding soil amendments. Historically, there have been areas where revegetation attempts have not been successful, but the reclaimed surface does not erode and

does not allow weed growth. Similar surfaces may be encountered during reclamation activities for the proposed Revision and would be inspected annually for signs of erosion or weed growth. If conditions change, additional revegetation efforts may be implemented.

3.8 Deleterious Materials

Gypsum is processed into wallboard directly at the plant; there are no on-site processing facilities and therefore no processing chemicals or acid-producing, toxic, or deleterious materials used or stored at the Mine.

3.9 Buildings, Structures, and Support Facilities

No new buildings, structures, or support facilities would be constructed as part of the mining activities described herein. All buildings, structures, and support facilities for the mine are to be removed and reclaimed, with waste material being transported off site. Reclamation activities for existing support facilities are included in previous permit applications. Table 3.3 summarizes existing buildings and foundations at the Mine Office and staging area. Following completion of mining and reclamation activities, culverts (Figure 3.1 and 3.2) and the entrance gate (Figure 3.3 and 3.4) will be removed. The entrance gate is a simple fabricated steel gate (pipe and beam construction) and each side (gate is two panels) is the same. In the left side of the entrance, there are two square steel pipe members holding up the gate as well as the mine entrance sign, while the other side has one steel pipe member. The gate panels are approximately 25 feet wide x 5 feet high. Steel pipe supports are 12 feet long and contain 4" pipes.

Additionally, 1,635 ft of 4-foot fence installed north of the Upper Pit will need to be removed. Foundations listed as "cinder block" are stilts for an above-ground structure. All buildings are located on land managed by the BLM.

TABLE 3.3: EXISTING MINE OFFICE/STAGING AREA BUILDINGS/SUPPORT FACILITIES

Building	Description	Foundation Dimensions LxWxH (feet)	Foundation Type
Used Oils Tank	1,000-gallon tank	4.0 × 11.5	Cinder block cribbing
Flammable	Metal storage cabinet	4.0 × 10.5	Railroad ties
Clear Diesel Tank	5,000-gallon tank	8.0 × 16.5	Steel I-beams
Dyed Diesel Tank	10,000-gallon tank	11.0 × 30.0	Steel I-beams
Generator	Multi Quip 70-kw	4.0 × 11.0	Steel I-beams
Main Breaker Box	Electrical panel box	4.5 × 11.0	Steel I-beams
Parts Storage 1	Woodshed	13.0 × 33.0	Cinder block cribbing
Parts Storage 1 (Outer)	Reinforced concrete pad	11.0 × 15.5	6-inch thick reinforced concrete pad (12-inch rebar grid)
Maintenance Shop	Metal frame building with tarp cover	42.0 × 44.0 x 23.0	18-inch thick reinforced concrete pad
Parts Storage 2	Tractor trailer	9.0 × 42.0 x 12.0	N/A
Parts Storage 3	Woodshed	11.5 × 13.0	Wood floor
Mine Office	Single-wide trailer	55.0 x 14.0 x 12.0 × 56.5	Cinder block cribbing
Propane Tank	200-gallon capacity	4.0 × 8.5	Cinder block cribbing

Block Heater Breaker	Electrical panel box with wood frame cover	4.5 × 7.5	6-inch thick reinforced concrete (wire reinforcement)
Truck Shed	Metal Canopy	12 × 16, pad 12 × 30 × 12, shed	6-inch thick reinforced concrete (wire reinforcement)
Culvert 1	Corrugated steel pipe	320 (l) × 5 (d)	N/A
Culvert 2	Corrugated steel pipe	232 (l) × 3 (d)	N/A
Culvert 3	Corrugated steel pipe	142 (l) × 2 (d)	N/A
Culvert 4	Corrugated steel pipe	440 (l) × 5 (d)	N/A
Culvert 5	Corrugated steel pipe	284 (l) × 3 (d)	N/A
Culvert 6	Corrugated steel pipe	252 (l) × 3 (d)	N/A
Culvert 7	Corrugated steel pipe	143 (l) × 3 (d)	N/A
Culvert 8	Corrugated steel pipe	260 (l) × 3 (d)	N/A
Conexes (4)	Mobile Storage Boxes	8 × 40 × 12	N/A
Conex	Mobile Storage Box	8 × 20 × 12	N/A



Figure 3.1. Locations of culverts 1, 2, and 3



Figure 3.2. Locations of culverts 4, 5, 6, 7, and 8



Figure 3.3. Entrance gate to mine site



Figure 3.4. Entrance gate to mine site

3.10 Post-Closure Management

Post-closure activities would consist primarily of monitoring and inspecting reclaimed areas, with minor maintenance as necessary.

Reclaimed slopes would be inspected for signs of geotechnical instability (bulging at toe, cracks at crest, sloughing, etc.) annually for a period of 5 years after reclamation grading is complete. If necessary, slopes would be regraded to eliminate any ponding or potential impacts from surface water or regraded to shallower slopes. Regraded slopes would be revegetated.

Reclaimed slopes would be monitored for revegetation success, for a minimum of 3 years after the last revegetation efforts. If necessary, slopes would be revegetated and monitored for an additional 3 years for revegetation success.

Re-established drainage channels (where culverts were removed) would be inspected for signs of erosional instability (material washing out, erosion gullies, exposed rocks without fine matrix, etc.). Inspections would be performed annually and after heavy rainfall events (greater than 1.5 inches in 24 hours, corresponding to the 10-year, 24-hour event) for a period of 5 years after reclamation grading is complete. If necessary, additional erosion protection such as rock vortex weirs, riprap, or riprap splash pads or aprons would be installed if inspections showed signs of excessive erosion in the re-established drainage channels.