

Exhibit E - Reclamation Plan

6.4.5 EXHIBIT E - Reclamation Plan

- (1) In preparing the Reclamation Plan, the Operator/Applicant should be specific in terms of addressing such items as final grading (including drainage), seeding, fertilizing, revegetation (trees, shrubs, etc.), and topsoiling. Operators/Applicants are encouraged to allow flexibility in their plans by committing themselves to ranges of numbers (e.g., 6"-12" of topsoil) rather than specific figures.
- (2) The Reclamation Plan shall include provisions for, or satisfactory explanation of, all general requirements for the type of reclamation proposed to be implemented by the Operator/Applicant. Reclamation shall be required on all the affected land. The Reclamation Plans shall include:
 - (a) A description of the type(s) of reclamation the Operator/Applicant proposes to achieve in the reclamation of the affected land, why each was chosen, the amount of acreage accorded to each, and a general discussion of methods of reclamation as related to the mechanics of earthmoving;
 - (b) A comparison of the proposed post-mining land use to other land uses in the vicinity and to adopted state and local land use plans and programs. In those instances where the post-mining land use is for industrial, residential, or commercial purposes and such use is not reasonably assured, a plan for revegetation shall be submitted. Appropriate evidence supporting such reasonable assurance shall be submitted;
 - (c) A description of how the Reclamation Plan will be implemented to meet each applicable requirement of Section 3.1;
 - (d) Where applicable, plans for topsoil segregation, preservation, and replacement; for stabilization, compaction, and grading of spoil; and for revegetation. The revegetation plan shall contain a list of the preferred species of grass, legumes, forbs, shrubs or trees to be planted, the method and rates of seeding and planting, the estimated availability of viable seeds in sufficient quantities of the species proposed to be used, and the proposed time of seeding and planting;
 - (e) A plan or schedule indicating how and when reclamation will be implemented. Such plan or schedule shall not be tied to any specific date but shall be tied to implementation or completion of different stages of the mining operation as described in Subparagraph 6.4.4(1)(e). The plan or schedule shall include:
 - (i) An estimate of the periods of time which will be required for the various stages or phases of reclamation;
 - (ii) A description of the size and location of each area to be reclaimed during each phase; and
 - (iii) An outline of the sequence in which each stage or phase of reclamation will be carried out.(The schedule need not be separate and distinct from the Reclamation Plan, but may be incorporated therein.)

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- (f) A description of each of the following:
 - (i) Final grading – specify maximum anticipated slope gradient or expected ranges thereof;
 - (ii) Seeding – specify types, mixtures, quantities, and expected time(s) of seeding and planting;
 - (iii) Fertilization – if applicable, specify types, mixtures, quantities and time of application;
 - (iv) Revegetation - specify types of trees, shrubs, etc., quantities, size and location; and
 - (v) Topsoiling - specify anticipated minimum depth or range of depths for those areas where topsoil will be replaced.

This application provides substantial detail of features by utilizing aerial photography ortho-rectified to approximately 1.0± percent of surveyed accuracy. This highly accurate and detailed portrayal of the mining and reclamation is visible under Exhibit C-1: Existing Conditions Map, Exhibit C-2: - Extraction Map, and, Exhibit F - Reclamation Map. How reclamation will occur over affected lands is further detailed under Exhibit L - Reclamation Costs.

On the original C-2 Extraction Map Exhibit and in the text of Exhibit E-Mining Plan, the area surrounding the residential area was designated as a placeholder for a potential plant and stockpile area, as well as for processing and support facilities. However, ultimately a plant was never built and the area was used primarily for borrow and stockpiles.

Further, on the original Exhibit F-Reclamation Map and in the text of Exhibit E-Reclamation Plan, Tract C, which includes the areas north and east of the residential area, was planned to be reclaimed as a reservoir. However, the proposed reclamation of Tract C has changed. It will be graded, revegetated, and landscaped. The property within the 5-acre residential parcel will be graded and the homeowners will be responsible for landscaping within their lot.

As extraction progresses over planned areas in Tracts A, B, and C; the resulting 1.25H:1V slopes created during extraction will be concurrently modified by pushing the resulting pit bottom with a dozer until the resulting basin slopes conform with Rule 3.1.5(7). Lands above the anticipated final water level of the basins and within 10.0± feet below the anticipated final water level of the basins will be graded to 3H:1V, or flatter. Lands below 10.0± feet from the anticipated final water level of the basins may approach 2H:1V. Naturally occurring slopes may exceed 2H:1V where not otherwise affected by extraction activities and will not be altered as part of reclamation unless necessary to facilitate the reclamation of affected lands.

A Backfill Notice is included with this application as an Addendum at the back of Exhibit E - Reclamation Plan, to facilitate the use of inert fill over portions of the extracted lands to accomplish final end-use potentials reservoir storage and other mixed uses, which may include residential, commercial or industrial structures or uses otherwise approved, now or in the future, by Weld County, Colorado. The extent and nature of the reservoir represents

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the maximum build-out respective of optimal extraction of commercial product and resulting final slopes.

All affected lands remaining above the anticipated high water mark of the finished reservoirs will be capped with a minimum of six (6.0±) inches of soil, as supported by Exhibit I & J – Soils and Vegetation Information and related Exhibit I & J – Table I-1: Soils Volumes. Timing and use of soil is detailed further under Exhibit I & J – Soils and Vegetation Information and Exhibit L – Reclamation Costs. Where compacted lands requiring revegetation exist, those locations will be ripped prior to re-soil application. There are no known areas of compaction at the time of this application which would require such activity; and ripping remains a contingency of the application.

The final land configuration results in three reservoir basins totaling 105.44± surface acres (refer to Exhibit F: Reclamation Map). The balance of unoccupied affected lands remaining above the anticipated final water level will be stabilized where necessary utilizing the seed mixture under Exhibit L - Table L-1: Primary/Preferred Re-vegetation Seed Mixture and Costs. Lands not otherwise occupied will be later developed to the highest possible end-use, and will likely comprise mixed agricultural, light residential, commercial or industrial uses.

An optional seed mixture is provided under Exhibit L - Table L-2: Optional/Default Revegetation Seed Mixture and Costs. This optional mixture provides for the use of other genetic potential and species combinations under failed conditions consistent with the seed mixture utilized over the pre-disturbed lands. A wheatxwheatgrass sterile hybrid will be combined with either applied mixture as a substitute for the use of mulch to aid establishment of newly seeded areas.

All affected lands remaining above the anticipated final water level of the ponds, and not otherwise occupied by existing or planned mixed uses, will be re-vegetated with the approved seed mixture(s) for general agriculture. Since the existing pasture comprised predominantly of introduced species is being replaced with native grasses, the target for release of revegetated lands is based upon the establishment of a stabilizing cover of predominantly native vegetation whose foliar umbrella equals or exceeds 25 percent of the total area of the ground as measured one inch above the native soil on a square meter basis for typical areas of reclaimed cover achieved within five years subsequent to the completion of all extraction activities.

Mixed use(s), other than general agriculture will occur and may include, but are not limited to: the retention of existing structures as desired (e.g., concrete batch plant, asphalt batch plants, recycling facilities and related structures, shop, scale- house/office; and supporting facilities such as fuel depots, parking areas, oil and gas facilities access, etc.) for continued industrial - commercial uses; the creation of unforeseen future structures, and for the use and development of on-site water resources. Since the area of surrounding lands is a mix of these uses, the site end use will retain these potentials.

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The rate of reclamation activity, including grading, soiling and revegetation will follow concurrently with extraction and the respective timetables identified for extraction under Exhibit D - Mining Plan. All timetables are contingent upon market conditions. With extraction activities anticipated to take up to 20 years to complete, reclamation will add an approximately five years to this estimate, bringing the anticipated life of the mine to 25± years, or the year 2037. The actual end point is five (5.0±) years subsequent to the completion of all recoverable materials and successful release of all reclamation required under the approved State of Colorado Division of Reclamation Mining and Safety (DRMS) permit.

A **Backfill Notice** follows this page, as part of this Exhibit. The use of inert fill will facilitate the timely fill of selected portions of the project area, and related reclamation of affected lands and use of related water resources (refer to Exhibit L - Reclamation Costs).

BACKFILL
NOTICE

Inert structural fill may be imported or utilized from existing sources, along with processing fines and reject material to fill portions of Tracts A, B, and C - the extent and location of which will be field determined during final reclamation in order to advance alternative end-use potentials for post extraction development.

The estimated total volume of fill for this location is determined as follows:
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The date of fill activity will commence at onset of approval of this application, and continue for the life of the project, estimated at 30± years. Material will be mixed with on-site processing fines and reject prior to fill to eliminate void spaces, where necessary. The filled portions of a given tract will be re-vegetated with the approved seed mix. All material either extracted on site, or imported to the site, will be handled in such a manner so as to prevent any unauthorized release of pollutants to the surface drainage system. No unauthorized release of pollutants to groundwater shall occur from any materials mined, handled or disposed of within the permit area.

I, Christopher L. Varra, hereby attest that the material to be utilized as inert fill in the area described as the Heintzelman Project, is clean and inert as defined in Rule I.I (20) of the Rules and Regulations.

Christopher L. Varra, President
Varra Companies, Inc.