

# EXHIBIT D

# MINING PLAN

## 1. General Mining Plan

The property boundary has been surveyed on site and the permit area will be surveyed prior to any site disturbance. Map C-2 shows the mining plan.

The gravel zone is approximately 30 feet thick in an alluvial deposit and is overlain by soil and overburden ranging from 4 to 15 feet. In general, the area will be mined by first excavating soil/overburden with front end loaders which will be used to backfill the slopes of mined out areas to a 3H:1V slope as shown on Map F-1. The raw gravel material will then be loaded into a crusher/screen plant where various sizes of product will be made and placed in separate stockpiles. Dozers may also be used to move topsoil/overburden or gravel. Mining activities are expected to occur approximately 3 to 5 months per year, while the processing operations including screening/crushing and washing can occur any time of the year. Three pits will be mined, as shown on Map C-2. The mining of the deposit will occur to the limits shown on Map C-2 and will be mined to a slope no steeper than 0.5H:1V to maximize gravel recovery. Backfilling with overburden will create shallower reclaimed slopes.

United Companies mines using a 0.5H:1V to near vertical slope on active mining faces. Highwall mining will progress to an offset line from the crest line, which marks the mid-slope of the 2H:1V mining slope. This offset serves two purposes. First, the volume of material left in the highwall will allow the crest to be pushed towards the toe with the final mining slope of 2H:1V, which will maximize gravel recovery and additionally will reduce the required backfill material to bring the slopes to a 3H:1V slope. Secondly, this offset provides additional slope safety. A failure would be governed by the internal angle of friction of the material. This would limit the failed slope to an angle of 38 degrees or ~1.3H:1V. This failure would not only stay within the permit area, but it would also stay within the final slope envelope. Such a failure is unlikely given that only the active slope is near vertical.

The maximum total tonnage sold from the site in any one calendar year is expected to be 380,000 tons, though the expected annual average is 90,000 tons. The raw material will be sold as various products: crushed rock, chips, road base, concrete, and asphalt. A breakdown of the product tonnages and mined tonnages can be seen in **Table D-1**. A breakdown of the estimated areas is included in **Table D-2**. Both topsoil and overburden may be sold onsite on an as needed basis, however the operator commits to keeping enough material onsite to be able to reclaim the site. The amounts of topsoil and overburden sold are secondary commodities and are not therefore included in the table below or the annual tonnage sold from the site. Reclaiming the site to a set of lakes ensures that there is more than enough overburden and topsoil to reclaim. The maximum disturbance at any time will be 29.7 acres.

Each pit serves as a sediment pond for the operations that take place in it. Pit dewatering will be conducted using a pump located at least two feet below the operating floor, in order to intercept water before it can pick up sediment from the pit. A gravel berm around the pump will also help ensure that the discharge from pit dewatering is clean. Pit 1's pit pump discharges to a small pond just north of the south end of Pit 1. This pond then discharges to the approved NPDES outfall. All water discharges from the operation will be via this discharge outfall

Pits 2 and 3 will dewater to Pit 1, to make use of the first pit's capacity for sediment storage, and the existing discharge point.

Clean water from dewatering will be used during mining to water trees and other vegetation around the pits that would otherwise be negatively affected by the lowered water table.

The wash plant which will be used onsite will consist of a system to handle sediment from the washing operation. This system will consist of two settling ponds. Water will be pumped from the ponds to the plant. As with the mining operations, the operator will ensure that the lowest depth of the settling ponds does not get any closer than 2' to the Mancos Shale. Removal of settled material will be conducted as necessary and will be dried and used for fill where necessary or placed on the bottom of the pit.

The topsoil and overburden from a new area will be used to reclaim the previous area. This will reduce material moving as well as reduce the maximum area to be reclaimed. Any fines from the crushing/screening operation and removed from the settling pond will also be salvaged and used in the reclamation. A table of expected mining lives for each Pit is included in **Table D-1**. The life of each pit is based on the anticipated annual average tonnage.

No explosives will be used in conjunction with the mining and reclamation operation.

## 2. Mining Timetable

The following timetable is a best estimate of the sequence of operations for the life of the mine after May 2005 and is based on mining and selling 90,000 tons of total product per year:

**Table D-1 Mining Timetable**

<b>Pit</b>	<b>Area</b>		<b>Mining Time</b>		<b>Material Quantity</b>	
<b>1</b>	39.2	acres	9.1	Years	823,000	Tons
<b>2</b>	29.3	acres	23.3	Years	2,100,000	Tons
<b>3</b>	10.8	acres	6.4	Years	577,000	Tons
<b>Total</b>	<b>79.3</b>	<b>acres</b>	<b>38.8</b>	<b>Years</b>	<b>3,500,000</b>	<b>Tons</b>

The mining schedule is planned to minimize disturbance by reclaiming areas as additional mining is undertaken. Note: If large contracts are awarded to the site, production could increase to the permit maximum, thereby curtailing the life of the pit. On the other hand, if contracts are

less than anticipated, the life of the pit could be extended. This table is based on a reasonable projection of average production rates.

### 3. Mine Facilities and Operation

The site will contain the following facilities, it is noted where applicable whether or not the facility is portable and whether it will have any fuel storage associated with it. A summary of equipment and related tanks is shown below.

- A portable asphalt plant with associated tanks
- A portable concrete plant with associated tanks
- Truck scales
- Mine office
- A portable crusher with associated tanks
- A portable wash plant with associated tanks

The following list is the best estimate as to the equipment which will be used onsite throughout the mine life:

- 2-3 Front end loaders
- 1 D-8 Bulldozer
- 1 40G Motor grader
- 1 4000 gallon water truck
- Volvo off road haul trucks (number will depend upon production needs)
- 15 and 24 ton on-road haul trucks (number will depend upon production needs)

All fuel tanks will have secondary containment. Some are double walled, others will be located within bermed or lined areas that have over 110% of the volume of the largest stored tank. All such tanks will be kept at the office area immediately southwest of Pit 1. See Map C-2.

No night mining activity is scheduled for the operation; however portable lighting may be used within the pit from time to time. The portable lights will only be used at the bottom of the pit for the purpose of after hour equipment maintenance and crushing activities within the permitted hours in the winter months while the days are shorter. Portable toilets will be used for employees. All mining structures on site are shown on Map C-2. The portable mining equipment such as loaders, dozers, trucks and excavators will be serviced on an as-needed basis onsite. Upon reclamation, all portable equipment will be removed from the site.

There will be no new fence around the operation, since it is inside private property. No problems are expected with vandalism. It is extremely unlikely that any toxic or acid-producing materials will be encountered during the mining operation since the past mining shows that the material is

alluvial in nature. However, in the event that such materials are encountered, they will be covered with subsoil and topsoil from the stockpiles to the same depths outlined in the reclamation plan and no more mining will occur in this area.

The operator commits to clearly marking the permit boundary with stakes surveyed on site.

The site will use all existing roads to haul the product to its final destination. It is planned that the material may be used to re-surface existing roads, make concrete aggregate or provide new road base for any new roads within an economic distance to the site.

Several hazardous materials will be stored and used onsite throughout the project. These materials include products which are associated with diesel motors, and products associated with asphalt and concrete production.

## 4. Topsoil and Overburden Handling

Topsoil ranges from 6 to 18 inches thick on site, 12 inches is the anticipated average. Up to 20 feet of overburden can be found on site, but most is expected to be around 8 feet thick. Both topsoil and overburden are used on site for reclamation of mined out areas. In the event that United needs to store topsoil or overburden in a berm, it will store this material either within the foot print of the current pit, or in the designated topsoil stockpile storage areas identified on Map C-2. Any topsoil or overburden stockpile that is to be in place longer than 180 days will be vegetated to prevent wind erosion. Anticipated topsoil and overburden quantities are shown in Table D-2. These are estimates based on site drilling and existing operations.

**Table D-2 Estimated Topsoil and Overburden Quantities**

Pit	Overburden Quantity	Topsoil Quantity
1	330,400 CY	41,300 CY
2	139,800 CY	17,400 CY
3	563,400 CY	70,400 CY
Total	1,033,600 CY	129,100 CY

## 5. Water Information, Rights and Augmentation

All water rights issues such as availability of water for this operation, consumption rates, dust control, etc. is presented in Exhibit G - Water Information.

## 6. Schedule of Operations

Mining operations will only occur as dictated by demand up to the maximum rates described earlier in the mine plan. Mining, screening and processing will be conducted with portable equipment at various times of the year. Product will be sold from this activity throughout the year, although little is expected to be sold in winter months. The operator will not have night gravel mining operations, although minor truck activity or repairs may occur after hours. Mining, processing and trucking will take place no more than 13 hours per day, between the hours of 6 am and 7 pm, 6 days per week.

## 7. Delta County Impacts and Environmental Impacts

The impacts to Delta County will be limited. No dust is expected from the operation due to the pit being wet and roads being watered as needed. Noise and traffic will remain the same as it has been in the past, as this amendment is merely an expansion of the resource available for mining. The operation has been in place for many years, so no new impacts to county services will occur.

# EXHIBIT E

# RECLAMATION PLAN

## 1. General Reclamation Plan

The total disturbed area to be reclaimed under this permit is 83.8 acres. The post-mining land use for the Tri County Pit will be lakes, with wetland fringes, and dryland upper areas. The rough breakdown of these areas can be seen below:

**Table E-1 Reclaimed Areas**

<b>Post Mine Land Use</b>	<b>Area (acres)</b>
<b>Dry rangeland</b>	16.87
<b>Wetland fringe</b>	3.60
<b>Lakes</b>	70.75
<b>Roads</b>	2.75
<b>Undisturbed</b>	98.13
<b>Total Permit</b>	192.10

As described in the mining plan, reclamation will occur concurrently with mining. Topsoil and overburden from the current mining phase will be used to reclaim the mined out areas. Topsoil will be replaced on all graded areas except those areas that are 10 feet below expected water level. Topsoil will be replaced to an average depth of 12 inches. By doing this the distance that the topsoil and overburden will have to be transported as well as the amount of material which will have to be rehandled will be minimized. Additionally, the acreage which is unreclaimed will be minimized, which will make the worst case reclamation smaller and thus, the bond will be smaller.

A dividing berm will be built with excess overburden in Pit 1. This berm is to create two lakes in Pit 1. It can be seen on Map F-1.

All reclamation slopes will be 3H:1V or shallower. No more than 3000' of 2H:1V highwall will remain unbackfilled at any time. No more than 1000-ft of active vertical highwall will be present at any time.

An internal road will be left in place for the property owner to access and use the site following mining. The currently existing access to the property will be left in place for the landowners use as well.

## 2. Reclamation Timetable

The time for reclamation is shown below. Exhibit L: Reclamation Costs describes the worst case bond scenario.

**Table E-2 Reclamation Timetable**

Task	Description	Reclamation Time	
1	Mine pit 1.	9.1	Years
2	Mine remaining site. Reclaim concurrently.	30	Years
3	Backfill and reclaim all interpit connections.	0.5	Years
4	Final pit reclamation. Reclaim office area and remove all equipment. Revegetation monitoring.	2.5	Years
Total		42.1	Years

## 3. Revegetation Plan

For both the dryland and wetland areas, the soil will be disced to loosen the soil. Due to the mild grade, seed can be drilled in both regions. The dryland areas will be seeded with the NRCS recommended seed mix. Certified weed free mulch will be crimped into the surface at 2000 lbs per acre. The wetlands will be seeded with a specially designed mix. Fertilizer may be added as determined by a soil test at the time of seeding. Heavy furrows will be left in the tilled topsoil to provide moisture concentration and shade areas in order to promote better conditions for successful vegetation establishment. Seeding will take place the fall after which a slope has been retopsoiled. Slopes will be regraded, backfilled, and retopsoiled as soon as they are able to be reclaimed.

### 3.1. Dryland Seed Mix

<u>Species</u>	<u>Pounds of pure live seed per acre</u>
Four Wing Saltbush	0.25
Rabbitbrush	0.25
Skunkbush Sumac	0.25
Yellow Sweetclover	1.5
Fairway Wheatgrass	1.5
Thickspike Wheatgrass	3
Streambank Wheatgrass	3
<b>Total</b>	<b>9.8</b>

### 3.2. Wetland Seed Mix

<u>Species</u>	<u>Pounds of pure live seed per acre</u>
Slender wheatgrass	3
Basin Wildrye	1.5
Inland Saltgrass	1
Alkali Sacaton	1
Timothy	1
Redtop grass	1
Carex sedge	1
Common Reedgrass	0.5
Canadian Reedgrass	0.5
<b>Total</b>	<b>10.5</b>

## 4. Post-Reclamation Site Drainage

Map F-1 shows arrows indicating the approximate direction of drainage throughout the pit. The final reclamation will be graded so that drainage water will go in a similar path to the original path. The creation of lakes will reduce the amount of surface runoff that leaves the site.



## 5. Weed Control

Measures will be employed for the control of any noxious weed species. The objective of this weed management plan is to control undesirable plants on the Tri County Pit property. Plants identified through the Colorado Noxious Weed Act (C.R.S. 35-5.5) and the Delta County Noxious Weed List as undesirable and designated for management within the county will be removed. These plants identified as noxious weeds will be managed by control measures. A Weed Control Plan will be utilized as follows:

- 1) Each April, a weed survey will be taken of the permit area.
- 2) If any patches or plants have been identified, they will be sprayed by backpack sprayer or 4-wheeler using chemicals approved for use by the weed control staff of Delta County.
- 3) After reclamation, weed surveys and spraying will continue until the perennial cover and production of the site have met DRMS requirements and bond release has been obtained.

The Division and Delta County staff will be consulted regarding any weed infestation areas and any control measures prior to their initiation. The plan does not contemplate total weed removal on the property. Past experience has shown that some initial weed cover in the first year following the retopsoiling is beneficial to the reclamation effort in rangeland site. Weeds tend to provide shade for new grasses, are a means of holding snow on the seedbed longer and protecting it from wind and water erosion until the planted species have taken hold.

During all phases of the mining operation the permit area will be monitored closely every year, through which the operator may determine if any additional weeds have grown. If any new species of weeds are found, Delta County and the Division will be consulted in order to formulate the best plan for the new infestation.

## 6. Revegetation Success Criteria

### 6.1. Wetland Areas

The wetland fringe areas will be deemed adequate when a diverse community of wetlands is established on the fringe areas of the lake and all of the conditions of Rule 3.1.10 have been met.

## 6.2. Dry Rangeland Areas

These areas will be deemed adequate when the dryland vegetation has been established in order to control erosion and noxious weeds are not present in any significant amounts and all of the conditions of Rule 3.1.10 have been met.

## 7. Monitoring Reclamation Success

Monitoring the reclamation on an ongoing basis will allow minor revisions to assure successful reclamation. The operator plans to use the local NRCS office to assist in determining the ability of the reclaimed land to control erosion. If minor changes or modifications are needed to the seeding and reclamation plan, revision plans will be submitted to the Division as required. It is hoped that the Division will provide assistance in evaluating the success of the ongoing reclamation process. All areas disturbed and reclaimed and any other important items regarding the reclamation will be submitted in the annual reports to the Division

# EXHIBIT L

## WORST CASE RECLAMATION SCENARIO

The worst case reclamation scenario for the Tri County Pit is at the end of mining of Pit 2, when the largest amount of dewatering would be necessary. At this stage, both the northern section of Pit 1 and Pit 2 will require dewatering. The steps of reclamation at this point are outline below:

### Pit 1 Reclamation

- Pit 1 (north) and Pit 2 dewatering = 450 acre-ft
- Highwall backfilling = 2H:1V to 3H:1V slope for 3000-ft by 20-ft tall and vertical to 3H:1V slope for 1000-ft by 20-ft tall (Total = 105,000 CY).
- Backfill Pit 1 to Pit 2 connection = 57,900 CY
- Topsoiling of all disturbed areas outside of lakes to a depth of 12 inches = 29.7 acres.
- Discing of topsoil to a depth of 12-inches over all topsoiled areas.
- Drill seeding of wetland areas with wetland seed mix. Drill seeding with dryland seed mix in all other seed areas. Assuming a 25% seed failure rate, applied by increasing the seeding area to 125% of the topsoiled area.
- Facility removal (office trailer, truck scale, etc.)
- Mulching and crimping of mulch over seeding dryland areas.
- Two-years of weed control management.

**Table L-1 Reclamation Task and Cost Estimate**

Description	Material Quantity	Unit	Unit Cost	Cost
Dewatering largest groundwater volume to complete backfilling, topsoiling, and seeding.	450	Acre-ft	\$105	\$47,250
Highwall backfilling from mining to final condition and backfilling Pit 1 to Pit 3 connection.	162,900	CY	\$1.50	\$244,350
Facilities removal.	1	Unit	\$15700	\$15,700
Topsoiling to 12 inches deep the maximum disturbance area of 29.7 acres.	47,851	CY	\$1.50	\$71,777
Discing of topsoil to a depth of 12 inches over 29.7 acres.	29.7	acres	\$105	\$3,119

Description	Material Quantity	Unit	Unit Cost	Cost
Seeding of 7.8-acre dryland area. (25% reseed rate = 9.8 acres)	9.8	acres	\$400	\$3,920
Mulching and crimping of mulch over 7.8-acre dryland area.	7.8	acres	\$850	\$6,630
Seeding of 1.5-acre wetland area. (25% reseed rate = 1.9 acres)	1.9	acres	\$650	\$1,235
Weed control management for two years on 29.7 acres	29.7	acres	\$220	\$6,534
Subtotal				\$400,515
DRMS cost (28%)				\$112,144
<b>Total Bond Amount</b>				<b>\$512,659</b>