

November 3, 2023

Colorado Division of Reclamation, Mining, and Safety
1313 Sherman St, Rm 215
Denver, CO 80203

Delivered Via Email

**RE: Anderson Pit, File No. M-2005-021,
Technical Revision No. 2 (TR-02) Application, Preliminary Adequacy Review**

Robert Zuber,

Please accept this response on behalf of United Companies for the second adequacy review letter dated September 29, 2023 as well as the additional items included in the letter dated November 1, 2023. In addition, United Companies would like to extend the decision due date by 30 days to December 8, 2023. The outstanding adequacy items are addressed below.

Second Adequacy Items

1. *Irrigation ditches that pass through the site and those within 200 feet of the affected area must be shown on Map C-2 along with the owner's name (per Rule 6.4.3).*
- ***The ditch that runs through the middle of the site is still not shown on the Mining Plan map, C-2. Please add this or explain why it is not on the map.***

The ditch that runs through the center of the property in the east-west direction is the Fredlund Ditch, which will be rerouted prior to mining in the south of the property. This reroute was mistaken as complete in previous maps, but has been updated to reflect that it will be rerouted. All other ditches are irrigation ditches owned by the landowner (Oldcastle SW Group) and will be removed during mining.

2. *Structure agreements must be obtained for irrigation ditches within 200 feet of the affected area, or (if the agreements cannot be obtained) an engineering analysis must show that the structures will not be harmed by the mining operations (per Rule 6.4.19). Please provide a) these agreements or proof that an effort was made to obtain agreements and an engineering analysis.*
- ***Please explain the ownership of the ditch that runs through the center of the site and if an agreement is in place for this structure.***

Please refer to the response above. A structure agreement is already in place for the Fredlund Ditch and was provided with the previous adequacy response.

3. *Exhibits D and E must state if the settling ponds are designated as permanent or if they will be reclaimed. Also, please provide the approximate depths of these ponds.*
- ***No additional response required.***
4. *Per Rule 6.4.13, Oldcastle SW Group, Inc. must obtain a well permit for the operation from the State Engineer's Office. Please submit this to the Division. If this has already been obtained, please provide documentation.*
- ***No additional response required.***

Additional Items

- *Why is the depth to spread topsoil in your recent Exhibit L only two inches? Can you point to approval of this by the Division?*

This was incorrectly identified from information in the original permit in 2005. This has been updated to 12 inches of topsoil replacement in Exhibit D, E, and L to be consistent with the most recent amendment and bond calculation.

- *What structures will need to be demolished? Let me know which of them are portable and could be sold (and thus no cost is needed in the RCE). Let me know which are not portable and will have a cost associated with them, and which will be permanent. Also, provide approximate sizes for any foundations that will be demolished.*

The structures have not changed since the bond recalculation completed in 2013. All structures are portable except for the concrete plant, which has been clarified in Exhibit D. More details of this structure are provided in the updated Exhibit L.

Additionally, the entire bond has been recalculated to better reflect the 2013 calculation and reclamation activities.

- *Can you list the fuel tanks onsite with volumes and sizes of secondary containment structures?*

All fuel tanks with secondary containment are portable. Secondary containment is at a minimum 110% larger than the tank capacity itself, but may vary. The 10,000 gallon fuel tank at the site has been added to list of structures in Exhibit D, however, should not impact the bond calculation.

Please feel free to contact me with any questions.

Regards,



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Attachments

- Exhibit D
- Exhibit E
- Exhibit L
- Map C-2

Mining Plan

Exhibit D

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 40 feet thick in an alluvial deposit. It is overlain by 12 inches of topsoil and overburden ranging from 4 to 15 feet thick. In general, the area will be mined by first excavating soil/overburden with front end loaders, dozers, or other appropriate earth moving equipment. This material will be stored for use in reclamation, to backfill slopes, and to build the peninsulas and potential island. The topsoil and overburden will be stockpiled separately on the site. Any stockpiles to be in place longer than 90 days will be seeded and vegetated to prevent erosion. The reclamation plan depicting how these materials will be used is shown on Map F-1. Due to the abundance of overburden at the Anderson property, it is feasible to build the peninsulas and island with this excess material. It should be noted that the peninsula configuration depicted on Map F-1 is approximate and may vary when executed. Exhibit E addresses more on reclamation and the construction of these peninsulas.

Resource extraction activities are expected to occur for 3 to 5 months per typical year. However, processing of materials will occur year-round. Processing activities include crushing, screening, washing, and producing concrete and asphalt. Mining will proceed roughly from north to south, as the order shown on Map C-2. The order of mining and size of new mining areas may vary from what is depicted.

Mining will occur to the limits shown on Map C-2 with appropriate setbacks from structures and easements. Disturbance boundaries will be staked prior to mining in new areas. The total disturbance will be 224.5 acres. Mining will proceed to 2 feet above the bedrock, and will have an approximate active slope of 0.5H:1V to near vertical to maximize gravel recovery. Highwall mining at this slope will progress to the mid-slope point of the final mining slopes shown on Map C-2. This will allow for the highwall to be knocked down via dozer to a 2H:1V slope. The highwall will then be backfilled with excess overburden to the reclaimed 3H:1V slopes, and peninsulas will be constructed. Slope details are shown on Map C-3.

The maximum permitted tonnage to be sold from the Anderson Pit is 378,750 tons. However, typical annual production is estimated to be around 252,500 tons. The raw aggregates will be sold for use as construction materials such as concrete, asphalt, road base, etc. The anticipated production breakdown is shown below:

<u>Product</u>	<u>Tons Sold</u>	<u>% Reject Rate</u>	<u>Tons Mined</u>
Road Base	200,000	0%	200,000
Concrete	37,500	10%	41,667

Asphalt	15,000	40%	25,000
Total	252,500	5%	266,667

A temporary sediment pond will be present in the northwest corner of the permit area to use for dewatering. This is shown in Map C-2, and has already been constructed as of September 2023. The sediment pond will be used for pit dewatering purposes as mining will take place below the water table. Water from the pit bottom will be pumped to the sediment pond for sediment settling. The water will either infiltrate or evaporate prior to release after 72 hours to the permitted discharge point. This pond will be removed during reclamation. The discharge point diverts water through a 20" culvert under the county road to a small ditch. The pit dewatering system is shown on Map C-2 and has already been constructed as of September 2023. More information on hydrology is located in the existing permit's Exhibit G, and should be unchanged from this revision. The active pit will serve as the sediment pond in the case of a large storm event.

The site is accessed by an easement from 1800 Road. This road will be retained after reclamation for the easement owner, Teddy Graff. Therefore, this road does not need to be included in the permit area. Documentation of this agreement has already been submitted to the Division in the existing permit. The access is shown on Map C-2.

No toxic or acid-producing materials will be encountered by mining. If any are encountered, it will be covered with overburden and/or topsoil, and the mining plan will be adjusted to avoid these materials.

2. Mining Timetable

Mining operations at the Anderson Pit are anticipated to take 36 years since the start of mining in May 2005. As of 2023, there is an estimated 18 year mine life remaining. This may vary based on the rate of mining which is dependent on demand for the aggregate products. The permitted production level is 378,750, however, actual production levels will tend to be around 252,500 tons per year.

Table D-1 - Mining Timetable shows the mining sequence and the amount of time for each step.

Table D-1 - Mining Timetable

Description	Time Required
Initial stripping of new mining areas.	1 month (repeated throughout the mine life as new mining areas are opened)
Mine and reclaim pit according to approved plans. Reclamation occurs as mining has reached its maximum extents in an area.	18 years
Total	18 years

2.1. Equipment Mine Facilities and Operation

The Anderson Pit will contain the following facilities and equipment. Approximate quantities of equipment are provided but are subject to change as needed to complete mining and reclamation.

Facilities:

- Portable asphalt plant – 14,000 gallon diesel tank
- Concrete batch plant with foundation
- Truck scales
- Mine office (portable)
- Portable crusher – 8,000 gallon diesel tank
- Portable wash plant – 3,000 gallon diesel tank
- Fuel farm – 10,000 gallon diesel tank
 - o Secondary containment of at least 110% tank capacity
 - o Portable
- Portable QC lab
- Truck shop for repairs and maintenance

Equipment:

- 2-3 Front end loaders
- Bulldozer
- Motor grader
- Water truck
- 2-3 Off road haul trucks
- 2-3 On road haul trucks

Only a loader and scale will be located on site full time, as most of the year the pit will not need to be running at full production. Equipment needed to produce material during the construction season will all be portable, and only present for the time needed to satisfy demands at the time. United will provide portable toilets and bottled water to employees on site during operations.

2.2. Lighting

No night mining will take place at the Anderson Pit. However, portable lighting may be used for emergency equipment repairs. All lights will be downcast.

2.3. Blasting

No blasting will take place at the Anderson Pit.

3. Topsoil and Overburden Handling

Topsoil and overburden at the site are estimated to be 12 inches and 4-15 feet thick respectively. All topsoil and overburden will be stripped prior to mining and stored in various stockpiles, berms, or used for reclamation. These materials will be stored separately. The berms and typical stockpiles are shown on Map C-2. All stockpiles will be at a slope no greater than 2H:1V. Any long-term stockpiles will be vegetated to prevent erosion. There is more than enough overburden and topsoil to meet reclamation needs. In areas where mining is complete, reclamation work on creating the peninsulas will be undertaken using the stored overburden.

4. Water Handling

An existing ditch that used to run through the property has been rerouted in accordance with previous permits. Water will be used in processing and dust control. Water for these consumptive uses is procured through very senior water rights from the Bona Fide Ditch. These rights allow for 263 acre-feet of water per month at 65 cfs. This amount of water is more than adequate for the consumptive uses in processing and dust control, as well as for augmentation water for evaporative losses from the pit. Water handling in general is unchanged from this revision.

5. Delta County Impacts and Environmental Impacts

The Delta County land use permit has been approved by the Delta County Board of County Commissioners. This permit addresses the impacts the operation will have on the local citizenry.

1. General Reclamation Plan

The total disturbed area to be reclaimed under this permit is 224.5 acres. The post-mining land use for the entire permit area will be wetlands, a groundwater pond, residential on the peninsulas, and dry rangeland on the flat areas around the perimeter of the lake between residential areas. Map F-1 shows the post-mining topography and identifies the various areas of reclamation.

Reclamation will occur concurrently with mining. Topsoil and overburden from the current mining phase will be used to reclaim any areas where mining has been completed. It will also be used to create the peninsulas as shown on Map F-1. Topsoil will be replaced on all graded areas except those that are greater than 10 feet below the anticipated groundwater pond water level. Concurrent reclamation will reduce the overall disturbance and reduce the transportation and rehandling of topsoil and overburden for storage or reclamation.

Reclamation will consist of backfilling and grading the mining slopes from a 2H:1V to 3H:1V slope using overburden as backfill material. The slopes will be compacted to prevent erosion and for stabilization purposes. No more than 1,000 feet of active mining highwall will exist at any time without being regraded to reclamation slopes. Peninsulas will also be constructed in a manner similar to shown on Map F-1 using excess overburden. All disturbed areas will be retopsoiled with 12 inches of topsoil, ripped, mulched, and seeded for revegetation. All berms and stockpiles will be flattened and their materials dispersed throughout the site. All structures will be removed from the site, all being portable and not requiring demolition. The sediment pond will be filled, graded, and revegetated.

The peninsulas shown on Map F-1 depict what the typical peninsula configuration would be for reclamation. The actual configuration of these peninsulas may vary slightly. In order to meet the standards for these peninsulas to be used as residential lots, the fill material will be documented and certified to a compaction of 95%. This will ensure that no settling occurs in the filled material upon completion.

Map F-1 shows the final contours and reclamation planned for the site. The access road will be left intact for the landowners' use, and will not require reclamation.

Table E-1 shows the volumes needed to reclaim as well as the estimated volumes of topsoil and overburden that will be removed prior to mining.

Table E-1 – Reclamation Volumes

<u>Phase</u>	<u>Topsoil Stripped (CY)</u>	<u>Overburden Stripped (CY)</u>	<u>Topsoil Required (CY)</u>	<u>Overburden Backfill Required (CY)</u>
Total Disturbance – 224.5	60,370	3,440,800	30,720	374,210

* Backfill requirements calculated as minimum amount to fill slopes from 2H:1V to 3H:1V. Excess will be used to create peninsulas.

2. Topsoil Replacement

Topsoil will be replaced in a single 12-inch lift across all disturbed areas at the Anderson Pit. It will be directly placed via loaders and haul trucks. This will follow the regrading and backfilling of slopes and will be part of the concurrent reclamation. All areas will be disced following the topsoil replacement to aid in root penetration.

3. Site Access

The site access will remain in place after reclamation for use by the landowner. No reclamation work is required for the access road.

4. Reclamation Timetable

The sequence and timing of reclamation activity can be seen in **Error! Reference source not found.** below. This schedule is dependent on the rate of mining, which will fluctuate with market demands. The operator will reclaim areas of the site as mining moves on to ensure limited disturbance. Some areas of the site have already been partially reclaimed.

Table E-1 – Reclamation Timetable

Description	Time Required
Develop and mine remaining mining areas, reclaiming concurrently.	18 years
Backfill, topsoil, and revegetate remainder of the site that is unreclaimed	1 year
Vegetation monitoring	2 years
Total	21 years

5. 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 into both regions. The drylands 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. It should be noted that the flat bench areas seeded with Dryland Seed Mix will be utilized as residential sites and not dry rangeland.

The seed mixes are as follows.

5.1. Dryland Seed Mix

<u>Species</u>	<u>Pounds of pure live seed per acre (drilled)</u>
Four Wind Saltbush	0.25
Rabbitbrush	0.25
Skunkbush Sumac	0.25
Yellow Sweetclover	1.5
Fairway Wheatgrass	1.5
Thickspike Wheatgrass	3.0
Streambank Wheatgrass	3.0
Total	9.75

5.2. Wetland Seed Mix

<u>Species</u>	<u>Pounds of pure live seed per acre (drilled)</u>
Slender Wheatgrass	3.0
Basin Wildrye	1.5
Inland Saltgrass	1.0
Alkali Sacaton	1.0
Timothy	1.0
Redtop Grass	1.0
Carex Sedge	1.0
Common Reedgrass	0.5
Canadian Reedgrass	0.5
Total	10.5

Broadcast seeding will be done at double the drill rate.

6. Post-Reclamation Site Drainage

Map C-2 and F-1 show drainage arrows which indicate the direction of surface water drainage throughout the site during and after mining. In general, the site will drain internally to the groundwater pond.

7. Revegetation Success Criteria

Revegetation will be deemed adequate when erosion is controlled, the vegetation cover matches neighboring rangeland areas, and when it is considered satisfactory according to Division standards. This will be monitored in the two years following the completion of reclamation.

8. Weed Control

This weed control plan is unchanged from the existing DRMS permit:

United Companies will take measures to ensure that the land affected by the mining operation is free of weed infestations. Currently there are several problematic weeds which are present within the general area where the permit will apply identified by Delta County Weed Control. The two species are Russian knapweed and whitetop. Any infestations of these weeds will be removed prior to mining and will be monitored after reclamation has occurred.

During all phases of the mining operation the permit area will be monitored closely every year which the permit is active to determine if there are any additional weeds invading the area. Weed control will again be initiated if the problem becomes serious. The Division will be consulted regarding any additional weed infestation area and any control measures prior to their initiation. If infestations of similar weeds as are present now is experienced the current weed control plan will continue to be used. If any new species of weeds are found Delta County Weed Control Authority and the Division will be consulted in order to formulate the best plan for the new infestation. The plan does not contemplate total weed removal on the property. Past experience shows that some initial weed cover in the first year following topsoiling is beneficial to the reclamation effort. Weeds tend to provide shade for new grasses as a means of holding snow on the seedbed longer and protect it from wind and water erosion until the planted species have taken hold.

9. Monitoring Reclamation Success

Monitoring reclamation on an ongoing basis will allow minor revisions to assure efficient and 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 ongoing reclamation process. All areas disturbed and reclaimed and any other important items regarding reclamation will be submitted in the annual reports to the Division. Delta County and the Division of Parks and Wildlife will also be consulted on the progress of the reclamation.

Reclamation Costs

Exhibit L

Reclamation will be completed concurrently with the progression of mining. No more than 1000 feet of active highwall at a near vertical slope will exist at a time. These active faces will be knocked down to a 2H:1V slope as soon as feasible after mining has reached its final extents. The peninsulas and potential island will be created with excess overburden throughout the life of the mine. Once the pit nears completion, there will be no more than 1000 feet of 2H:1V mining slopes. The remaining areas where mining is complete will be reclaimed: backfill to 3H:1V, topsoil, grade, rip and seed. Therefore, the worst-case reclamation scenario will be once the full pit is mined, where 1000 feet of 2H:1V mining slopes with no reclamation work exist. The processing area will also require reclamation at this point. The processing area and immediately surrounding slopes are assumed to require reclamation (from 2H:1V slopes).

Other reclamation work will include pit dewatering to reclaim the remaining slopes, flattening berms and stockpiles, filling in the sump, and topsoiling and seeding all disturbances outside of the pit. All the equipment will be removed from the site (all are portable except for the concrete plant). Vegetation monitoring will then occur for 2 years after all reclamation work is complete.

Topsoil and overburden will be directly placed via trucks and loaders. Berms will be flattened and ponds will be filled using dozers. Components, areas, and volumes that make up the worst-case reclamation scenario in each phase are described below:

Anderson Pit Reclamation – 224.5 acres of disturbance

1. Backfill and grade 1000 feet of highwall (approx. 38 ft tall) to the final contours
 - a. 26,740 CY of backfill directly placed via loader and haul truck from stockpiled overburden
 - b. Dewater pit w/ 12' groundwater
2. Place topsoil across all areas that are not already reclaimed (processing area and surrounding slopes)
 - a. Place topsoil on 25.4 acres at 12 inches deep = 40,980 CY
3. Remove scale, office, plants, and other facilities/equipment
 - a. All structures are portable except for concrete plant foundation
 - b. Demolish concrete plant foundation 60' x 90' x 6" (item breakdown in Table L-2)
4. Seed and mulch entire topsoiled area as rangeland or wetland fringe
 - a. 25.4 acres total to be seeded, assume 25% seed failure (applied to area in calculating estimated costs)

Table L-1 – Reclamation Cost Estimate Phase 1

Activity Description	Quantity		Unit Cost (\$)	Cost (\$)
Backfill and grade 1000' of highwall (38 ft. tall)	26,740	CY	\$0.55	\$14,710
Pit dewatering of approx. 133.9 acre lake @ 12 feet deep	1610	Acre-ft	\$94.50	\$152,145
Remove all portable structures	1		\$1,000.00	\$1,000
Demolish concrete plant and foundation (see table below)	1		\$114,140	\$114,140
Topsoil and grade all disturbed areas to be revegetated. (25.4 acres @ 12")	40,980	CY	\$0.33	\$13,520
Ripping all topsoiled areas.	25.4	acres	\$565.00	\$39,620
Revegetate disturbances as rangeland (seeding, mulching) Estimated 25% failure rate applied to acreage	23.6	acres	\$1,560	\$36,820
Revegetate disturbances as wetland fringe (seeding, mulching) Estimated 25% failure rate applied to acreage	8.1	acres	\$1,960	\$15,880
Equipment mobilization	1		\$905	\$905
Totals				\$388,740.00
DRMS Costs (28% x direct costs)				\$108,847.20
Total Bond Amount				\$497,587.20

Table L-2 – Concrete Plant Demolition Cost Estimate

Item	Dimensions	Quantity	Unit	Unit Cost	Cost
Concrete plant slab	60' x 90' x 6"	5,400	SF	\$1.97	\$10,640
Concrete plant building stemwall	1' x 1' x 304'	304	LF	\$7.88	\$2,400
Concrete plant foundation pads	5 @ 10' x 1.5' x 4'	200	SF	\$3.94	\$790
Truck scale foundation	700 SF	700	SF	\$2.62	\$1,830
Fuel storage slab	24' x 36'	864	SF	\$1.97	\$1,700
Concrete plant building, machinery in half of bldg	(60' x 90' x 25').5	67,500	CF	\$1.22	\$82,350
Concrete plant feeder conveyor	50'	50	LF	\$50.08	\$2,500
Section of sediment pond discharge pipe	20" dia x 85'	85	LF	\$10.93	\$930
Disposal fees for steel	1000 CY	1,000	CY	\$11.00	\$11,000
TOTAL					\$114,140

LEGEND

BUILDINGS AND RELATED STRUCTURES

Building

Tanks

Fence

LAND SURVEYS

Public Land Survey System

Range or Township line

Range or Township labels

Section line

Section numbers

Mining claim or property boundary

ROADS AND RELATED FEATURES

Highway

Light duty road, paved

Light duty road, gravel

Gate on road

Railroad

RIVERS, LAKES, SHORELINES, AND CANALS

Perennial stream/ditch

Perennial river

Perennial lake/pond

Flood Plain

Underground Water Line

Drainage Direction

VEGETATION & SOILS

Agriculture

Existing Trees

NWI Wetlands

TRANSMISSION LINES AND PIPELINES

Utility line, pole, tower

Utility line, buried

MINING FEATURES

DRMS Permit Boundary

Structures

Mining Stages

Berm/window

BASELINE CONTOURS

Index

Approximate of Indefinite

Intermediate

Approximate of Indefinite

Supplementary

POST-MINING CONTOURS

Index

Approximate of Indefinite

Intermediate

Approximate of Indefinite

Dump

