



COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Argo Gravel Pit	MINE/PROSPECTING ID#: M-1978-267	MINERAL: Sand and Gravel	COUNTY: Otero
INSPECTION TYPE: Monitoring	INSPECTOR(S): Tyler V. O'Donnell	INSP. DATE: February 28, 2014	INSP. TIME: 11:15
OPERATOR: Otero County	OPERATOR REPRESENTATIVE: Lex Nicols and Darren Garcia	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: N/A
DATE OF COMPLAINT: N/A	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: <i>Tyler O'Donnell</i>	SIGNATURE DATE: May 1, 2014

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>NA</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>NA</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>Y</u>	(SB) COMPLETE INSP---- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>NA</u>	(ST) STIPULATIONS----- <u>NA</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

OBSERVATIONS

This was a courtesy inspection conducted by Tyler O'Donnell of the Division of Reclamation, Mining and Safety (Division/DRMS) at the request of Otero County. Otero County, the Operator, was represented by Lex Nichols, and Darren Garcia during the inspection. The Operator requested that the Division inspect the site, the Operator wanted to discuss final reclamation. The Argo Gravel Pit is located in Otero County, approximately 2.5 miles southwest of Manzanola Colorado. The Argo Gravel Pit is a 229-acre 112c reclamation permit. The primary commodities mined at the site were sand and gravel. The approved post-mining land use is rangeland. The site is currently surrounded by rangeland. No problems or violations were noted during the inspection.

The sky was clear. The ground was dry. No equipment present at the time of the inspection. The last activity occurred in 2008, according to the most recent annual report. The Operator's representative indicated that the site is no longer being used by the county and their intentions were to begin final reclamation within the next years.

Backfilling and Grading:

Portions of the site appeared to have been backfilled and graded, creating a stable land surface. The backfilled and graded slopes appeared to have been graded to approximately 3H:1V or flatter. Other portions of the pit appeared to be at a slope of 2H:1V the Operator will need to grade all slopes to 3H:1V or flatter.

Hydrologic Balance:

The pit excavation is located on a gravelly terrace just south of the Arkansas River. The bottom of the pit was dry. The pit daylights to the south and the north. There appeared to be no significant impacts to the prevailing hydrologic balance.

Gen. Compliance With Mine Plan:

The approved reclamation plan calls for slopes to be graded to 3H:1V. The reclamation plan also specifies topsoil is to be replaced at a depth of 6 inches and seeding is to be conducted with a mixture of grasses. The operator will also apply either manure or mulch per the approved reclamation plan. Attached to this inspection report is the approved reclamation plan. All mining activity appeared to be within the marked permit boundaries.

Roads:

The access road was well maintained.

Revegetation:

There was some plant growth on the stockpiles and very little vegetation growth elsewhere in the disturbed area. The growth appeared to be volunteer vegetation. There were a few annual weeds.

Once vegetation has become established on the reclaimed slopes and meets the requirements of Rule 3.1.10(1) the site could be released. Rule 3.1.10(1) reads "Land shall be revegetated in such a way as to establish a diverse, effective, and long lasting vegetative cover that is capable of self regeneration without continued dependence on irrigation, soil amendments or fertilizer, and is at least equal in extent of cover to the natural vegetation of the surrounding area." No problems or violations were noted during the inspection.

Erosion/Sedimentation:

There were rills and gullies located in the south eastern part of the permit site. When the Operator conducts final reclamation the features will be repaired. At this time the erosion features observed will not be cited as a problem.

Signs and Markers:

A mine I.D. sign was located at the entrance to the mine site. The permit boundary was clearly marked by t-posts.

Topsoil:

There appeared to be an adequate amount of topsoil to reclaim the site.

Inspection Contact Address

Lex Nicols
Otero County
13 West 3rd Street, Suite 208
La Junta, CO 81050

Enclosure: Approved reclamation plan

CC: Tom Kaldenbach, DRMS
Amy Eschberger, DRMS

PHOTOGRAPHS



Photo 1: Erosion damage in the southeast side of phase 1.



Photo 2: Erosion damage in the southeast side of phase 1. Topsoil stockpile in the background.



Photo 3: View looking northwest from the access road. Vegetation growth in the disturbed area. The growth appeared to be volunteer vegetation



Photo 4: View looking southwest from the access road. Topsoil and overburden stockpiles in the foreground. Reclaimed highwall in the background.



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EXHIBIT "E"

RECLAMATION PLAN

EXHIBIT "E"

RECLAMATION INFORMATION

Items (1) and (2) are general instructions and comments on preparation of the plan, and will be addressed throughout the plan. Specifics start in (2) (a) and are as follows:

(a) A description of the type of reclamation proposed to achieve in the reclamation of the affected land and why chosen, the amount of acreage accorded to each, and a general discussion of methods of reclamation as related to the mechanisms of dirt moving.

The operator has chosen rangeland as the reclamation type for this site as this is typical of the land usage for several miles in each direction. The maximum acreage that will be affected is in the 40 - 50 acre range.

The mechanics of earthmoving will consist of grading the pit floor and backslopes and replacing topsoil. Bulldozers, front-end loaders, scrapers or any combination thereof will be used to accomplish this.

(b) A comparison of the proposed post-mining land use to other land uses in the vicinity and to adopted state and local use plans and programs.

As stated above, the proposed post-mining is rangeland, and is typical of the land usage for several miles in each direction. This is in compliance with adopted state and local land use plans and programs.

(c) A description of how the Reclamation Plan will be implemented to meet each applicable requirement of Section 3.1.

Section 3.1 - Requirements

3.1.1 Establishing Post-Mining Use

(i) The County as the operator and land owner has decided that rangeland is the most appropriate final use of the land. The area will be seeded for rangeland similar to the surrounding area.

(ii) The results of these decisions shall be formulated into a reclamation plan, as specified in subsections 6.3.4 or 6.4.5.

Exhibit "E" of this application, of which this is a part, had all of these decisions formulated into what the operator, land owner believes is an adequate Reclamation Plan.

3.1.2 Reclaiming Substituted Land

No substituted land will be involved in this operation.

3.1.3 Time Limit and Phased Reclamation

The operator, land owner agrees to carry all reclamation to completion with all reasonable diligence. All reclamation will be completed within five years from the date the operator, land owner informs the board that the mining operation is completed.

3.1.4 Public Use

The operator, land owner do not plan on allowing the public to use this private rangeland.

3.1.5 Reclamation Measures - Material Handling

- (1) Grading shall be carried on so as to create a final topography approximate to the final land use selected in the Reclamation Plan.
- (2) When backfilling is a part of the plan no backfilling is planned or prosed and there is no acid forming toxic materials to be leached.
- (3) All grading will be done in a manner to control erosion and siltation of the affected lands from slides and other damages. If not eliminated, all highwalls shall be stabilized, no highwalls are anticipated in this operation.
- (4) All backfilling and grading shall be completed as soon as feasible after the mining process. The operator shall establish reasonable time tables consistent with good mining practices and reclamation procedures.

The operator will back slope and topsoil the affected areas as soon as reasonably consistent with mining, stockpiling and equipment movement. Reclamation will follow mining as soon as operationally feasible.

- (5) There are no refuse, acid-forming or toxic materials mined or handled on site that could cause unsightliness or affect the drainage system
- (6) There are no drilled or auger holes involved in this operation to be plugged to prevent polluting drainage. Neither are there any adits or shafts to be closed or reclaimed.

(7) Maximum slopes and combinations shall be compatible with the configuration of surrounding conditions and selected land use.

Any backslopes will have a maximum slope of 3H:1V or flatter, which will be compatible with surrounding conditions and selected land use. No swimming or pond will be involved after reclamation.

(8) If the operator's choice of reclamation is for agricultural or horticultural crops which normally require the use of farm machinery, the operator shall grade so that the area can be traversed with farm machinery.

The reclaimed area, with a maximum of 3H:1V backslope will be able to be traversed by farm machinery, but this is not essential to the final use.

(9) An operator may backfill structural fill material generated within the permitted area into an excavated pit within the permit area.

No structural backfill will be used in reclamation.

(10) All mined materials to be disposed of within the affected area must be handled in such manner so as to prevent any unauthorized release of pollutants to the surface drainage system.

The mined materials are sand and gravel only, which are basically chemically inert and will not release and pollutants to the surface drainage system.

(11) No unauthorized release of pollutants to groundwater shall occur from any materials, mined, handled or disposed of within the permit area.

There will be no pollutant-bearing material to be released to groundwater.

3.1.6 General Requirements

None of the items mentioned apply to this project.

3.1.7 Groundwater - Specific Requirements

This operation will have no affect on groundwater or bring any other water permit requirements into play.

3.1.8 Wildlife

(1) The operator will consider the safety and protection of wildlife on site - if any.

No described critical periods are known for this site.

- (2) Habitat management is not part of the reclamation plan for this project.

It does not appear that there are any unique opportunities to enhance habitat.

3.1.9 Topsoiling

The topsoil will be segregated from other soil to help prevent deterioration and erosion. If topsoil is to remain in stockpile for more than 1 growing season, an SCS recommended vegetative cover shall be employed so that the topsoil is protected from erosion, remains free of any contamination by toxic or acid-forming material, and is in a usable condition for reclamation.

- (2) There is no woody vegetation present on the site to be affected.
- (3) The topsoil will be stockpiled on the perimeter of the pit area and located so as to be undisturbed by ongoing mining operations. The stockpiles will be low to help avoid erosion. They have been included in the affected area and will be reclaimed as per the plan.
- (4) This operator plans to stockpile the topsoil around the perimeter of the mined area, away from daily mining activity. Operator prefers to handle the topsoil only once.
- (5) This plan is designed to have reclaimed slopes of 3H:1V or flatter, which precludes any slippage. The operator will scarify the backfilled surfaces to insure bonding. There are no heavy textured soil surfaces on this site.
- (6) The operator acknowledges the Boards discretion to insure topsoil is of sufficient and quantity and quality to sustain vegetation. The operator feels with the growth media on site combined with the topsoil hauled in from borrow pit cleaning we will have suitable material for revegetation.
- (7) The growth media will be replaced evenly over the site at an average depth of 3" - 6". 40# available N&P will be applied per acre as recommended by the SCS.
- (8) There are no vegetative piles to be dealt with on reclamation of this site.

3.1.10 Revegetation

The revegetation plan recommended by the SCS appears to meet the criteria of a diverse, effective and long-lasting vegetative cover that is capable of self-regeneration, without

continued dependence on irrigation, soil amendments of fertilizer. It is expected to be at least equal in extent of cover to the natural vegetation of the surrounding area.

- (2) If the operator's choice of reclamation is forest planting

The operator has not selected forest planting, at this site is not applicable.

- (3) The operator's choice is for rangeland after the terraces are removed slopes will be shaped whereby a gentle rolling terrain will exist and not too steep for livestock to traverse. The area will be seeded by mechanical equipment.

- (4) Revegetation has been designed around SCS recommendations, since they are the most experienced with revegetation in this area. Grazing will be delayed until revegetation is complete.

3.1.11 Buildings and Structures

3.1.12 Signs and Markers

- (1) At the entrance of the mine site, the operator shall post a sign with the following:
- (a) name of operator
 - (b) a statement that a reclamation permit for the operation has been issued by the MLRB
 - (c) the permit number
- (2) The boundaries of the affected area will be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries. Orange painted post are generally used.
- (b) The operator will post a Performance Warranty for the affected area..
- (3) Not applicable.

6.4.5 Exhibit "E" - Reclamation Plan

- (2) (d) Where applicable, plans for topsoil segregation, preservation, and replacement: for stabilization, compaction, and grading of soil; and for revegetation. The revegetation plan shall contain a list of the preferred species of grass, legumes, forbs, scrubs 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.

The items referred to in the first sentence were answered in Section 3.1.5 Reclamation Measures - Materials Handling, earlier in this reclamation section.

the items referred to in the second sentence are covered in detail in Section 3.1.10 Revegetation, presented earlier in this reclamation section. Any that were not will be done in items (e) and (f) immediately below. Listed grass seeds are available at dealers in the area.

(e) A plan or schedule indicating how and when reclamation will be implemented. The plan or schedule shall include:

(i) An estimate of the periods of time which will be required for the various stages of reclamation:

Reclamation will start as soon as operationally feasible to allow for equipment, equipment movement and stockpiling. This is estimated to be 3 - 5 years. Reclamation will follow mining as closely as possible, and is intended to be complete 5 years after mining and stockpile removal.

(ii) A description of the size and location of each area to be reclaimed during each phase:

Mining will continue south west from the existing 112 operations and reclamation will follow in 8 -10 acre increments. After the southern section is complete and mining has moved to the northwest, reclamation will then move to that area.

(iii) An outline of the sequence in which each stage of phase of reclamation will be carried out:

Phases will be carried out as follows:

- a. backslope and grade
- b. topsoil
- c. scarify
- d. fertilize
- e. drill seed
- f. mulch and crimp

(f) A description of each of the following:

- (i) Final grading - will be a maximum 3H:1V slope.

(ii) Seeding, types, mixtures, quantities and expected time of seeding:

<u>Variety Species</u>	<u>%</u>	<u>Per Ac. Lbs.</u> <u>pure live seed</u>
Vaughn – Side Oats Grama	50%	4.5
Lovington – Blue Grama	25%	.75
Native – Sand Dropseed	5%	.03
Native – Galleta Grass(caryopsis)	5%	.2
Blackwell – Switchgrass	5%	.25
Arriba – Western Wheatgrass	10%	1.6

The minded area should be shaped and graded to no steeper than 3:1. A topsoil type medium should be spread over the area 6" thick. A manure mulch at the rate of 30 tons per acre can be applied in lieu of a hay mulch and fertilizing. If the County decides not to use a manure mulch a weed free grass hay mulch at the rate of 5,000 pounds per acre can be applied. This hay must be crimped into the soil and 40 pounds each of both nitrogen (N₂) and available phosphorus (P₂₀₅) must be applied to the area.

(iii) Topsoiling - specify anticipated in minimum depth or range of depths for those areas which will be topsoiled:

Topsoil will be replaced to an average depth of 6".