


**COLORADO**Division of Reclamation,
Mining and Safety

Department of Natural Resources

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: Peat Mine	MINE/PROSPECTING ID#: M-1994-081	MINERAL: Peat, sand and gravel	COUNTY: Alamosa
INSPECTION TYPE: Monitoring	INSPECTOR(S): Amy C. Yeldell	INSP. DATE: October 5, 2016	INSP. TIME: 08:00
OPERATOR: Ronald L Barrier	OPERATOR REPRESENTATIVE: Ron Barrier	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$12,017.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: October 24, 2016

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Revegetation

PROBLEM/POSSIBLE VIOLATION: Problem: There are state-listed noxious weeds present on site. This is a problem for failure to employ weed control methods for state listed noxious weed species within the permitted area, and to reduce the spread of weeds to nearby areas as required by Section 3.1.10 (6) of the rule.

CORRECTIVE ACTIONS: Implement approved weed control plan and provide proof to the Division that this has been done. If a weed control plan is not already in place, the operator shall develop a weed control and management plan in accordance with Section 3.1.10 (6) of the Rule. This plan should be developed in consultation with the county extension agency, or weed control district office and should include specific control measures to be applied, a schedule for when control measures will be applied and a post-treatment monitoring plan. This weed control plan shall be submitted to the Division as a Technical Revision to the approved plan with the appropriate Technical Revision fee of \$216.00 by the corrective action date.

CORRECTIVE ACTION DUE DATE: 12/23/16

INSPECTION TOPIC: Signs & Markers

PROBLEM/POSSIBLE VIOLATION: Problem: The mine identification sign and affected area boundary markers were not observed per the requirements of Rule 3.1.12.

CORRECTIVE ACTIONS: The operator must post a sign at the entrance to the mine site which shall be clearly visible from the access road and specify the following; the name of the operator, indicate that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board, and the permit number. The boundaries of the affected area must be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries.

CORRECTIVE ACTION DUE DATE: 12/23/16

OBSERVATIONS

This inspection was conducted as part of the Colorado Division of Reclamation, Mining and Safety normal monitoring program. The Peat Mine is a 112c peat, sand and gravel operation that consists of 98.8 acres with 10 acre phases. Ron Barrier and Wayne Garrison represented the operator and accompanied Amy Yeldell of the Division on the inspection. The site is located in Alamosa County approximately ten mile east of Alamosa, Colorado.

There were no signs or boundary markers present. This is cited as a problem. As you enter the site from the north there was a no dumping sign, this does not qualify as a mine sign. Per 3.1.12 (1) "At the entrance of the mine site the Operator shall post a sign, which shall be clearly visible from the access road, with the following: (a) the name of the Operator; (b) a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and (c) the permit number." A few wood post were found on the ground throughout the permit. It was indicated that they delineated the 10 ac mine phase. Per Rule 3.1.12 (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." Meaning the entire 98.8 permit boundary shall be delineated and it is optional if the operator wants to mark out each of the 10 ac phases.

The site was inactive at the time of the inspection. There was no equipment on site. Also there are no permanent structures or fuel stored on site. According to Mr. Barrier the last mining activities occurred a few months ago. This site is approved for intermittent operations.

6-12" of peat is layered on top of the sand and gravel seam. No topsoil/peat will be salvaged for reclamation. There were two main pit excavations for the sand and gravel. The sand and gravel seam may be mined until ground water is exposed and then will need to be backfilled 2 feet above the static water line. At this time the maximum depth of mining was approximately 15'. Evidence of groundwater seepage was observed and the operator confirmed that some backfilling has occurred. Slopes of the excavated pits appeared to be approximately 3:1.

In the permit application it was stated that mining would occur in 10 ac phases. Upon site inspection this appears to holds true for the sand and gravel mining but not the extraction of peat. There were dozens of peat stockpiles all throughout the site. They vary in size from 5-15 cy and up to 12' tall. Stockpiles appeared to be

stable. Undisturbed peat is very fibrous and locks together while the stockpiled peat was fluffy and crusted on the top. The peat mining operation did not appear to be following any sort of mining plan but just periodically piled up. Please note that all affected land shall be reclaimed. Once the peat is stripped the operator becomes responsible for revegetating that area prior to release. If the operator wishes to continue to disturb more than 10 acres at a time then the mining and reclamation plans will need to be updated.

Overall the site is struggling to effectively manage weeds. The majority of the inspection was spent discussing reclamation options. It was mentioned that several different seed mixes have been tried in various test plots. When testing seed mixes it's important to properly prepare the seed bed and use appropriate application methods as that can have a huge impact on germination success. Then if a mix is determined to be viable, the reclamation plan must be revised accordingly in the form of a technical revision. Successful reclamation cannot be released if vegetation growing drastically differs from the approved seed mix.

Mr. Barrier explained that even when vegetation began to grow aeolian deposition buried the vegetation and snuffed it out. This is an extremely arid site so in addition to wind erosion and deposition, lack of water is a confounding resource. A sand fence or some sort of other method could help cut down on deposition from surrounding sites. The only apparent vegetation that has successfully grown on this site is noxious weeds. Kochia, Russian Thistle, Halogeton and Tamarisk were all observed. The presence of noxious weeds is cited as a problem. The operator shall remove all tamarisk trees/sprouts within the permit boundary and submit photo documentation by the corrective action date. Also the operator shall submit a weed management plan in the form of a technical revision by the corrective action date. The weed management plan shall address how to better treat and manage other noxious species observed and be employed in the future.

In reviewing the current reclamation plan staff has some suggestions that may help increase reclamation success. First the approved seed mix only calls for 4 lbs. of PLS/AC broadcasted. This is an extremely low seeding rate especially considering the chosen method. The Division doubles the seeding rate for all methods other than drill seeding. The Division recommends that the total lbs. of PLS/AC be increased for this site to at least 30 lbs. PLS/Ac for broadcast methods or 15 lbs. PLS/AC for drill seeding. Secondly the approved seed mix only calls for three species. A good seed mix is comprised of grasses, forbs and shrubs. Those species are diverse and include cool and warm season plants, annuals and perennials, and reproduction through root and seed. This range of characteristics allows for a variety of plants to thrive in each niche and helps to guarantee that at least one plant will be well suited.

In addition to increasing the lbs. of each species, adding additional species will broaden your chances of success. *Brassia prostrata* (*Kochia prostrata*) is an excellent species for your area given the lack of water and its adaption to highly alkaline soils. Likewise species such as; sand dropseed, Indian rice grass, blue grama, crested wheatgrass, western wheatgrass, scarlet globemallow might also be favorable additions. The operator is encouraged to reference other permits nearby to see what species have worked well in those areas. Likewise the NRCS may be an additional resource. Third, your site might benefit from mulching. The application of hay/straw mulch at 1500-2000 lbs. per/ac should be blowing in then crimped into place. Mulching helps hold in moisture for young plants and prevent erosion.

The Division would like to remind you that several changes can be made under one technical revision.

Despite the no dumping sign there was evidence of debris left by the public, specifically lots of broken glass. It is obvious this debris is not related to the mining operation. However it occurs within the permit boundary

and is ultimately the operators responsibility. Please do your best to keep material from being brought in and clean it up on an as needed basis.

It was mentioned that a succession of operator (SO) to Wayne Garrison is pending. If the SO packet is submitted within 60-days of this report, this inspection may also count as the SO inspection. If the SO is requested more than 60-days after this report a subsequent inspection may be required. The SO request packet is attached it to this report for your convenience.

The Division currently holds a financial warranty amount of \$12,017 for this site. The bond was last increased in 2005. In an effort to ensure the Financial Warranty adequately reflects the actual current cost of fulfilling the requirements of the approved reclamation plan the Division will be updating the reclamation cost estimate. The Division will not finalize its estimate until the TR is approved, revising the seed mix. Please keep in mind the Division will need to bond for all affected lands requiring reclamation even though the reclamation plan only calls for 10 acres. Currently the Division estimates that approximately 25 acres has been disturbed to date and will require seeding.

Responses to this inspection report should be directed to: Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

PHOTOGRAPHS

















GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>N</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>N</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>NA</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>Y</u>	(RV) REVEGETATION---- <u>PB</u>
(SM) SIGNS AND MARKERS----- <u>PB</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(CI) COMPLETE INSP---- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>

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

Inspection Contact Address

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Enclosure

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