

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

February 14, 2012

TO: Internal File

THRU: Steve Christensen, Environmental Scientist III/Team Lead *SKC*

FROM: April A. Abate, Environmental Scientist III/Geology *AAW*
4/24/12

RE: Construction of Burma Evaporation Basin, Genwal Resources, Inc., Crandall Canyon Mine, C/015/0032, Task #3997

SUMMARY:

This Significant Revision to the Mining and Reclamation plan was received on January 12, 2012. The amendment details 7.32 acres of additional disturbed area on School Institutional Trust Lands Administration (SITLA) land under a 30 year lease. The purpose of the evaporation basin is to dispose of iron sludge material generated from the Crandall Canyon mine water treatment facility located approximately nine miles southeast of the mine permit area. This additional area needed to construct an evaporation basin is considered a significant revision to the permit (C/015/0032) and subject to a multidisciplinary review. As a result, the geology regulations of the Utah Coal Rules were reviewed for application to this submittal.

The geology regulations primarily address potential impacts to hydrologic balance as it pertains to mining activities. Since this project is located off-site, the majority of the rules requiring detailed geologic data on the coal seam to be mined, toxicity, and borehole casing and sealing, do not apply.

A description of the geology of the project area was provided in Appendix 7-66 as well as physical properties of the soil encountered. Additional information was provided in the report detailed how reclamation would be accomplished.

The only applicable regulations governing maps under Sections R645-301.622100 through -400 is a map showing the locations of oil and gas wells within the proposed permit area. All other maps required under these rules pertain to geologic information for strata above and below the coal seam to be mined, which in this case, is not applicable to this application.

RECOMMENDATIONS:

The application is recommended for approval.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Appendix 7-66 of the application contained a brief description of an Order 2 soils survey that was conducted by Long Resource Consultants in July 2011. The purpose of the soil survey was to determine how suitable the project area would be for reclamation. The section describes the geology of the project area as an alluvial fan with alluvium derived from nearby Cretaceous-aged sandstone formations that are characteristic of the region.

The Order 2 soils report indicated that three soil profiles were dug to determine soil properties using a backhoe. No boreholes were advanced during this investigation. The study did not explicitly state that reclamation could be accomplished, but provided recommendations to allow portions of the topsoil to be salvageable.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

The applicant provided an Evaporation Basin Plan View Aerial Map within Appendix 7-66 showing the proposed location for the evaporation basin along with proposed access roads, and the salvageable topsoil pile. The map illustrated an existing gas well pad located on the abutting parcel to the southeast of the project area.

The only applicable regulations governing maps under Sections R645-301.622100 through -400 is a map showing the locations of oil and gas wells within the proposed permit area. All other maps required under these rules pertain to geologic information for strata above and below the coal seam to be mined, which in this case, is not applicable to this application.

Findings:

The geology regulations primarily address potential impacts to hydrologic balance and the coal seam as it pertains to mining activities. Since this project is located off-site, the majority

TECHNICAL MEMO

of the rules requiring detailed geologic data on the coal seam to be mined, toxicity and borehole casing and sealing, do not apply.

A description of the geology of the project area was provided in Appendix 7-66 as well as physical properties of the soil encountered. Additional information was provided in the report detailed how reclamation would be accomplished.

The only applicable regulations governing maps under Sections R645-301.622100 through -400 is a map showing the locations of oil and gas wells within the proposed permit area.

RECOMMENDATIONS:

The application is recommended for approval.