



**NEW MEXICO
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Deputy Secretary

MEMORANDUM

Date: October 10, 2018

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Jeff Lewellin, Mining Act Team Leader, Mining Environmental Compliance Section 

From: Alan Klatt, Surface Water Quality Bureau
Neal Butt, Air Quality Bureau

Subject: NMED Comments for Submitted Supplemental Information, Southwest Resources, Inc., Section 11/12 Mine, McKinley County, New Mexico, MMD Permit No. MK046RE

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on September 10, 2018 requesting NMED review and provide comments on the following reports associated with the above referenced MMD permitting action:

- *Supplemental Hydrologic Characterization, July 16, 2018*
- *DRAFT Waste Characterization Study-Phase 2, May 1, 2018*
- *2.0 Closeout Plan Components*

The purpose of the NMED review is to provide comment on the deficiencies noted by the Mining Environmental Compliance Section (MECS) of NMED from the original Mining Act application submitted to MMD on January 14, 2014. The three documents referenced above are intended to address comments on the original application sent to MMD from MECS on May 8, 2014. MMD requested comments on the recent documents within 30 days of receipt in accordance with Section 19.10.5.503 C. NMAC. NMED has the following comments.

Background

The mine is located in T14N, R10W, Sections 11 and 12, McKinley County, New Mexico. The mine consists of an underground uranium mine that operated in three time periods: 1959; 1962; and, 1974 to 1982. Mining operations are currently inactive. The underground mine did encounter ground water while advancing the shaft to a total depth of 700 feet below ground surface. It is the understanding of NMED that previous mining operations did not involve dewatering. As the MMD permitting process has progressed, the applicant has been required to characterize soil contamination from previous mining operations, perform a supplemental hydrologic study, and provide additional information in the closeout plan.

Air Quality Bureau

The Air Quality Bureau comments are attached under separate letterhead.

Surface Water Quality Bureau

The Surface Water Quality Bureau comments are attached under separate letterhead.

Mining Environmental Compliance Section

Supplemental Hydrologic Characterization, July 16, 2018

The *Supplemental Hydrologic Characterization, July 16, 2018* report was reviewed and NMED has the following comments.

- The report identified 13 ground water wells within four miles of the Section 11/12 Mine.
- With the exception of one well, the remaining twelve wells were drilled to depths of 651 – 3093 feet below ground surface. Only two of these twelve wells reported depth to ground water and are indicated to be three to four miles from the Section 11/12 Mine.
- The only shallow alluvial well (B-00143) identified in the report was reported to be drilled to a depth of 90 feet below ground surface with a depth to water of 60 feet.
- Well B-00143 was reported to be completed in 1960 and is 2.5 miles north-northeast of the Section 11/12 shaft.
- It is apparent that ground water was encountered during installation of the shaft. The report states the shaft was installed in the mid-late 1970's to a depth of 700 feet below ground surface. Further, the report states that ground water was measured at a depth of 630 feet below ground surface during the shaft installation. With these statements in the report, it leaves a level of uncertainty that must be verified with regard to whether there is, or is not, currently ground water in the shaft, or whether there could be saturation expected in the future. In order to verify the absence or presence of ground water in the shaft, NMED will require that the applicant obtain a qualified vendor to provide an assessment of the shaft by downhole camera or other methods. The vendor must be able to record the assessment and make those recordings available to NMED. NMED request seven days prior notification of the requested downhole camera assessment to provide the opportunity for NMED participation.
- There is conflict between the documents with regard to when the shaft was installed and when mining occurred. In the documents it indicates that mining occurred in 1959, 1962, and 1974 – 1982. There are also different timeframes stated for when the shaft was installed. The original Closeout Plan submitted in 2014 indicates the shaft was installed in the mid 1970's. The Supplemental Hydrologic Characterization report indicates the shaft was installed in 1981. Please explain this discrepancy and how mining occurred prior to installation of the shaft at the Section 11/12 Mine.

DRAFT Waste Characterization Study-Phase 2, May 1, 2018

The *DRAFT Waste Characterization Study-Phase 2, May 1, 2018* report was reviewed and NMED has the following comments.

- The report provided is designated as a draft report.
- The purpose of the waste characterization study at the Section 11/12 Mine was to collect additional information about the nature and extent of mine waste, the thickness of the mine waste, and the areal extent across the known area of contamination.
- The area of gross contamination had been previously identified by the United States Environmental Protection Agency (USEPA), Region 6, through use of their Airborne Spectral Photometric Environmental Collection Technology (ASPECT) aircraft. The ASPECT had performed previous flyovers and the Section 11/12 Mine is identified as a site with elevated gamma radiation levels.
- The consultant for the Section 11/12 Mine utilized the ASPECT flyover gamma radiation footprint determined by USEPA and performed their investigation inside that defined area.
- During the investigation conducted on August 22, 2017, the report states personnel from MMD determined a relative background level of 300 counts per second east of the Section 11/12 Mine. Figure 2 of the report depicts the reference area is north of the Section 11/12 Mine, but the narrative indicates the reference area is east of the mine. The final version of the draft waste characterization report should correct this discrepancy.
- The method utilized to evaluate areas of contamination included excavation of trenches and measurement of ionizing radiation in the floor and walls of each trench. Figure three of the report appears to illustrate a total of 10 trenches and is labelled "Preliminary layout of 12 soil trenches". On page five of the report, it states "a total of 13 trenches were excavated.....". The final version of the draft waste characterization report should correct this discrepancy.
- Many of the figures with maps, contaminant levels, and grids are not of sufficient size or clarity to adequately evaluate what is presented in the figure. The final report should have all figures of sufficient size and clarity whereby any reviewer can clearly understand all details that are being conveyed by the figure. Provision of a separate group of figures at a larger scale may assist with conveying the information that is represented in the figures that are not legible. The use of proprietary mapping software compared to Google Earth images may improve the quality of the outputs in all figures that are maps of the site.
- NMED requests the submission of a final waste characterization report that corrects the deficiencies listed above.

2.0 Closeout Plan Components

The *2.0 Closeout Plan Components* supplement to the closeout plan was reviewed and NMED has the following comments.

- Many of the comments contained in the May 8, 2014 memorandum from NMED to MMD remain relevant and the replacement of Section 2.0 in the Closeout Plan does not adequately address proposed reclamation at this mine.

- Subsequent to the submission of the January 2014 Closeout Out Plan, NMED and MMD created a document titled *Joint Guidance for the Reclamation of Existing Uranium Mining Operations in New Mexico* (Guidance).
- NMED requests that the Guidance be utilized in the revision of the Closeout Plan with emphasis placed on sections 3.0, 4.0, and, 5.0 of the Guidance.
- The Dysart II Mine is mentioned in the Closeout Plan. Please explain why the Dysart II Mine is mentioned in the Closeout Plan for the Section 11/12 Mine.
- NMED recommends that representatives of the Applicant schedule a meeting with personnel from MMD and NMED to discuss revision of the Closeout Plan that will meet current standards, requirements and guidelines necessary to approve a plan that is protective of public health, safety, and the environment.

NMED Summary Comment

NMED finds that environmental standards will not be met until the above comments are addressed and the Section 11/12 Mine is permitted and reclaimed in a manner that is protective of the environment.

If you have any questions, please contact Jeff Lewellin at (505) 827-1049.

cc: Bruce Yurdin, Division Director, NMED-WPD
Shelly Lemon, Bureau Chief, SWQB
Liz Bisbey-Kuehn, Bureau Chief, AQB
Fernando Martinez, Division Director, EMNRD-MMD
Clint Chisler, Lead Staff, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS



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Butch Tongate
Cabinet Secretary

MEMORANDUM

DATE: September 27, 2018

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section, Ground Water Quality Bureau

FROM: Neal Butt, Environmental Analyst
Air Quality Bureau

RE: Request for Review of Supplemental Documents (3) for the Closeout Plan,
Southwest Resources, Inc., Section 11/12 Mine, McKinley County, MMD Permit
No. MK046RE

The New Mexico Air Quality Bureau (AQB) has completed its review of the above mentioned mining project. Pursuant to the New Mexico Mining Act Rules, the AQB has the following comments:

Air Quality Permitting History

The AQB has not issued any air quality permits for this operation.

Details

The New Mexico Mining and Minerals Division ("MMD") received the following Supplemental Information regarding the mine permit application MK046RE for review:

1. Supplemental Hydrologic Characterization, July 16, 2018
2. DRAFT Waste Characterization Study-Phase 2, May 1, 2018
3. 2.0 Closeout Plan Components

Recommendation

The AQB previously provided comments on March 19, 2014, August 10, 2015, February 8, 2016 and February 15, 2017 and has no additional comments in regards to the additional information provided.

The applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

If you have any questions, please contact me at (505) 476-4317.



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BUTCH TONGATE
Cabinet Secretary

MEMORANDUM

DATE: October 5, 2018

TO: Jeff Lewellin, Mining Act Team Leader
Mining Environmental Compliance Section
Ground Water Quality Bureau

FROM: Alan Klatt, Environmental Scientist & Specialist
Watershed Protection Section
Surface Water Quality Bureau

Jennifer Foote, Environmental Scientist & Specialist
Point Source Regulation Section
Surface Water Quality Bureau

RE: **Request for Comments, Supplemental Documents (3) for the Closeout Plan, Southwest Resources, Inc., Section 11/12 Mine, McKinley County, MMD Permit No. MK046RE**

The New Mexico Surface Water Quality Bureau (SWQB) has completed its review of the above-mentioned mining project. The Section 12 Mine is an underground uranium mine located on private land, 27 miles north of Milan, New Mexico. The mine was operated from 1959-1982. The Supplemental Documents for the Closeout Plan were submitted to the New Mexico Energy, Minerals and Natural Resources Department-Mining and Minerals Division (NMEMNRD-MMD) by Southwest Resources, Inc. and describes the removal of equipment and buildings, removal of waste rock materials that exceed the Post-Reclamation Radiation Level (PRRL), and excavating two soil borrow pits to provide 27,100 cubic yards of additional cover. Pursuant to 19.10.5.503 (C) NMAC, SWQB has prepared the following comments:

- SWQB supports the findings in the discussion of the DRAFT Waste Characterization Study for the removal of 11 acres of soils and materials with elevated radiation levels and their replacement with clean fill. SWQB recommends clarifying how the 2-meter buffer was determined that is mentioned on page 32 of the study.
- Page 7 of the Supplemental Hydrology Characterization Report describes an earthen berm constructed in the early 1900s that diverts flow away from Ambrosia Lake and towards Martin Draw. SWQB recommends clarifying if this structure will be left in

place as a control during reclamation and whether there are plans to remove the earthen dams allowing increased function of the playa lake.

- Ambrosia Lake is a closed depression that, due to the earthen diversion berm, only receives water from overland flows during heavier precipitation events. Shallow depressions, such as Ambrosia Lake, typically develop beds of fine silt and clay that prevent the downward movement of water and hold it briefly before it is evaporated. Ambrosia Lake appears to be on private land with no connection to other surface or subsurface water, therefore State of New Mexico Water Quality Standards may not apply.

20.7.10 S.(5) NMAC: "...Surface waters of the state does not include private waters that do not combine with other surface or subsurface water or any water under tribal regulatory jurisdiction pursuant to Section 518 of the Clean Water Act."¹

If you have any other questions related to these comments, please contact Alan Klatt, SWQB, at 505-827-0388.

¹ <http://164.64.110.134/parts/title20/20.006.0004.html>

GOVERNOR
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18 October 2018

Clint Chisler, Permit Lead
Mining Act Reclamation Program (MARP)
Mining and Minerals Division (MMD)
1220 South St. Francis Drive
Santa Fe, NM 87505

**RE: Existing Mine Application, Supplemental Information, Section 11/12 Mine, MK046RE;
NMDGF No. 18667**

Dear Mr. Chisler,

The Department of Game and Fish (Department) has reviewed the above referenced project's supplemental information that contained the hydrologic characterization report, waste characterization study, and the closeout plan components.

The Department has previously submitted comments on the Section 11/12 Mine on 25 March 2014, and reiterates that the Closeout Plan should include the restoration of Ambrosia Lake to a more functional habitat condition. This should include remediating the lake bed by cleaning up any radiological and chemical contamination. The Department also recommends restoring the natural hydrology of Ambrosia Lake by removing the earthen dam that diverts water from two intermittent drainages located to the northeast and northwest of the mine around the lake. The earthen dam was originally constructed in the early 1900's so that the lake bed could be utilized for agriculture. Since soil borrow pits will need to be developed to facilitate mine site reclamation and revegetation, the removal of the earthen dam would have the added benefit of providing additional topsoil and subsoil needed for reclamation.

Thank you for the opportunity to review and comment on the proposed project. If you have any questions, please contact Ron Kellermueller, Mining and Energy Habitat Specialist, at (505) 476-8159 or ronald.kellermueller@state.nm.us.

Sincerely,

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

cc: USFWS NMES Field Office