UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202 – 2733

September 26, 2018

Ms. Jennifer Fullam
Standards, Planning & Reporting Team Leader
Surface Water Quality Bureau
New Mexico Environment Department
1190 S. St. Francis Drive
Santa Fe, NM 87505

Dear Ms. Fullam:

I am writing in response to Chad Gaines June 26, 2018 letter requesting the Environmental Protection Agency's (EPA) review of the Peabody Natural Resource Company's (NRC) use attainability analysis (UAA) focusing on the waters in the San Isidro Arroyo and its tributaries. I have completed my review and have outlined my comments and recommendations in the enclosed document.

In developing this UAA, Peabody NRC relied on range of sources of information utilized the Surface Water Quality Bureau's (SWQB) hydrologic protocol (NMED 2011) in developing this UAA. The UAA is generally well developed and EPA's comments and recommendations are not extensive. Those comments/recommendations that we do have focus on three areas: 1) Additional images/maps that would give a better context to the site; 2) Additional information on the Army Corp of Engineers Clean (USACE) Water Act (CWA) Section 404 permit (action number) and mitigation required by the permit; and 3) Clear maps (or narrow shape files) that would facilitate EPA's evaluation under the Endangered Species Act.

Given EPA's oversight role, I am providing the SWQB with these comments and recommendations. I appreciate your forwarding them to Mr. Gaines. I would appreciate it if you keep me informed as to the timing the Peabody NRC rulemaking process. If you have any questions concerning this letter please call me at (214) 665-6646 or email me at nelson.russell@epa.gov .

Sincerely,

Russell Nelson
Regional Standards Coordinator

cc: Mr. Chad Gaines
Environmental Specialist, Peabody Natural Resources Company

NMED Exhibit M

EPA Comments on the Lee Ranch Mine Use Attainability Analysis – Sept. 25, 2018

Peabody Natural Resources Company

1 - **Introduction**

This section gives a short description of the Lee Ranch Mine and identifies Mulatto Canyon, Arroyo Tinaja, San Isidro Arroyo and its tributaries as waters within the vicinity of the mine. The UAA refers to an assessment and subsequent use attainability analysis (UAA) done by the Surface Water Quality Bureau (SWQB) that included Mulatto Canyon (2012) and refers to uncertainty regarding potential designated uses for the tributary drainages adjacent to the Lee Ranch Mine permit boundary. It is not clear what uncertainty is being referred to here since the Water Quality Control Commission adopted amendments for Mulatto Canyon, an unnamed tributary to Kim-me-ni-oli wash and Inditios Draw as recommended by the New Mexico Environment Department (NMED) which were subsequently approved by EPA.

2 - **Purpose and Objectives**

The UAA states the intent to describe the results of Lee Ranch Mine's application of the Surface Water Quality Bureau (SWQB) hydrologic protocol (HP) to San Isidro Arroyo and its tributaries. The intent of stated objectives is appropriate although the wording of second objective seems to suggest that the development of the UAA would result in stream classification. A UAA may be used to support the modification or removal of the current applicable designated use, but the development of a UAA in and of itself would not result in a modification of a designated use.

3 - Site Setting

This section provides a narrative description of the Lee Ranch Mine site and climate in the area. The narrative states that the Lee Ranch Mine is located within the central portion of the San Isidro Arroyo watershed. However, unless the reader is familiar with the San Isidro Arroyo watershed or the Lee Ranch Mine itself, it is difficult to understand where these waters that are in relation to larger landscape without some visual context. Figure 1 includes the waters in the San Isidro Arroyo watershed, the mine itself and all sites and features related to the assessment in a single map. This creates a map where important waters, the mine itself and important sites are obscured using small labels and dark colors to show elevation.

3.1 – Surface Water

There are no substantive comments related to the narrative description in this section. However, continuing with the concern with relying on a single map (Figure 1), it is difficult to get an overall perspective of where the waters lie in relation to other important sites/features, including past/ongoing mining activities and the broader landscape.

The EPA recommends that map layers be used to show the surface waters of interest and other sites/features progressing through the subsequent sections of this UAA. Such an approach would provide the reader/reviewer a much clearer understanding of the setting for Lee Ranch Mine site. For example, using the search term "El Segundo mine" the following satellite image was found:

https://www.google.com/maps/place/Peabody+Energy/@35.6528445,-107.8752085,17z/data=!3m1!4b1!4m5!3m4!1s0x87235cdafe5668cd:0xc115a0f4f4f61280!8m2!3d35.6528445!4d-107.8730198
The waters within the San Isidro Arroyo watershed could be overlaid on such an image giving context to the location of the Lee Ranch Mine. Subsequent layers could be added or removed depending on the section of the UAA being discussed so long as those features remain easily identifiable. For example, the springs discussed in section **3.3 – Springs** could be added to this map without making it too crowded.

3.2 – Groundwater

This section provides a thorough description of the geology/lithology influencing groundwater in the watershed. No further comment is needed.

3.3 – Springs

Thirteen springs were identified within and around the Lee Ranch Mine permit (New Mexico Mining and Minerals Division (MMD) Permit 19-2P) boundary. What is the MMD permit boundary in the context of the Lee Ranch Mine and larger San Isidro Arroyo watershed? Consistent with prior comments, a map that clearly identifies the MMD permit boundary would provide some context.

This section identifies five of these springs that are expected to be removed by mining, which included Burro (S-7), D/600 (S-6), Montano (S-4), Ojo Redondo (S-5), and Doctor Springs (S-3), although later, the narrative refers to six springs. In addition to understanding where the MMD permit boundary is, what does the MMD permit require or allow in terms of the removal and remediation of these springs. This section states that impacts from mining to these springs, or any adjacent springs, are addressed through the Army Corp of Engineers Clean (USACE) Water Act (CWA) Section 404 permitting and mitigation process. What is the USACE action number for the USACE Sec. 404 permit and what does it allow in terms of impacts and require in mitigation for these springs?

The narrative indicates that some of these springs have intermittent or limited flow that may subside in a short distance, although some provide enough water for small livestock impoundments. It would be useful to have photographs of these springs for context. The narrative describes these springs as having a sodium bicarbonate water, referring to trilinear graphs in Appendix A. Of the seven springs graphed, all appear to be deep source Na-HCO_3 groundwater with high ionic concentration. However, there is not discussion of what the significance of this information. It is important to note that any source of water in semi-arid to arid regions tend to be significant, where even small springs may provide microhabitats for isolated species that are adapted to these conditions and should be addressed. The UAA does not provide any information regarding potential habitat or the presence of aquatic species. However, EPA is obligated to determine if federally listed threatened or endangered aquatic or aquatic dependent species or critical habitat are present in these springs and consult with the US Fish and Wildlife Service (or other appropriate service) pursuant to Sec. 7 of the Endangered Species Act (ESA) prior to any action under Sec. 303(c) of the CWA.

Given the commitment to complete consultation if required prior to EPA action, it would be to Peabody NRC's advantage to provide clear maps (or shape files) that would allow EPA to define both the surface waters and springs to facilitate an assessment of potential impacts to listed species or critical habitat that may be found within the San Isidro Arroyo action area. Providing these maps to supplement the UAA prior to moving forward with rulemaking would avoid the need for EPA requests for additional information post-submission.

4 – Survey and Analysis (HP Application)

It would helpful to supplement the Level 1 field sheets with images like those used by the SWQB (2012) UAA for unclassified waters. This type of image would add a great deal of perspective to the assessment/field sheets.

4.1 – Watershed Approach

Recommend replacing the "tier" with "category" or a similar term since the prior has a specific meaning regarding assimilate capacity determinations and antidegradation policy and/or implementation.

As recommended in comments in section 3.1, it would be helpful if separate maps that show how the named waters fit into these "categories."

It is unclear how the tiered approach ensures that all hydrologic regime types are characterized within the San Isidro watershed. Using the example that the boundaries between the Level IV Ecoregions, with watersheds 1A and 1B being located within the Semiarid Tablelands Level IV Ecoregion and all other watersheds being located within the San Juan/Chaco Tablelands and Mesas Level IV Ecoregion are not apparent. EPA recommends that an image of the Level IV Ecoregions and a discussion of the ecoregional variation and its effects be included in the discussion in section **3 – Site Setting**.

4.2 – Sampling Site Locations

Sample locations would be an appropriate layer/feature on the separate image/map recommended in section 4.1 above.

4.3 - Weather

Both the narrative and images in Figure 4 are significant. No further comment is necessary.

4.3.1 - Drought Conditions

No comments necessary.

4.3.2 - Precipitation

No comments necessary.

4.4 – Quality Control

No comments necessary.

4.5 – Level 1 Evaluation Results

The photo log for each of the drainage channels for each HP Level 1 site add significantly to understanding data sheets provided for all sites. No further comment is necessary.

4.5.1. Tier 1 Subwatersheds

Subwatersheds 1A and 1B

The narrative here is informative. But as noted in prior recommendations, it would be helpful to supplement the narrative and Figure 6 with an image of the waters as they run through Mulatto Canyon and HP and photo point site locations. This would give context to the Level IV Ecoregion (22j) and related elevation changes (without dense colors and locations used in Figure 1).

Subwatersheds 1C and 1D

Recommend the same type of supplemental information for these subwatersheds as above.

4.5.2. Tier 2 Subwatersheds

Again, the narrative in this section is informative, but EPA recommends supplemental images as noted above.

4.5.3. Tier 3 Subwatersheds

See comments on **Tier 1** and **Tier 2** watersheds.

5 - Conclusion

No comments