

**From:** Mike Suflita  
**To:** Mary Ann Wright  
**Date:** 7/31/01 10:47AM  
**Subject:** Flat Cyn Tract Mtg

Mary Ann,

### Meeting

Per your request I attended the meeting at the Forest Service office in Price on 7/26/01. The purpose of the meeting was to discuss and better understand the concerns held by EPA over the lease tract. The people following attended the meeting:

Rod Player, FS	Arn Berglund, BLM
Karl Boyer, FS	Heidi Hadley, BLM
Dale Harber, FS	Jim Kohler, BLM
Rob Davies, FS	Diana Whittington, UDFWS
Katherine Foster, FS	Mike Suflita, UDOGM
Carter Reed, FS	Dana Allen, EPA, Denver

Ms Allen was not familiar with underground coal mining so some time was spent discussing longwall mining, room-and-pillar mining, subsidence, angle-of-draw and other related concepts. Ms Allen was given a series of photos showing subsidence immediately after occurrence, subsidence immediately after repair, and subsidence 14 months later. All of the photos were of the Burnout Canyon. She also received a copy of the Burnout Canyon Study, done by the Forest Service. Several EPA concerns were discussed at the meeting. The valid ones, such as increased salinity due to the new lease and water chemistry of the new discharges to Electric Lake, I'll not deal with here. With regard to other concerns, however, I have an impression that considerable information has not been accurately defined.

First, it is not clear just exactly how a fen is defined. The term wetland has a definition that is determined by working through several specific criteria to conclude that an area is or is not a wetland and a jurisdictional wetland. Those areas that fit the criteria are then dealt with accordingly. This has been developed by the US Army Corp of Engineers. It appears we do not have such a working definition for a fen. There is a monograph published by the USDA Forest Service Rocky Mountain Research Station titled, Peatlands on National Forests of the Northern Rocky Mountains: Ecology and Conservation. This document gives some guidance on the matter, and I've ordered a copy. Also, my understanding is that none of the people present were trained or experienced to qualify them to properly identify a fen.

Second, when the aerial photograph with the "fen" area of concern was compared to an overburden isopach map of the lease area, it was not clear that the "fen" was even on the lease. It could not be, and still has not been, defined where the lease boundary is with respect to the "fen". It was also noted that the overburden in the area is 1,800 feet, rather than the 700 feet down in the Boulger Creek area. The "fen" area is almost at the top of the watershed boundary. Consideration was given to moving the lease boundary north to avoid the "fen" area. This is a major decision involving many thousand of tons of coal and I feel a correct definition of the "fen" position with regard to the lease boundary is clearly appropriate. If the "fen" is on the lease, 1) the boundary could be adjusted slightly northward and/or 2) the lease could be stipulated to design a mining plan to provide an unmined area in the "fen" area and it's associated hydrologic regime. It should be noted that the hydrologic regime of the "fen" area has NOT been defined either. As such, it's difficult to predict the potential impacts from mining to the area.

### Field Visit

A field visit by the entire group followed the meeting. A light rain fell most of the afternoon. The area believed to be a "fen" was visited and an 18-inch hole was dug. The soil horizon was comprised almost entirely of a dark brown to black, organic material and roots. There was little soil present. The 15-inch shovel was pushed down below the bottom of the hole and it went in with ease. Some in the group

suggested this meant more organic material. Others believe a saturated clay would behave the same way. A sample was taken from the bottom of the hole and it was of a different composition than the top 18 inches. Below the bottom of the hole was a medium gray soft material with roots in it. When I examined it, I could roll it between my hands to form a 1/8 to 1/4 inch diameter "rope". Small particles stuck to my hands all over them. There was some sand in it too. In my opinion, the material in the bottom of the hole is a sandy clay. From what I understand of "fens", the presence of clay is not consistent with a "fen". Dana Allen took samples of both soil horizons for analysis.

Several springs and seeps were evident contributing to the "fen" area. Two springs fed well-defined channels suitable for monitoring and at least four seeps were evident. Again, the hydrology surrounding the "fen" has not been defined. I feel this NEEDS to be done before decisions are made about whether the mine will impact the "fen". For reference, the "fen" area in question is about 30 x 30 feet or 0.02 acre in size. An acre is 43,560 square feet. The area of the meadow where the "fen" is located was estimated to be 40 acres. Some felt the hydrologic regime of the "fen" was about 20 acres.

It was noted that the only fish population studies were done by DWR at their standard 100 yards up from the stream outlet at Electric Lake. No fish were seen in the upper reaches of Burnout Creek on this trip and no fish had been seen by FS personnel on previous trips.

The Burnout Canyon study was felt to be only partially applicable to Boulger Canyon since the stream slopes are different. I checked the slopes from a topo map and found Burnout to be 0.13 while Boulger is 0.04. Both figures are overall slopes so specific stream reaches could slope more or less. Subsidence at the downstream edge of the subsided area, in the angle-of-draw, is expected to be on the order of 0.04, UPstream. This suggests the possibility of subsidence leveling that area, or even causing those areas with less than 0.04, to slope upstream.

### **Recommendations**

The end of the Draft EIS comment period was July 2, hence our opportunity for input to the document has passed. Still, with your permission, I'd like to copy this email to all those who attended the meeting to express these views and to make the following recommendations.

1. A clear definition of a fen is needed. Perhaps a "fen expert" could be found. The field conditions compared to a "fen standard" will then determine just what the situation is. It may also be necessary to define whether the area is a jurisdictional wetland.
2. The exact location of the lease boundary needs to be located, in the field, to accurately define whether the "fen" area, AND it's associated hydrologic regime, are actually inside the lease area. The hydrologic regime needs to be defined in the field and on a map. If they are not in the lease, the whole point becomes moot. If they are inside the lease, even partially, the lease boundary or the mine plan could then be changed sufficiently to protect this resource area.
3. Specific calculations should be made to determine the potential impact of subsidence on the low stream profile slopes of Boulger and Flat Canyon streams. The mine plan should be designed to take into account the possible impacts. By that I mean a fire barrier could be left under the lower, lowest slope, reaches of Boulger Creek and/or the longwall panels could be positioned to minimize impacts to the streams.
4. Flat Canyon and Boulger Canyon could be studied in a manner similar to Burnout Cyn. This is a large and expensive undertaking, but perhaps the resource value and what we can learn, are worth it.

Respectfully,

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**CC:** Daron Haddock; Pam Grubaugh-Littig