

Mine File ACT 007/001  
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 L. Blaxton  
 CC S. Linn

United States  
 Department of  
 Agriculture

Forest  
 Service

Manti-LaSal National Forest  
 599 West Price River Dr.  
 Price, Utah 84501

Reply to: 2820/7140

Date: April 3, 1989

Barry Barnum  
 Valley Camp of Utah  
 Scofield Route  
 Helper, Utah 84526

Dear Mr. Barnum:

The Manti-LaSal National Forest is terminating the joint Forest Service/Valley Camp of Utah photogrammetric subsidence monitoring program.

The program was developed in 1978 and 1979 to provide for subsidence and vegetative monitoring of National Forest System lands within individual mine permit areas. The program was designed to be consistent for all of the individual coal mining operations on the Forest and would consist of a permanent record of topography and vegetation over time. Color aerial photography would provide a means for looking backward in time to make comparisons with present conditions and would provide accurate photogrammetric subsidence data. Color infrared (CIR) photography would provide information on any changes or trends in ground moisture and vegetative conditions which are a good indicator of other resource conditions and uses. The program was designed to be the most effective method for evaluating subsidence and impacts while minimizing cost to the mining companies.

As the photogrammetric data was being compiled from the aerial photography, we discovered that there was unacceptable correlation between ground control data and photogrammetric data (aerotriangulation). In analyzing this discrepancy, several problems became apparent. They included our inability to timely analyze the data and rapidly determine if the ground control submitted by the operator was accurate and if any of the control monuments located outside of the area of predicted subsidence were subjected to any movement. It was found that survey information for the ground control monuments, which was submitted several years after the first year of photography, was not accurate enough for photogrammetric interpretation. An assumption which was made at the onset of the project, was that the control monuments set outside of the Valley Camp monitoring area would not be subject to disturbance. We suspect that several of the monuments experienced some disturbance. Since the monuments were not surveyed each year prior to flying the photography, we cannot recreate movement of the monuments for the purposes of annual photogrammetric readings.

Utah Power and Light Company and Coastal States Energy Company have been using the aerial photogrammetric method for subsidence monitoring successfully for several years. We feel that the photogrammetric method is sound and that past successes can be attributed to all of the information being provided by a single consultant who is able to make timely analyses of photogrammetric data, assure that targets are in place and make ground survey adjustments as needed. We sincerely regret that the joint monitoring program has not been successful.

Only charges for the cost of flying and processing the photography have been billed to Valley Camp. We do not intend to charge for any of the photogrammetric interpretation which has been completed to date. Our accounting data shows that there is a balance of \$86.83 in your account. We have sent a request for refund of this amount to our finance center. The refund should be arriving in a few weeks. This letter should serve as official notice that we will cancel the collection agreement between Valley Camp of Utah and the Manti-LaSal National Forest for subsidence monitoring within 30 days of this letter.

Valley Camp of Utah will need to implement a subsidence monitoring program which will meet the requirements of the Utah Mining Code and lease stipulations. This program needs to be implemented for areas within the permit area which are experiencing mining-induced subsidence and areas which could experience mining-induced subsidence from future mining. Vegetative monitoring, intended to detect mining-induced alterations or conversions of vegetation communities, also needs to continue at 5-year intervals. We encourage you to consider use of aerial photogrammetric methods for monitoring since they have the advantage of providing a permanent record of ground conditions and could minimize costs.

If you have any questions, please contact the Forest Supervisor's Office in Price, Utah.

Sincerely,

/s/ Aaron L. Howe

for  
GEORGE A. MORRIS  
Forest Supervisor

cc:  
L. Braxton, DOGM  
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