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December 20, 2002

Johnny Pappas, Sr. Environmental Engineer
Plateau Mining Corporation
P.O. Box 30
Helper, Utah 84526-0030

Re: Revised Reclamation Plan for Crandall Canyon Shafts, Plateau Mining Corporation, Willow Creek Mine, C/007/038, Outgoing File

Dear Mr. Pappas:

The Division received your November 27, 2002 letter, which was written in response to reclamation issues for the Crandall Canyon Mine Shafts at the Willow Creek Mine. We are somewhat perplexed by the tone of the letter and the statement that " further revisions to its approved Plan are unnecessary." The Division has been working in good faith with all parties to try to resolve this situation. We agreed to withdraw the September 9th Division Order associated with this project, with the understanding that the company was willing to proceed to correct the deficiencies by submitting an amendment without having to be forced to under an order. Your November 27th letter seems to reverse that position.

It appears that the basic argument centers around whether the existing plan is adequate or not. The Division's long standing position on this is that the final sealing and reclamation plan would be evaluated at the time of reclamation and the company would need to use the best technology available at the time to reclaim the shafts. It is obvious that the existing plan is not adequate. Your November 27th letter even indicates that "backfilling the shafts is the best long term solution" and that " a safe cost effective means of backfilling the shafts must be developed" yet the Division is still waiting for this plan to be submitted. Indeed, we cannot provide a full technical analysis (with findings) until a plan is submitted to analyze. Granted, much of the information in the existing MRP could be used to support the final sealing and reclamation plan that must be developed and this information would not need to be "regurgitated", but it does need to be identified and referenced.

In summary, an amendment to the mining and reclamation plan must be submitted which addresses the final sealing and reclamation of the Crandall Canyon Shafts and includes responses to the seven issues identified in our September 6, 2002 letter. Your November 27th letter asks for clarification of these seven items and the remainder of this letter will attempt to provide the clarification you are seeking.

1) *A description of the items, which will remain in the shafts prior to the initiation of permanent sealing. This might include elevator guide rails, landings, pipes, etc. Drawings of remaining items should be included, as well as the volume of each type of material to be sealed within the mine.*

   The plan will address how to ensure a long-term seal in the shaft and prevent the creation of voids. This will include how the coals associated with the various seams will be sealed and what kind of incombustible material will be utilized for fifty feet above the upper most coal bed (30 CFR 75.1711-1).

At the time these issues were raised, it was unclear what type of sealing plan would be put into place. Discussions about completely backfilling the shafts had taken place, but no commitment to do so had been made. Your November 27th response indicates that, "the shafts will be backfilled for their entire length". With this commitment in place, many of our concerns can be laid to rest, but again this needs to be submitted as an amendment to the Mining and Reclamation Plan. How compaction will occur around the guide rails, pipes, and landings needs to be explained. If these things are to be removed, that should be explained as well. The material used to backfill the shafts, must be described. Again when this issue was raised, it was unclear what material was going to be used to seal the shafts, whether fly ash, refuse, cement, or the material originally removed from the shafts. You may already have a characterization of the material you plan to use, but this needs to be explained and referred to in your amendment.

2) *The estimated volume of material necessary to fill the two shafts, and the source of same. In order to comply with 30 CFR 75, some if not all of this material must be classed as incombustible. This should include a description of how the Mine works in the two seams will be sealed off.*

Your November 27th response refers to a volume of 45,000 yards of material to back fill the shafts. In calculating the volumes of the two shafts, a volume of 48,225 yards has been determined. ***This is the absolute minimum amount*** of material which would be required to backfill the cylindrical portion of the shafts, and <u>does not take into account the volume of material which is necessary to allow the fill to come to an angle of repose in each of the entries which intersect the shafts.</u> If an error of 7% is assumed relative to fill volume, the calculated minimum amount climbs to 51,600 cubic yards.

You used a calculated volume of 45,000 yards which was based upon filling a **<u>DRY</u>** hole. Based upon discussion with Plateau Mining Corporation, the Crandall Canyon shafts now have flooded to an approximate 250-foot depth.

Now, what is being proposed is that there will be no recovery of any of the pipe, elevator guide rails, or any other form of steel from the shafts. The permittee intends to backfill with the material removed from the shafts during their construction. That material is described as either

"nontoxic consolidated sandstones and shales or nontoxic alluvial deposits." The gradation of that material is expected to be relatively fine, as it was drilled and shot prior to be mucked during the construction process. If this material is dumped down the shaft to initiate the backfilling, two problems surface;

1) As the shales hit the water and settle to the bottom, they will soften, deteriorate, and not be capable of being considered as fill, as they will not support fill above them. Fines will only turn to mud, and will not be capable of filling any of the void.

2) As the consolidated sandstones fall into the void, the probability of that material striking steel and generating a spark is great. This fact, in combination with the amount of combustible gases, which these mines have been known to liberate could be a potential for an explosion of large magnitude.

Questions that need to be considered when developing a final sealing plan include the following: Will the **Sub-3 seam need to be de-watered in order to establish an effective seal at the bottom**, such that additional material can be placed above it to completely backfill? Should large diameter rock (sandstone) be dumped down the hole to backfill the sump and bring the "pant leg" entries to angle of repose? However, **this would require one or more of the following: 1) removing all spark generating metal from the shaft, or greatly lowering spark generating potential in some fashion.** When MSHA required Canyon Fuel Company to backfill the Soldier Canyon air shaft, sand was used as the fill medium, and water sprays were used to decrease the chance of explosion. However, the SC3 shaft was shallow and dry. **2) Manually place big rock at the bottom of the shaft using personnel and small air powered equipment.** This would be extremely hazardous as ventilation for the workers would have to be provided in order to keep the atmosphere safe.

If it is decided that the manner in which the backfilling will proceed will first de-water the Sub-3 seam, then the permittee must establish a plan or method to treat the water from the Sub-3 seam prior to it being discharged off of the permit area, i.e., the water must meet UPDES effluent parameters. This might be accomplished by using the upper pond located adjacent to the #1 shaft as a mine water treatment pond; this would require a permitting revision and possibly an enlargement of the treatment facility, (i.e., be capable of treating mine water inflow, plus allow for the treatment of runoff from the design event).

In order to backfill the air shafts, the following phases <u>should be considered</u> to conduct the job safely;

a) Remove all surface structures.
b) The atmosphere below the in-place concrete cap must be rendered inert, or that atmosphere must be bled off in a manner which would keep it from exploding.
c) Remove the in place caps.

d) Using derricks and men, install a de-watering system and pump the Sub-3 works until they are relatively dry.
e) While pumping occurs, remove as much steel from the shafts as possible.
f) Upon completion of "E", place small rock in the sump of the #1 shaft until it reaches the level of the floor of the coal seam.
g) Place big rock in the "pant leg" entries at the base of the shaft, to effectively seal it off. Extract all men and machinery. Dump big rock from the collar to fill the void at the center / base of the shaft itself. Fill in with sandstone in varying sizes, to say ten feet above the Sub-3 seam. .At that point the material used in the pad construction could be dumped from the collar to continue the filling.
h) Upon filling to the elevation of the floor of the "D" seam, men and machinery would have to be lowered to place big rock in the "pant-leg" entries of the #5 Mine, where they intersect the shaft, to effectively seal off that portion of the coal seam. Remove men and machinery, and resume filling with big rock in the shafts center to ten feet above the ceiling of the "D" seam.
i) Continue placing fill material until the shaft collar is reached.
j) Replace the Temporary concrete caps.
k) Form and construct the permanent concrete caps over the temporary caps.
l) Upon proper curing of the concrete in the permanent closure caps, backfill over same, with a minimum of ten feet of material.

None of the aforementioned procedures have been mentioned in the permittee's November 27, 2002 response. It needs to be mentioned that the monitoring of methane levels in the shafts must be continuous as both the #3 and the #5 Mines will vent gases until their respective seams are effectively plugged.

3) *If the permittee intends to utilize the overburden material which was extracted during the construction of the shafts and which was placed in the pad areas of the site, then new final surface configuration maps, as well as a new backfilling and grading plan must be submitted for Division review.*

Your November 27th response might be okay if the fill material will be stripped evenly from the entire 18-acre site, however it is unlikely that this will be the case. The fill was spread out and placed in specific areas during construction of the pads at the site. It will likely be removed in various amounts (much greater than the 1.55 feet identified) from the pads. Final grading of the site must be done to approximate the original contour and provide for appropriate drainage channels to convey surface drainage from the site. Without plans for this, it is impossible to tell whether or not you will be meeting AOC requirements.

4) *Revised bond calculations.*

Your November 27th response may be okay, but until we actually have plans that show that the reclamation cost are actually going down, it is impossible for us to determine this. Your required amendment should discuss shaft closure costs and why the revised plans would not incur additional bond requirements. Perhaps the cost of sealing the shafts will be offset by other factors, but these should be identified in your cost estimate.

5) *A hydrologic evaluation of potential water elevations as the mines continue to flood, as well as the method of treatment for water which may need to be pumped from the shafts in order to facilitate filling. An evaluation of the portal seals in the #3 and #5 Mines may need to be performed to re-evaluate the potential for the need to construct more hydrostatically safe sealing methods. The examination of Appendix 3.7M Chapter 3, Section 3.7, Castle Gate Mine, Crandall Canyon reveals that the "Type I" seals associated with the drift adits of the #3 and #5 Mines were constructed by only backfilling the entries with incombustible material for a length of 25 feet. Although this method of sealing meets the requirements of 30 CFR 75.1711-2, a mine flooding evaluation must be performed to determine if any of the seals, particularly those associated with the lower or #3 Mine, has the potential to allow mine water to flow to the surface. If this is the case, then the plan must address how this will be mitigated.*

Your response is helpful in addressing this issue, but again this needs to be part of the required amendment. At this point we have heard various discussions about the water elevation in the shafts but we don't have a clear picture of the situation. Has the water elevation stabilized or is it still rising? Will water be discharged from the mine during the shaft sealing process? Please refer to #2 above.

6) *An analysis of water influx into the shaft will be included.*

Again this issue was raised prior to the plan for complete backfilling of the shafts and may now be moot. Your response is appropriate but please refer to #2 and #5 above.

7) *If fill material is used, the material must not react with shaft-intercepted ground water. To analyze this, a modified Toxicity Characteristic Leaching Procedure (TCLP) analysis may need to be performed. A discussion as to why this is or is not considered necessary should be included.*

Again this issue was raised prior to your commitment for complete backfilling of the shafts. At the time it was unclear what was to be done or how much material was to be used. This emphasizes the need for accurate reclamation plans and why the current plan is inadequate. You now indicate that, "The material that was removed during construction of the shafts is the same material that will be used to backfill the shafts." Since you have previously tested this

material for use as fill and growth medium, further testing is probably not needed, but again this needs to be stated in the amendment that needs to be submitted. References to the analysis that have been done should be included.

We hope this provides you the clarification you are looking for. The Division is still expecting to receive an amendment, which addresses the final backfilling and sealing of the Crandall Canyon Shafts. We have now been in discussions with Plateau Mining Corporation for several months (met on-site in June) regarding the final closure of the shafts and we have yet to see the written plans. Given the liabilities associated with leaving the shafts open and the coal seam unprotected, combined with the exposure to the adjacent land owners and the public, we feel that it is in everyone's best interest to bring this issue to finality as quickly as possible. We expect the required amendment to be submitted within 60 days of your receipt of this letter. An in-depth analysis will be conducted when the plan is received. Thank you for your help. We look forward to working with you in resolving this issue.

Should you have questions, please contact Pete Hess at (435) 613-5622 or me at (801) 538-5325.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

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Enclosure
cc: James Kohler, BLM, State Office
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