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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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May 9, 2000

Johnny Pappas, Sr. Environmental Coordinator
Plateau Mining Corporation
847 Northwest Highway 191
Helper, Utah 84526

Re: Findings for Slope Stability Report and Coal Waste Delineation for Pond 001A, Plateau Mining Corporation, Willow Creek Mine, ACT/007/038-AM00A, Outgoing File

Dear Mr. Pappas:

The above-referenced amendment has been reviewed and there are deficiencies that must be adequately addressed prior to approval. A copy of our technical analysis is enclosed for your information. Please respond to these deficiencies by June 2, 2000

If you have any questions, please feel free to call Peter Hess at (435) 613-5622, or me at (801) 538-5268.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

sd/sm
Enclosure:
cc: Joe Wilcox, OSM, Denver
Richard Manus, BLM, Price
Price Field Office
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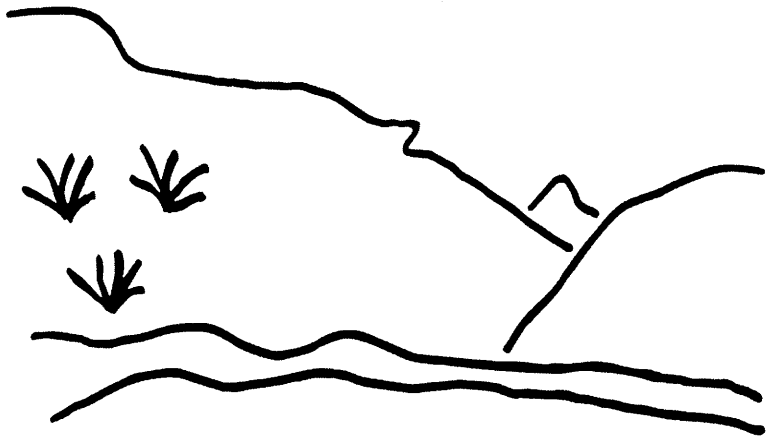
State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Willow Creek Mine
Slope Stability Report/Coal Waste Delineation for Pond 001A
ACT/007/038-AM00A
Technical Analysis
May 3, 2000

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INTRODUCTION

During the design verification of pond 001A at the Willow Creek Mine (design drawings vs. "as-built" field conditions), the permittee learned that the installed primary spillway had several problems. During the excavation of this spillway to begin the correction of these problems, Plateau Mining Corporation (PMC) discovered that coal mine waste (coal fines) had been placed in the embankment where the primary spillway was located; further examination of the general area showed that these fines extended under the emergency spillway as well.

Upon the removal of these fines from the primary and emergency spillway locations and the replacement of the voids with clean fill material, PMC decided, following notification to the Division, and with approval from same to further investigate the impounding embankment relative to additional coal fines. This was done by digging fourteen test pits on February 2, 2000. An engineering analysis of the situation was conducted by EarthFax Engineering, through contract with the permittee.

The R645 coal rules allow for the use of coal waste material in the construction of impounding structures, provided the requirements of those rules are met. This submittal is the permittee's application attempt to meet the requirements of those rules.

SUMMARY OF OUTSTANDING DEFICIENCIES (Draft TA Only)

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the Permittee and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns, and deficiencies may also be found withing the analysis and finding make in the Draft Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement actions as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-301-520, -721, and -733, provide the following, as detailed above: 1) An As-Built drawing showing the topography and the constructed drainage ditches and culverts of the mine site, 2) A revised Table 16A showing crest elevations for both ponds, 3) A map showing the profile cross-sections for the sediment pond (Map 7-4) and for the rest of the mine site, and 4) A complete set of MRP drawings showing the same disturbed area boundaries as revised by the construction. 15

OPERATION PLAN

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Impounding Structures

R645-301-746.300 requires that new and existing impounding structures constructed of coal mine waste will meet the requirements of the following fifteen items. In order to evaluate the use of coal mine waste in sediment pond 001's impounding embankment, it was necessary to analyze and make findings on fifteen separate coal regulations. Each of those regulations address and re-address other rules, all of which have been scrutinized.

Please note that all of the following fifteen items address the single regulation of R645-301-746.300.

#1 R645-301-512.230. Coal Mine Waste.

This rule requires that the professional engineer experienced in the design of similar earth and waste structures must certify the design of the disposal facility.

The impounding embankment where the coal mine waste has been placed is considered to be the disposal facility for that volume of coal waste material.

Page 8, Chapter 5 of ACT/007/038-98G, consists of Mr. Layne Jensen's State of Utah professional engineering certification (date 3-29-00) that the embankment of pond 001A where the coal mine waste material is known to exist (as depicted on Plate 1, Exhibit 11, Pond 001 Embankment Report) is stable under static and seismic steady-state seepage conditions. The inslope does have the potential to experience shallow surface failure under sustained strong seismic loading. However, a slope failure on the inslope would not result in total failure of the embankment. Based on Mr. Jensen's analyses and conclusion, the permittee is proposing to leave the pond 001A embankment as it currently exists, as it has been demonstrated that the coal waste remaining in the embankment does not adversely affect the stability of the embankment.

The permittee has committed to repair any in slope failure which may occur by removing the slumped earth, regrading the failed area to a 2H:1V, and repairing the berm and ditch if necessary.

Findings:

ACT/007/038-98G adequately addresses the requirements of R645-301-512.230.

#2 R645-301-515.200. Impoundment Hazards.

This rule requires that the permit application will incorporate a description of notification when potential impoundment hazards exist. Although this is not specifically addressed within this submittal, it has been addressed within the Willow Creek mining and reclamation plan as it exists in its approved form, (See Volume 1, Section 4.5.1.8, page 4.5-8).

Findings:

The requirements of R645-301-515.200 have been addressed within the Willow Creek mining and reclamation plan. It is not necessary to readdress that same requirement within ACT/007/038-98G.

#3 R645-301-528.320. Division Approval Required for Placement of Coal Mine Waste.

During the construction of the pond 001A impounding embankment, coal mine waste (coal fines) were used as construction material and buried deep within the bank. This was done without the knowledge of the Division; hence, the permittee did not obtain Division approval to use coal fines as construction material. In the interim, mine operations and environmental management personnel at the site changed. The coal fines in the embankment were discovered by Plateau Mining Corporation, and the permittee immediately pursued the correction of the problem through correspondence with the Utah Division of Oil, Gas, and Mining. In consideration of the permittee's pursuit of remediation, the assigned reclamation specialist felt that a notice of violation was not warranted.

ACT/007/038-98G as it relates to the "As-built" condition of pond 001A, is the permittee's attempt to obtain Division approval for the placement of coal mine waste in the impounding embankment.

Findings:

Upon approval of this amendment, the permittee will have obtained Division approval for the placement of coal mine waste in the impounding embankment of pond 001A. The requirements of R645-301-528.320 will have been met.

#4 R645-301-536. Designs for Placement of Coal Mine Waste in Existing Disposal Areas.

Plate 1, Exhibit 11, Pond 001 Embankment Report shows longitudinal and latitudinal cross sections of the coal mine waste lens in the pond embankment. Although a design is generally considered a blueprint to construct something, the intent of the design of this coal waste lens is to merely show the extent of the material, and its location within the embankment.

The design of the coal waste lens also incorporates stability analyses which was made following the determination of the engineering properties of the coal waste, imported fill, and native soils. These are referenced in Chapter 4 of the submittal.

Based on this engineering stability analysis, it has been determined that the coal waste that exists within the embankment does not present a stability problem. The evaluation points out that the embankment is actually more resistant to failure with the coal fines in place than it would be if it were constructed entirely of fill or native soils.

As shown on Plate 1, much of the impounding embankment of pond 001 contains no coal refuse, therefore subsequent slope stability analyses were conducted without consideration of coal waste engineering properties. The analyses of what can be considered a "pure embankment" (i.e., containing no coal mine waste) is actually considered by the stability analyses as a worst case scenario.

Findings:

The information which the permittee has provided in this submittal relative to design considerations which have been evaluated with regard to the coal waste lens are considered to be adequate. Prudent engineering practices have been implemented in the "design" of the coal waste lens to determine the effect of same on the stability of the pond 001 embankment.

#5 R645-301-536.100. Use of Prudent Engineering Practices.

As noted above, prudent engineering practices have been used to evaluate the "design" of the coal waste lens and its effect on the stability of the pond 001 embankment.

Findings:

The intent of R645-301-536.100 has been adequately met.

#6 R645-301-536.110. Long Term Static Safety Factor of 1.5; Stable Foundations and Abutments.

Analysis of Table 2, as provided in the submittal shows that the inslope of the embankment containing coal fines has a critical safety factor of 1.38 under static

conditions, when under "normal pool" conditions (which is maximum mine water level, or 6166.8 feet), with steady state seepage conditions. R645-301-533.100 requires that impoundments not meeting the criteria for an MSHA pond (impounding 20 acre-feet, or having an impounding embankment higher than 20 feet above the upstream toe) and not located where an embankment failure would cause loss of life or serious property damage should have a minimum static safety factor of 1.3. Therefore, the minimum static safety factor of the in slope of 1.38 exceeds the requirements of the R645 rules for "normal pool" with steady state seepage conditions.

As noted on page 4 of Mr. Layne Jensen's letter to Plateau Mining, the closest structure that might be occupied and impacted by a sudden release of water from the failure of the pond 001 embankment is two thousand feet down stream. Two sharp bends in the Willow Creek channel between the failed pond 001 embankment and the structure would reduce flow velocity and impact.

Further analysis of Table 2 indicates that the outslope of the embankment with the coal lens material in place has a minimum seismic safety factor 1.59 during a seismic event having a lateral acceleration of 0.2 G's. This exceeds the 1.2 seismic safety factor which is required for impoundments meeting the requirements of 30 CFR 77.216(a).

Although the inslope of the embankment does not meet the minimum seismic safety factor of 1.2 during a 0.1 G or 0.2 G seismic event (1.14 and 0.96 respectively at normal pool), the outer embankment (without the coal lens) exceeds this requirement (i.e., 1.98 and 1.59 for the 0.1 G and 0.2 G events respectively).

As indicated in this letter, the pond 001 embankment with stood a 4.1 (Richter scale) tremor on March 6, 2000, being located approximately 7000 hypocentral feet from that epicenter.

As noted by Plateau Mining personnel immediately after the quake, the water level in pond 001 was at the 5.5 foot depth, (elevation 6162.5 feet). An examination of Plate 1 shows that this water level is approximately 1.5 feet below the base of the lowest section of the coal lens. Even so, no quake damage to the pond 001 embankment was noted by Plateau personnel.

Therefore, based on the stability analyses information provided by the permittee, plus the stable condition of the 001 embankment noted after actual seismic activity, it appears that the complete failure of the pond 001 embankment, with its associated downstream flood is not possible.

Findings:

Submittal ACT/007/038-98G, as it relates to the stability analyses of the pond 001 embankment is felt to be adequate, in that it addresses the safety factor requirements of R645-

301-536.110.

#7 R645-301-536.120. Foundation Investigations/Foundation Stability.

This rule requires that foundation stability analyses, as well as laboratory testing of foundation materials (coal mine waste) be performed in order to construct foundations for disposal facilities of coal mine waste. As previously mentioned, stability analyses have been performed on the coal mine waste, the imported fill material and the native soils which were used in the construction of the 001 impoundment. Foundations were constructed of native and earthen fill. The coal mine waste was used at a higher elevation in the impounding embankment than what could be considered a foundation elevation (located on the south side), and in the primary and secondary spillway locations.

Findings:

The stability analyses performed show that the engineering properties of the coal mine waste are actually more resistant to failure than the insitu or imported earth materials which were used to construct the embankment. All embankment foundations were constructed of native soils or imported fill. The requirements of R645-301-536.120 have been adequately addressed.

#8 R645-301-536.200. Coal Mine Waste/Controlled Manner of Placement.

As noted above, the coal mine waste material which was used in the construction of the pond 001 embankment was placed there without prior knowledge of or consent of the Utah Division of Oil, Gas and Mining. It is doubtful if the method of placement used to install this material could be considered as controlled. Visual examination of the test pits which were dug on February 2, 2000 by UDNR/OGM personnel indicate that the coal waste material appeared to be well compacted. It is not known if this material achieved compaction by machine compression, or by the weight of the earth placed and compacted upon it, or both.

Findings:

Since it is not known how the coal waste material was placed in the embankment, and since this is a pre-existing structure constructed with coal mine waste, the intent of this regulation is meaningless. The embankment stability analyses provided by Earth Fax Engineering through Plateau Mining Corporation provide adequate justification that the embankment cross section(s) where the coal waste has been placed are stable, and that a catastrophic failure of same is not possible. These analyses provide justification which meets or exceeds the intent of R645-301-536.200.

#9 R645-301-536.210. Mass Stability/Prevention of Mass Movement.

Based on the engineering analysis provided as part of ACT/007/038-98G, the volume of

coal mine waste which has been placed within the embankment adds to the strength of the embankment rather than detracting from it. The water level in the pond is normally maintained at a level which would prevent saturation of the earthen fill which exists on the inslope to the extent that the coal mine waste lens could not become saturated and slump into the pond, weakening the embankment. The permittee is committed to repairing any embankment inslope failures by removing the slumped fill, and regrading the area to a 2H:1V. As noted on page 7 of the EarthFax Engineering report to Mr. Johnny Pappas of Plateau Mining Corporation, shallow failures of the inslope are possible when the pond 001 water elevation is at the maximum mine water elevation, and the pond experiences a 0.1 or 0.2 G lateral acceleration seismic movement. This same paragraph also indicates that a catastrophic failure of the entire embankment is not possible. Thus, it can be concluded that the engineering design for the pond 001 embankment is adequate to meet the requirements of R645-301-536.210.

Findings:

ACT/007/038-98G adequately addresses the requirements of R645-301-536.210.

#10 R645-301-536.220. Creation of a Public Hazard.

The stability analyses provided as part of ACT/007/038-98G as it relates to the embankment stability of pond 001 where coal mine waste has been utilized as construction material indicates on Page 4 (EarthFax report to Plateau Mining Corporation) that "loss of life or serious property damage is not likely in the event of an embankment failure. The nearest structure that may be occupied, and that could be impacted by a failure of the sediment pond embankment, is over 2000 feet downstream from Sediment Pond 001. The Willow Creek channel in this area has two sharp bends that would promote attenuation of the slug of pond water that could be released due to an embankment failure." This attenuation is due to the meandering shape of the Willow Creek channel, the high percentage of native riprap within same, and energy loss from frictional forces. It can therefore be concluded that the application is correct in saying no public hazard is being created by the placement of the coal mine waste in the pond 001 embankment.

Findings:

The volume of waste that has been placed in the pond 001 embankment does not create a public hazard, in that the embankment is actually stronger with the waste in place than it would have been had native material or fill material occupy the same volumetric area. Even if the embankment should fail, (which is not considered to be likely based on the stability analyses report) loss of life or serious property damage would not occur. No public hazard has been created.

The requirements of R645-301-536.220 have been met.

#11 R645-301-536.230. Placement of Coal Mine Waste so as to Prevent Combustion.

As previously noted, the coal mine waste which has been used as construction material within the embankment has been so placed as to be buried by native soils and imported earthen fill. No coal waste was visible in the embankment. The disturbed coal waste was mixed with dirt upon replacement of same within the bank, and then covered with clean fill. The compacted earthen fill will negate oxygen and moisture from the coal mine waste, thereby preventing spontaneous combustion within that material. The intent of this regulation has been met.

Findings:

The intent and requirement of R645-301-536.230 have been met by ACT/007/038-98G as it relates to the use of coal mine waste in the construction of the pond 001 embankment.

#12 R645-301-536.300. Placement of Coal Mine Waste in Excess Spoil Fills.

This submittal is relevant to the placement of coal mine waste in the pond 001 embankment and not in the creation of an excess spoil fill. R645-301-536.300, -536.310, -536.320 and -536.330 are not applicable in this submittal.

Findings:

R645-301-536.300, -536.310, -536.320 and -536.330 are not applicable in this situation; there is no need to address the requirements of same.

#13 R645-301-536.400. New or Existing Structures Constructed of Coal Mine Waste.

R645-301-536.400 requires that new and existing impoundment structures constructed of coal mine waste address the following regulations in order to meet the requirements.

a) R645-301-512.230. This rule has already been addressed.
b) R645-301-515.200. This rule has already been addressed.
c) R645-301-528.320. This rule has already been addressed.
d) R645-301-536. to -536.200. These rules have already been addressed.

Findings:

Findings for the aforementioned rules have been previously made under each one where they were previously addressed.

e) R645-301-536.500. Disposal of Coal Mine Waste in Special Areas

R645-301-536.500, -536.510, and -536.520 refer to coal mine waste materials which might be imported to the Willow Creek Mine permit area and the disposal of coal mine waste in underground workings. The coal mine waste which was used as construction material in the pond 001 embankment more than likely came from this same area which has seen coal operations since at least the 1920's. Thus, the coal waste came from the same permit area.

There is no intention by the permittee to permanently store this coal waste material in the underground works at the Willow Creek Mine. This regulation is not applicable.

Findings:

The disposal of the coal mine waste in the pond 001 embankment is not considered a special area. R645-301-536.500 is not applicable to this submittal.

f) R645-301-542.730. Disposal of Coal Mine Waste in Controlled Manner to Meet Reclamation and Revegetation Standards/Approved Post Mining Land Use.

The volume of coal waste which has been used in the construction of the pond 001 embankment can be considered to be insignificant as compared to the volumes of coal waste materials which are to be addressed under the intent of this rule. As noted in Volume 7, Exhibit 13, Page 28 under 4.5.1.1 Phase I Reclamation, "Sedimentation Pond 001 will be the primary means of treating runoff and sediment generated from reclaimed watersheds corresponding to the mine surface facilities area reclamation watersheds during and following Phase I Reclamation."

Volume 7, Exhibit 13-34, Section 4.5.3.3, Reclamation Sedimentation Ponds discusses the plan for the retention of pond 001 to treat the reclaimed mine surface facilities runoff through Phase I. Exhibit 13-35 indicates that "Pond 001 will serve to collect sediment for a minimum of two years following the completion of all grading and seeding activities. The pond **WILL NOT BE REMOVED** until the removal is authorized by UDOGM, vegetation over the reclaimed area has been properly established in accordance with R645-301-763.100, and the water quality bond release standards of R645-301-880.320 are complied with."

Hence, the permittee's approved mining and reclamation plan commits to reclaiming pond 001 upon the determination that it is no longer needed for sediment control purposes.

The coal mine waste which was incorporated in the pond 001 embankment should be removed during the reclamation of pond 001 and should be permanently disposed of on the School House Canyon refuse disposal facility. The permittee

should make this commitment when addressing the deficiencies aired in this technical analysis.

The reclamation plan commits to reclaiming the entire mine site using UDNR/OGM policies and procedures as approved in Volume 1, Section 5.3, Habitat Restoration Plans.

This submittal, in conjunction with the commitments made in the approved mining and reclamation plan, addresses the majority of the requirements of R645-301-542.730.

Findings:

The permittee needs to commit to, upon the reclamation of the pond 001 embankment which contains the coal mine waste to **permanently dispose of this same material** on the School House Canyon refuse pile. At that time, all requirements of R645-301-542.730 will have been met.

g) R645-301-746.100. Coal Mine Waste/General Requirements.

1) R645-301-746.110. Placement of Coal Mine Waste in a Controlled Manner Approved by the Division.

This regulation has already been addressed under R645-301-536.200.

Findings:

R645-301-746.110 has been adequately addressed under R564-301-536.200.

2) R645-301-746.120. Minimization of Adverse Effects of Leachate and Surface Water Runoff.

As noted previously, the coal mine waste which has been incorporated as construction material in the pond 001 embankment is well compacted and buried by native soils or imported fill material. The percolation of precipitation into this material is unlikely, due to the cross-sectional shape of the bank, the material compaction of its construction, and the revegetation covering same. No leachate will be formed, unless other problems relative to stability arise; these would only be enhanced by percolation of water into any voids.

Findings:

The coal mine waste is compacted and buried; no leachate will be formed since water should not come into contact with this material. If the inslope of the pond does fail, and water comes into contact with carbonaceous material, same will report into the pond, where it will be greatly diluted. There will be no diminution or degradation of surface or ground water quantity or quality.

Although not specifically addressed within this submittal, the requirements of R645-301-746.120 are felt to have been adequately addressed internally within the submittal.

#14 R645-301-746.310. Demonstration of Zero Effect to Downstream Water Quality from Acid Mine Drainage from Placement of Coal Mine Waste in an Impounding Structure.

As previously noted, the shape of the embankment cross-section, the compaction of the coal mine waste (in "pure" form as well as in "mixed" form), plus the fact that the material is buried under several feet of native and imported soils will prevent the formation of acid mine drainage because of the following.

a) Both moisture and oxygen will be negated from the waste, based on the previously mentioned reasons.

b) Quoting from Volume 1, Section 3.6, Geological, page 3.6-17, **Acid-Base Potential**, "Out of the 40 samples analyzed, one "B" seam and two "C" seam samples exhibited acid-base potentials of -8.4, -42.9, and -51.6, respectively, exceeding the accepted suitability limit of -5 tons CaCO3/1,000 tons of material.

Given the small number of exceedances, the high overall mean acid-base potential, and the number of relatively high acid-base potential measurements, **the potential for acid production from the proposed mine underground workings is minimal. It should be noted that this conclusion is also consistent with available ground water quality data for stored mine water as described in Section 3.7, Hydrologic Information."**

c) There has never been acid mine drainage generated from the Mine's permit area.

d) As noted in Volume 1, Section 5.4, Mining Disturbance, 5.4.2.2, Reclamation Plan, page 5.4-7, paragraph 2, "Evaluation of coal roof and floor materials and overburden/interburden materials indicates **no significant toxicity concerns** relative to these materials."

As noted above, the "B" and "C" seam samples exhibited acid/base potentials

outside of acceptable limits. However, the coal waste material which is in the pond 001 embankment more than likely came from the Castle Gate #2 Mine, which was developed in the "K" seam. Therefore, there is no acid-base potential forming problem associated with the "K" seam material the pond 001 embankment.

Findings:

Based on information provided within ACT/007/038-98G, as it relates to the use of coal mine waste within the pond 001 embankment, and supporting information from the approved Willow Creek mining and reclamation plan, the requirements of R645-301-746.310 have been adequately addressed.

#15 R645-301-746.311. Design, Construction and Maintenance of Impoundment Structures Conducted of Coal Mine Waste.

R645-301-746.311 requires that the following R645 rules be addressed within the submittal to meet the requirements of this regulation.

a) R645-301-512.240. This rule has been previously addressed.

b) R645-301-513.200. MSHA Classified Sedimentation Ponds.

Pond 001 does not meet the requirements necessary to be classified as an MSHA pond (30CFR77.216(a)). R645-301-513.200 is not applicable to this application.

Findings:

This rule is not applicable to this submittal.

c) R645-301-514.310 to and inclusive of -514.330. Impoundment Inspections.

Volume 7, Exhibit 13, page 13-3, Section 1.3, Maintenance Program commits the permittee to conduct qualified impoundment inspections at the site on a quarterly basis. All ponds are P.E. certified as being designed, constructed and maintained as designed on an annual basis. Pond 013, (coarse refuse toe pond at School House Canyon refuse facility) is classified as an MSHA pond, and is inspected weekly. Pond 001 inspections are performed as well during these impoundment inspection regimes.

Findings:

Pond 001 inspections are conducted by the permittee on the regular basis

necessary to meet the requirements of R645-301-514.310 through -514.330. This is a commitment in the permittee's mining and reclamation plan. The requirements of the aforementioned regulations have been and are being met.

d) R645-301-515.200. This regulation has already been addressed.

e) R645-301-533.100 to -533.500. These regulations have been previously addressed.

f) R645-301-733.230. Division Authorization to Construct Temporary Impoundments.

Pond 001 is a permanent impoundment and same will remain at least through Phase I reclamation of the site. This regulation is not applicable.

Findings:

R6450301-733.230 is not applicable to this submittal.

g) R645-301-733.240. This rule has been previously addressed.

h) R645-301-743.100. General Requirements for Impoundments.

Pond 001 is a permanent impoundment, and has been designed, constructed and maintained as such in order to meet all requirements of -743.100. The intent and the requirements of that regulation have been adequately met within this submittal, with supporting information from the Willow Creek Mine mining and reclamation plan.

Findings:

The requirements of R645-301-743.100 have been adequately addressed.

i) R645-301-743.300. 25 Year 6 Hour Precipitation Event/Design Storm for Spillways.

A review of Volume 8, Exhibit 13, Appendix C, Sediment Pond 001 Calculations, (pages 3, 6, 34, and 35) indicates that the primary and emergency spillways are designed to efficiently pass the 25 year 6 hour precipitation event.

Findings:

The submittal, in conjunction with approved information provided by the Willow Creek Mining and reclamation plan, adequately meets the requirements of R645-301-743.300.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

R645-301-542.730. Disposal of Coal Mine Waste in a Controlled Manner to Meet Reclamation and Revegetation Standards/Approved Post Mining Land Use.

Pond 001 will remain in place at the Willow Creek site to act as the primary means of sediment control from the reclaimed mine facilities area at least through Phase I. When the permittee receives authorization from the UDNR/OGM to remove pond 001 (following a determination that successful vegetation and effluent standards can be met) the question of the permanent disposal of the coal mine waste in the pond 001 embankment will arise. Although Waste Handling is discussed in Volume 1, Section 4.5 Engineering Design, page 4.5-22, the permittee needs to commit to the final disposal of the coal mine waste in the pond 001 embankment on the School House Canyon refuse pile. This will meet the requirements of R645-301-542.730.

Findings:

R645-301-542.730, Disposal of Coal Mine Waste in a Controlled Manner to Meet Reclamation and Revegetation Standards/Approved Post Mining Land Use. Amendment ACT/007/038-98G, as it relates to the use of coal mine waste in an impounding embankment of pond 001 is deficient; the final disposition of that material post-reclamation of pond 001 must be addressed. The requirements of R645-301-542.730 have not been met.