T E C H N I C A L M E M O R A N D U M

Utah Coal Regulatory Program

October 7, 2003

TO: Priscilla Burton, Team Lead

FROM: Jerriann Ernstsen, Ph.D., Environmental Scientist/Biology

RE: Coal fines outside the permit area, Consolidation Coal Company, Emery Deep Mine, C/015/0015, Task ID #1692

SUMMARY:

The Division approved the construction of the 4th East Portal area in 1990. The mine received a Notice of Violation (February 20, 2003) for allowing coal fines to blow onto undisturbed areas. The Permittee submitted a response to the NOV (February 20, 2003) in April 2003. The Permittee, however, had implemented many of the mitigation measures listed in that amendment, prior to the Division review in June 2003. To date, the mitigation measures are not effective.

The Permittee submitted a second dust control plan in response to the NOV (February 20, 2003). The dust control plan includes wind fences, watering devices, crusher replacement, operation enclosures, and maintenance plans. The plan also includes relocating the haul truck route within a 1.5-acre area expansion site located east of the existing disturbed and permit boundary. This memo reviews the information submitted with the modification dated September 12, 2003.

It is critical for the Division to adequately determine whether abatement measures are effective for the protection of vegetation and wildlife. The Permittee must install some type of measuring system to track coal fines. This system may include coal fine collection boxes to measure changes in the amount of fugitive fines and dust that leaves the permit area. The Permittee and Division may want to consult with the Division of Air Quality or other agencies to determine the most effective method for data collection and analysis.

The Permittee agrees to follow a four-phase evaluation of revegetation plans. Patrick Collins worked on Phase I during the summer of 2003. The Permittee should submit the results for Phase I sometime in the fall of 2003 or winter of 2004. At that time, the Division will work with the Permittee to proceed with Phase II.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The amendment states that the water cannon(s) will remain operating until wind speed is "below the threshold level for triggering the system" (pg. 9). John Gefferth, however, stated that the system will shut off, irrespective of wind speed, once the water saturates the coal stockpile. The Permittee must clarify the sentence on page 9 to reflect Mr. Gefferth's statement made on October 7, 2003 (see Operations for details).

Chapter 10, page 11 shows a site for Appendix A: intermountain antiquiteis site form. The Permittee, however, does not include the form or mention that the form is in confidential files. The Permittee must clarify the location of the form (R645-301-121.200).

The amendment refers to cool and warm season interim seed mixes. The two seed mixes contain neither entirely cool nor warm season species, but contain a combination of warm and cool season species. The Permittee must change all references to warm and cool season seed mixes, in the amendment and MRP, to reflect the actual type of the seed mix (R645-301-121.200**;** see Operations for more details).

Throughout this amendment, many pages are not numbered, technical reports are not in appendices, appendices are without tabs, appendices and maps are in wrong chapters, page numbers are incorrect, and many other editorial mistakes. The Permittee must organize and correct the editorial mistakes this amendment. (Chapter III is notably unclear.)

Findings:

Information provided in the application is not considered adequate to meet the minimum Permit Application Format and Contents section of the General Contents regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-121.200, (1) The Permittee must clarify the sentence on page 9 to reflect Mr. Gefferth's statement made on October 7, 2003 (2) The Permittee must clarify the

location of The Intermountain Antiquities Site form. (3) The Permittee must change all references to warm and cool season seed mixes, in the amendment and MRP, to reflect the actual type of the seed mix. The following are a *few* examples. The MRP also has many references to warm and cool season interim seed mixes. (a) Amendment, Chapter III, no page number, section "Worksheet – Revegetation". (b) Amendment, Chapter III, page 21. (c) Amendment, Chapter IV, pages 7, 7a. (d) Amendment, Chapter IV, map "Reconfigured topsoil stockpile abatement". (4) The Permittee must organize and correct the editorial mistakes this amendment.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

Dr. Patrick Collins of Mt. Nebo Scientific, Inc. evaluated the 1.5-acre area east of the 4th east portal in the spring of 2003(Appendix VIII 3).

Montgomery Archaeological Consultants surveyed 40 acres east of the 4th east portal in 2003.

Norwest Corporation provided the CONSOL Energy: Fugitive Dust Control Plan for the 4th east portal area of the Emery Mine. The consultants informally presented the proposed dust control plan on August 26, 2003. The Permittee incorporated Norwest's plan in this amendment (Chapter X, Part C – Air Quality).

Findings:

Information provided in the application is considered adequate to meet the minimum Reporting of Technical Data section of the General Contents regulations.

ENVIRONMENTAL RESOURCE INFORMATION

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

Montgomery Archeological Consultants surveyed 40 acres of the Emery Mine including the 4th east portal as well as powerline corridor in 2002. The same firm surveyed an additional 40 acres east of the 4th east portal that includes the 1.5 acre expansion area in March 2003 (Chapter 10 Part A; Appendix 5-7). The 2003 Montgomery results show a site east of the Emery Mine permit boundary. The site number is 42EM2961 and consists of lithic debitage and tools of rock and stone (survey, pg. 6). This site is considered eligible to the NRHP (survey, pg. 7).

The historic site 42EM2961 is near two county roads and may be easily seen from the roads. The consultants installed a fence along the site boundary to help protect this historic site. The fence is marked with fluorescent ribboning. The Permittee did not know who marked the fence (field visit July 28, 2003). The Division is currently investigating whether ribboning is needed to keep the area protected. The area of impact caused by coal fines possibly includes this historic site. The Division will evaluate possible impacts to the site caused by fugitive coal fines.

The consultants determined that with the installation of the fence, there is "No Historic Properties Affected". In accordance to R645-301-411.142, the Division will seek to obtain clearance by SHPO (State Historic Preservation Officer) for site.

Chapter 10, page 11 shows a site for Appendix A: intermountain antiquiteis site form. The Permittee, however, does not include the form or mention that the form is in confindential files. The Permittee must clarify the location of the form (R645-301-121.200; see General Contents for the deficiency).

Plate X-A-1 shows all cultural sites near the Emery Mine inlcuding 42EM2961. Appendix 5-7 (Chapter 10) also provides a map (Figure 1) showing the cultural site 42EM2961. Maps showing historic and cultural sites are considered confidential. The Permittee must relocate Plate X-A-1 and the Montgomery 2003 report in DOGM's confidential files (R645-301-411.144).

Portions of the Emery Mine permit area is part of the National Trails System in 2002. The amendment refers to Plate X-A-1 to see this designated trail. The map provides a narrative piece discussing this trail.

Findings:

Information provided in the application is not considered adequate to meet the minimum Historic and Archeological Resource Information of the Environmental Resource Information requirements. The Permittee must clarify the location of the form for Appendix A (See General Contents for the deficiency). Prior to approval, the Permittee must act in accordance with the following:

R645-301-411.144, The Permittee must relocate Plate X-A-1 and the Montgomery 2003 report in DOGM's confidential files

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

Dr. Patrick Collins of Mt. Nebo Scientific, Inc. evaluated the 1.5-acre area east of the 4th east portal in the spring of 2003(Appendix VIII 3). The consultant added the 1.5-acre site to the 4th east portal vegetation map that shows primary plant communities. The consultant did not visit the 1.5-acre site to assign plant communities, but assigned the communities by reviewing photos of the site. Dr. Collins reasons that colored photographs of the site is adequate to evaluate such a small parcel of land. The primary plant community of the 1.5-acre is shadscale. There is a small portion in the northern corner of the proposed site that is a greasewood community.

Findings:

Information provided in the application is considered adequate to meet the minimum Vegetation Resource Information section of the Environmental Resource Information regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

Dr. Collins did not survey for TES species, but recommends for the Permittee to survey for these plant and animal species in the spring and summer of 2003. The Permittee must provide the results of the TES survey that was conducted in 2003. (R645-301-322.210).

JBR Environmental Consultants conducted a fish and macroinvertibrate survey for Emery Mine in 2002 and 2003. The report for 2003 is more comprehensive than the 2002 report. The contractor will submit the report at the end of 2003 or in 2004. The Division does not require the 2003 report to review the current dust control plan.

Findings:

Information provided in the application is not considered adequate to meet the minimum Fish and Wildlife Resource Information section of the Environmental Resource Information regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-322.210, The Permittee must provide the results of the TES survey that was conducted in 2003.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Cultural Resource Maps

Plate X-A-1 shows all cultural sites near the Emery Mine inlcuding 42EM2961. Appendix 5-7 (Chapter 10) also provides a map (Figure 1) showing the cultural site 42EM2961. Maps showing historic and cultural sites are considered confidential. The Permittee must relocate Plate X-A-1 and the Montgomery 2003 report in DOGM's confidential files (R645-301-411.144; see Historical and Cultural for the deficiency).

Findings:

Information provided in the application is not considered adequate to meet the minimum Maps, Plans, and Cross Section Resource Information section of the Environmental Resource Information regulations. The Permittee must relocate Plate X-A-1 and the Montgomery 2003 report in DOGM's confidential files (See Historical and Cultural for the deficiency).

OPERATION PLAN

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

Coal fines blow from the coal pile to undisturbed areas east of the permit area. The depth of the coal fines increased since January when the NOV was written (visual observation). The

measures that the Permittee has implemented to address the NOV in the past have not been adequate. The amount of coal fines on May 8th 2003 was over 2" in certain points within the 1.5-acre area (Division field visit). This amount of fines is significantly greater than the amount approximated during the January 2003 field visit.

The Permittee vacuumed the area where most of the coal fines had increased, in July of 2003. Since then the Permittee ceased mining operations at the 4th east portal, expect the removal/relocation of the coal stockpile, and opted to sell the Emery Mine.

Since the summer of 2003, CONSOL contracted the Norwest Corporation to comprehensively and adequately respond to the NOV. Norwest provided the CONSOL Energy: Fugitive Dust Control Plan for the 4th east portal area of the Emery Mine. The consultants informally presented the proposed dust control plan on August 26, 2003. The Permittee incorporated Norwest's plan in this amendment (Chapter X, Part C – Air Quality). The dust control plan includes wind fences, watering devices, crusher replacement, operation enclosures, and maintenance plans. The plan also includes relocating the haul truck route within a 1.5-acre area expansion site located east of the existing disturbed and permit boundary.

The prevailing winds at the Emery Mine are westerly, therefore, coal fines blow from the coal pile to the east including the 1.5 acres proposed in this amendment. The Permittee installed a weather station in January 2003 and is supposedly collecting data at this time. Earlier in the year, the Permittee mentioned that the stations had not been operating for some period. On August 26, 2003, the Permittee confirmed that the station was back in operation. It would have been helpful in designing the proposed dust control plan if the data had been taken continually since January 2003.

The Permittee is requesting to enlarge the disturbed area to include an additional 1.5 acres directly to the east of the loadout operation pad. The Permittee plans to reroute haul trucks using one acre of this proposed 1.5 acres. The project will include upgrading part of county road 915 and adding an extension road from 915 heading west to the loadout.

The main principle behind relocating the haul road is to reduce the length of road surface where coal fines persist. The amendment provides supporting evidence of EPA's approval of rerouting roads. However, EPA's support is for rerouting roads to reduce road length to decrease dust. The proposed road would increase the total surface of roads for mining operations. Figure 14 of the Norwest plan shows that the rerouted road is possibly longer than the existing haul road. A greater length of road surface will increase the possibility of haul trucks pulverizing even more coal fines to dust if the coal fine problem persists. Furthermore, the addition of the proposed haul road may increase the acreage of coal fines blown to the east of the existing permit area.

The Permittee plans to relocate and stockpile the topsoil prior to upgrading the county

road. The road project will also include blading and regrading the road for flow to the sediment pond, applying 6" of gravel on 915 and the extension, placing signage for a 10 MPH speed limit, and applying $MgCl_2$ and TARBT dust suppressants to the road surfaces.

It will be difficult to determine the effectiveness of the proposed haul truck road if there are no trucks. The Division must wait on approval of the effectiveness of the abatement strategies until coal operations are near capacity that existed prior to CONSOL ceasing operations in the summer/fall of 2003.

The Norwest plan states that the project will include one (pg. 9) or more (Figure 14) water cannons near the coal stockpile. The Division is concerned that the consultants did not provide supporting evidence to insure coverage of the entire coal stockpile by the water cannons. Without supporting evidence for the water cannons, it is very difficult to evaluate the effectiveness of the cannons. The Permittee does not provide the parameters that Norwest considered for determining the size and number of the cannons and nozzles. The Division's concern is if the nozzle size and water pressure is adequate to completely cover the stockpile on "normal" days, could the water evaporate before much of the water even reaches the stockpile on days with high evaporation rates. The Permittee must provide supporting evidence or rationale concerning the water cannons. Instead of submitting specs on the equipment, it would be more appropriate and timely for the Permittee to provide narrative explaining the parameters considered when selecting cannon and nozzle size as well as placement of these pieces of equipment. (R645-301-526).

John Gefferth (personal communication; October 8, 2003) stated that the entire coal stockpile will be sprayed irrespective of equipment quantity, size, or location. The Permittee also stated that Norwest will submit a brief narrative of supporting evidence that insures coverage.

The consultants state that the water cannons will activate when wind speeds are, for example, greater than 35 MPH for over 15 minutes. These cannons are also supposed to operate in all weather conditions and wet the surface without runoff. The system will remain operating until wind speed is "below the threshold level for triggering the system" (pg. 9). The Division is concerned that the system will continue to operate during periods of persistent high winds. John Gefferth stated that the system will shut off, irrespective of wind speed, once the water saturates the coal stockpile. The Permittee must clarify the sentence on page 9 to reflect Mr. Gefferth's statement made on October 7, 2003 (R645-301-121.200; see General Contents for the deficiency).

Another related abatement measure includes modifying and updating the existing water spray system for the coal conveyor belt. As with the water cannons, it is difficult for the Division to determine the effectiveness of this measure without supporting evidence. The Permittee must provide supporting evidence or rational for the points of the conveyor nozzle

spray upgrade plan. (R645-301-526).

John Gefferth (personal communication; October 8, 2003) stated that Norwest will submit a brief narrative of supporting evidence that insures coverage. One major parameter the Permittee must address for both water control measures is that the water will come from the mine, which is considered high in precipitates. If the spray nozzles and design are not adequately sized or properly maintained, the water will plug the nozzles.

The Permittee plans to install a Raring Corp. wind fence along the western edge of the coal stockpile. The project will include a 400'L x 45' H wind fence attached to wooden poles spaced 15' apart. This fence should help deflect and reduce speed of the prevailing wind that channels around the excavation material stockpile. John Gefferth (personal communication; October 8, 2003) stated that Norwest will submit a figure showing that the wind fence height is higher than the coal radial stacker. The contractors must also submit supporting narrative that the wind fence height and length will adequately limit movement of coal fines as a result of boundary layer turbulence and eddy effects.

It will be difficult to determine the effectiveness of either the water devise abatement measures (cannon and conveyor system) or wind fence without a coal pile. The Division must wait on approval of the effectiveness of the abatement strategies until coal operations have built up a pile similar in size to the size that existed prior to CONSOL relocating the coal pile in the summer/fall of 2003.

The Norwest monitoring and maintenance plan for technical equipment is inconsistent (Chapter X, Part C, Appendix X.C-3 [Appendix I]). Norwest recommends logs for certain items, but not for others. The Permittee must maintain weekly monitoring and maintenance log showing that the Permittee is monitoring the effectiveness of the water control equipment, weather station, wind fence, and all other abatement measures (R645-301-526). As expected, the Permittee must also adhere to all other points presented monitoring and maintenance plan.

Findings:

Information provided in the application is not considered adequate to meet the minimum Fish and Wildlife Information requirements of the Operations Plan regulations. The Permittee must clarify the sentence on page 9 to reflect Mr. Gefferth's statement made on October 7, 2003 (See General Contents for the deficiency). Prior to approval of this amendment, the Permittee must also act in accordance with the following deficiencies and notations.

John Gefferth (personal communication; October 8, 2003) stated that Norwest will submit a brief narrative of supporting evidence that insures coverage by the water cannon. One major parameter the Permittee must address for both water control measures is that the water will come from the mine, which is considered high in precipitates. If the spray nozzles and design

are not adequately sized or properly maintained, the water will plug the nozzles.

John Gefferth (personal communication; October 8, 2003) stated that Norwest will submit a figure showing that the wind fence height is higher than the coal radial stacker. The contractors must also submit supporting narrative that the wind fence height and length will adequately limit movement of coal fines as a result of boundary layer turbulence and eddy effects.

Without coal operations or the coal stockpile, it will be difficult to determine the effectiveness of the abatement measures. The Division must wait on approval of the effectiveness of the abatement strategies until:

- Coal operations are up to the capacity prior to the closing of operations at the 4th east portal in summer/fall 2003.
- Coal stockpile is built up to a size similar to the size that existed prior to CONSOL relocating the coal pile in the summer/fall of 2003.

It is critical for the Division to adequately determine whether abatement measures are effective for the protection of vegetation and wildlife. The Permittee must install some type of measuring system to track coal fines. This system may include coal fine collection boxes to measure changes in the amount of fugitive fines and dust that leaves the permit area. The Permittee and Division may want to consult with the Division of Air Quality or other agencies to determine the most effective method for data collection and analysis.

R645-301-526, (1) The Permittee must provide supporting evidence that insures coverage by the water cannons. (2) The Permittee must provide supportive evidence or rational for the points of the conveyor nozzle spray upgrade plan. (3) The Permittee must maintain weekly monitoring and maintenance log showing that the Permittee is monitoring the effectiveness of the water control equipment, weather station, wind fence, and all other abatement measures

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The Division requires that the Permittee retain the integrity of the eastern portion of the southern perimeter berm of the topsoil stockpile. The Permittee seeded this eastern portion of the berm in 2002 with a "warm" season, interim seed mix (Chapter VIII, pg. 20). Although the seed mix is not entirely composed of warm season plant species, the Permittee must continue to monitor the application of this trial mix as part of the Emery Mine reclaimability study (refer to

R645-301-341.300).

The amendment refers to cool and warm season interim seed mixes. The two seed mixes contain neither entirely cool nor warm season species, but contain a combination of warm and cool season species. The Permittee must change all references to warm and cool season seed mixes, in this amendment and MRP, to reflect the actual type of the seed mix (R645-301-121.200; see General Contents for the deficiency). The Division suggests replacing the name "warm" and "cool" season interim seed mixes with native and non-native interim test seed mixes, respectively. Note that the native interim seed mix contains a high diversity of plant species, whereas the non-native mix contains a relatively low diversity of species.

This memo will refer to these two seed mixes as Native (warm) and Non-native (cool) mixes from this point forward.

The Permittee stabilized the topsoil stockpile at the 4th East Portal by gouging the top and sides of the topsoil stockpile, hydroseeding, and mulching (Ch. IV, p. 7a). The Permittee hydroseeded the top and sides of the topsoil stockpile with the non-native interim seed mix, while traditional broadcast seeding 1/3 of the southern berms with the native interim seed mix. The two seed mixes are neither entirely cool nor warm season species, but both mixes are a combination of warm and cool season species. The following table shows the species used for both mixes and provides the photosynthetic pathway used by these species.

NATIVE - INTERIM MIX ("WARM SEASON" Chapter VIII, pg. 20)	**ACTUAL PHOTOSYNTHETIC PATHWAY** **COOL = C3 PATH WARM = C4 PATH**
Shadscale	Cool
Fourwing saltbush	Warm
Castle valley clover	Unknown at this time
Streambank wheatgrass	Cool
Scarlet globe mallow	Cool
Winterfat	Cool
Blue grama	Warm
Indian rice grass	Cool
Alkali sacaton	Warm
NON-NATIVE - INTERIM MIX ("COOL SEASON" Chapter VIII, pg. 20)	
Crested wheatgrass	Cool
Fourwing saltbush	Warm
Russian wildrye	Cool

Chapter III, page 5 shows a third interim seed mix. This mix is supposedly for areas that

need "temporary stabilization". One major principle behind applying seed to any disturbed site is to stabilize the area. It is unclear why there are three interim seed mixes: "warm", "cool", and "temporary stabilization". Because there are three interim seed mixes, the Permittee must consult with the Division to determine which interim seed mix to use on all projects prior to seeding (R645-301-341.210). Another option is for the Permittee to do the following:

- Use the sterile, quick-growing seed "Tritical" for single-season stabilization needs.
- Remove the "cool" season interim mix from this amendment and MRP.
- Replace the "warm" season interim mix with a "native" seed mix that includes the recommendations by NRCS during a visit on July 22, 2003.

The Division will review all seed mixes as part of the scope of work for the four-phase vegetation study that is currently in process.

The MRP discusses standard revegetation methods to be used at final reclamation. In 20 years, Emery Mine has not successfully vegetated any disturbed site within the permit area. Because of this problem, the Permittee committed to follow a four-phase vegetation study (Chapter III, Page 4b of the MRP). The Division determined that demonstrating that disturbances can be reclaimed is important to obtaining future approval for site disturbance. The Division may require live transplants, irrigation and/or soil amendments to establish vegetation. The Permittee must show repeated and continuous efforts to establish vegetation at Hidden Valley Mine and Emery Mine. The Division may require innovative revegetation procedures and additional materials based on the results of the four-phase vegetation study.

In phase I, the Permittee will investigate and summarize past reclamation sites and practices at the Emery and Hidden Valley Mines. In phase II, based on those investigations, and in consultation with the Division, the permittee will implement the best techniques demonstrated to be successful. In phase III, the applied techniques will be evaluated qualitatively annually and quantitatively between the 4^{th} and 6^{th} year. These evaluations will be correlated to the precipitation data results obtained from an on-site weather station and incorporated into the annual report. Results of the phase III evaluations may result in additional field trials.

The Permittee submitted a scope of work for only phase I of this study on April 1, 2003. The Permittee will submit the results of the study in late fall of 2003 or winter of 2004. At that time, the Permittee, contractor, and Division will determine the steps and procedures for Phase II.

The Permittee reworked and reseeded part of the topsoil pile in the late summer of 2003. Chapter IV, page 7 briefly describes this project. The Permittee must clearly explain the details of this project. This request is a deficiency and is explained elsewhere in this memo.

For the 1.5-acre additional disturbed area, the Permittee will relocate the vacuumed topsoil (coal fines vacuumed; July 22, 2003). The Division will assist the Permittee in determining the presence of cryptogams of this soil prior to removal. If cryptogams are present, the Permittee will separately remove and transplant cryptogams to a topsoil stockpile. In order to

obtain maximum benefit from cryptogams replacement, the Permittee must provide a brief procedure for the cryptogam relocation project. The Permittee must also mark the area of the transplanted cryptogams. (R645-301-341.300).

The Permittee will pock, seed, and mulch the relocated topsoil from the 1.5-acre site. The Permittee must consult with the Division about the seed mix as previously stated in a deficiency. The Permittee must also clarify the type of mulch and that it is noxious weed free (R645-301-353.250)

Findings:

Information provided in the application is not considered adequate to meet the minimum Vegetation requirements of the Operations Plan regulations. Prior to approval, the Permittee must act in accordance with the following deficiencies and notations.

In addition to the deficiencies, the Permittee must change all references to warm and cool season seed mixes, in this amendment and MRP, to reflect the actual type of the seed mix (R645-301-121.200**;** see General Contents for the deficiency).

The Emery Mine has not been successful in revegetating disturbed land, previously. When the Division approved the 4th east portal, it was agreed that the Permittee would conduct a four-phase revegetation study. The Permittee submitted a scope of work for only phase I of this study on April 1, 2003. The Permittee will submit the results of the study in late fall of 2003 or winter of 2004. At that time, the Permittee, contractor, and Division will determine the steps and procedures for phase II. The Permittee must continue to follow the steps in the four phase, irrespective of the sell of the Emery Mine.

The Permittee reworked and reseeded part of the topsoil pile in 2003. Chapter IV, page 7 briefly describes this project. The Permittee must clearly explain the details of this project. This request is a deficiency and is explained elsewhere in this memo.

R645-301-341.210, The Permittee must consult with the Division to determine which interim seed mix to use on all projects prior to seeding because there are three interim seed mixes.

R645-301-341.300, The Permittee must provide a brief procedure for the cryptogam relocation project. The Permittee must also mark the area of transplanted cryptogams if cryptogams are present on the 1.5-acre site.

R645-301-353.250, The Permittee must clarify the type of mulch and that it is noxious weed free for the 1.5-acre project.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

Increasing the disturbance area by 1.5 acres will include the removal of the topsoil and native vegetation and animal life. This removal certainly will not protect the environment, as it existed prior to removal. If the Permittee's plan is not effective, then the area to the east where coal fines currently blow will increase the impact to the soil, vegetation, and wildlife. The Permittee must submit a plan that address how the Permittee will mitigate further disturbances caused from coal fines to soil, vegetation, and wildlife in the area east of the proposed or current disturbed area boundary (R645-301-358).

Findings:

Information provided in the application is not considered adequate to meet the minimum Fish and Wildlife Information section of the Operation Plan regulations. Prior to approval of this amendment, the Permittee must act in accordance with the following:

R645-301-358, The Permittee must submit a plan that address how the Permittee will mitigate further disturbances caused from coal fines to soil, vegetation, and wildlife in the area east of the proposed or current disturbed area boundary

RECLAMATION PLAN

REVEGETATION

Regulatory Reference: 30 CFR 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General Requirements

Vegetation reference areas were established and quantitatively sampled in 1980 by Stoecher-Keammerer & Associates of Boulder, Colorado. The mixed desert shrub reference area had a vegetative cover of 10.6 percent (Ch. VIII, pg. 19). The raw data is not included in the

Mining and Reclamation Plan (MRP). Eleven percent vegetative cover is low from the Division experience in observing vegetative cover on other adjacent sites. However, the reference area and 4th East Portal disturbed area compare equally based on the Division's visual observations. The vegetative cover of the reference area will be re-measured at the same time as the reclaimed disturbed area by the same observer according to the revegetation guidelines.

Findings:

Information provided in the application is considered adequate to meet the minimum Revegetation requirements of the Reclamation Plan regulations

RECOMMENDATIONS:

Do not approve the application until all deficiencies have been addressed.

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