APPENDIX A
OPERATIONAL MEASURES

Operational measures are appropriate actions taken by the Operator to avoid, minimize rectify, reduce, eliminate, or compensate for adverse environmental impacts (40 CFR 1508.20). These operational measures are an integral part of the Proposed Action design, and reflect requirements of federal, State of Colorado, and local laws; regulatory requirements; management plan requirements; as well as BMPs, surface use requirements, protective measures, and standard operating procedures based on scientific research data and past experience with similar actions.

General Conditions

1. Compliance. The applicant is responsible for complying with all applicable federal, state, and local laws, regulations, and permits.

Threatened, Endangered, and Sensitive Species

1. The Operator would provide information regarding the locations of any proposed and future disturbances (such as from exploration drilling) to the BLM for additional surveys and identification of possible threatened, endangered, sensitive, or rare plants.
2. If any bats are observed in the mine workings, the Operator would cease all activities in the area and report the finding to the BLM. The Operator would follow any recommendations made by BLM personnel. These recommendations may include cessation of activities in the mine workings supporting the bat habitat until the breeding season is over. The Operator's policy on bats is addressed in an April 9, 2007, letter to BLM (see Denison's Bat Policy Letter for further information).

Livestock Grazing

1. Livestock would be permitted to graze the mining area but would be prevented from accessing the mine surface facilities and waste rock areas.
2. Speed limits of 20 to 35 mph would be posed on County Road 20R, minimizing the chants of collisions with livestock.

Wildlife (Other than TE&S)

1. The Operator would keep speeds in the area to a minimum in order to reduce the potential for collisions with wildlife. Speed limits would be posted on highly trafficked areas.

Erosion Sediment Control

1. The topsoil stockpile would be seeded during the first fall planting season with a BLM approved seed mix after the soil is stockpiled to control erosion of the topsoil.

The topsoil would be put back in place in accordance with the approved reclamation plan included in the Topaz Mine POO.

2. Runoff from the WRA, ore stockpile area, and topsoil stockpile would be captured by earthen berms located at the crest and toe of the WRA. The existing drainage controls for the existing road system (culverts, waterbars, and ditches) would be maintained as needed using current BLM BMPs for road stabilization. New roads would be designed and would incorporate the BLM BMPs. Water bars, earthen berms, straw bale barriers, and vegetation buffers would be used to control sediment runoff along new roads. Erosion impacts would be minimized by installing the sediment control measures discussed in Section 8.2.6.3, Surface Water.
3. The Operator would capture sediment from the WRA, ore stockpile area, and topsoil stockpile by earthen berms located at the crest and toe of the WRA. The earthen berms would be seeded with a native seed mix approved by the BLM.
4. The topsoil stockpile would be seeded during the first fall planting season with a BLM approved seed mix after the soil is stockpiled to control erosion of the topsoil. The topsoil would be put back in place in accordance with the approved reclamation plan included in the Topaz Mine Plan of Operations.
5. The Operator may install straw bale barriers as a temporary measure to control erosion. If areas are prone to erosion, they would be re-designed and constructed to effectively maintain soils in a stable condition.
6. Disturbed areas that are not expected to be disturbed for a significant period of time would be temporarily or permanently seeded.
7. Sites that are no longer expected to be used would be reclaimed as soon as possible.
8. Runoff from the WRA, ore stockpile area, and topsoil stockpile would be captured by earthen berms located at the crest and toe of the WRA. The existing drainage controls for the existing road system (culverts, waterbars, and ditches) would be maintained as needed using current BLM BMPs for road stabilization. New roads would be designed and would incorporate the BLM BMPs. Water bars, earthen berms, straw bale barriers, and vegetation buffers would be used to control sediment runoff along new roads. Erosion impacts would be minimized by installing the sediment control measures identified in the Stormwater Management Plan.

Lands/Access

1. Maintenance of County Road 20R would be performed by the Operator in conjunction with San Miguel County.

Rangeland

1. Rangeland would be protected from invasive weeds by methods outlined in the Weed Management Plan.

Invasive Non-Native Species

1. Operator would implement a Weed Management Plan compliant with the San Miguel County Noxious Weed Management Plan and the Colorado Noxious Weed Act.
2. Prior to any construction disturbance, all known noxious weed populations would be flagged so that they may be avoided.
3. Prior to entering the project area, vehicles and equipment would be cleaned by manual methods of all mud, dirt, and plant parts where there is potential to import weeds.
4. Equipment, material, and vehicles would be stored at specified work areas or construction yards. All employee vehicles, sanitary facilities, and staging areas, would be confined to a limited number of specified weed-free locations to decrease chances of incidental disturbance and spread of noxious weeds and invasive plants.
5. Disturbed areas would be promptly seeded following completion of activities to reduce the potential for the spread and establishment of noxious weeds and invasive plants.
6. Only county/BLM-approved mixtures of certified "weed-free" seed would be used. All other introduced materials used for mining activities such as straw, fill, and gravel would also be certified weed-free.
7. Pesticides may be used to control noxious weeds. The Operator would obtain from the BLM an approved pesticide use proposal prior to application of any pesticides at the Sunday Mines. Pesticide application records would be submitted annually subsequent to pesticide applications.
8. The Operator would treat the specific areas of disturbance for noxious weeds at least 1 week before such disturbance in accordance with the weed management plan. The Operator would report in its annual report any new noxious weed infestations found and mitigation measures implemented.

Wastes

1. Non-mining related solid wastes (including, but not limited to, tires, hoses, and plastic sheeting) would be stored in a roll-off container for off-site disposal. A mine contractor would empty the container and dispose of the contents on a regular basis. Solid waste would be properly disposed of in accordance with state and local regulations.
2. Small volumes of waste oil, crank case oil, antifreeze, and non-chlorinated solvents would be stored in the maintenance shop or in locked storage containers. Waste products of these chemicals collected as a result of routine vehicle and equipment maintenance would be stored in steel drums in the maintenance shop or within a plastic- and earthen-lined bermed area and would be picked up on a periodic basis by a mine contractor for disposal or recycling. These materials would be handled and disposed of in accordance with federal, state, and local regulations. All other solid

wastes (including, but not limited to, tires, hoses, and plastic sheeting) would be properly disposed of in accordance with state and local regulations.

3. A permitted septic system is located west of the Topaz Mine maintenance shop. The septic system is not currently in use. However, it may be used in the future during mining operations. Sanitary waste disposal service is currently provided to the Topaz Mine by portable toilets that are serviced by a contractor.

Transportation

1. The Operator is responsible for ensuring that radiation levels from hauling operations fall within applicable DOT limits as specified in 49 CFR 173.427(a)(1). These requirements state that the external dose rate may not exceed a radiation level of 1,000 mrem/hr at 3 meters from the unshielded material. Based on the grade of the uranium ore from the Sunday Mines, the exposure rate would be less than 1 millirem per hour (mrem/hr) to recipients standing outside of the truck. As a result, the requirements at 49 CFR 173.427(a)(1) are expected to be satisfied.
2. Requirements at 49 CFR 173.427(a)(5) and 173.441(a) state that under conditions normally incident to transportation, the radiation level shall not exceed 200 mrem/hr at any point on the external surface of the package and the transport index shall not exceed 10. These requirements are also expected to be satisfied in all cases. The average reading in the occupied space of each truck cab is not expected to exceed the DOT limit of 2 mrem/hr as specified in 49 CFR 173.441(b)(4). In addition, the Operator would perform (and document for the record) spot gamma surveys on uranium ore shipments as appropriate in order to ensure that the regulatory standards are satisfied.
3. The Operator's transportation policy specifies that ore trucks must be covered at all times, with or without ore, except for loading and unloading using a tarpaulin or other suitable mechanism. With regard to accidents and other incidents involving the spillage of uranium ore, the policy states that the transportation contractor is responsible for handling the accident and that the contractor must have an Emergency Response Plan in case of emergency.

Recreation

1. Aside from surface facility areas, no public land access would be restricted by mining activities. Signs would be posted advising the public of any mining activity and any road construction activity. Cones and gates would be used when necessary to limit access or divert traffic at mine surface facilities.

Air Quality

1. To control dust emissions, the Operator would cover haul truck beds with tarps for off site transportation of ore.
2. To control emissions from vent holes, watering of underground operations would take place to reduce dust generation underground.

3. The Operator would spray water or chemical suppressants as needed on the storage piles to reduce fugitive dust. Emissions from the topsoil storage piles would be controlled by vegetation that has been or would be established on the piles. Dust emissions from storage piles must meet the 20 percent opacity limit specified in the Operator's air permit. An EPA-trained employee of the Operator would monitor opacity once every two weeks.
4. The Operator would control fugitive dust for the on-site roads by enforcing low speed limits (i.e., 25 mph for haul trucks on the county road) and applying magnesium chloride, calcium chloride, or equivalent to the haul roads within the mine portal area as needed to reduce fugitive dust. The frequency of chemical suppressant applications would depend on site-specific conditions such as precipitation, road dust silt content, and traffic type and volume.
5. The Operator would water or chemically stabilize unpaved roads (i.e. CR 20R) as determined by the Operator and BLM and in conformance with San Miguel County regulations and permit conditions.
6. The Operator would restrict vehicular travel vehicles to established roads to the extent practical.
7. The Operator would minimize the area of disturbed land.
8. The Operator would revegetate disturbed surface areas.

Cultural Resources

1. If access roads are proposed to be utilized for drilling operations cross through eligible cultural properties, the BLM would require temporary protective fencing during drilling operations (including reclamation) to protect them from surface disturbance or inadvertent damage. A BLM or BLM-permitted archaeologist familiar with the boundaries of these sites would direct the placement of the fencing which would be placed by hand. All fencing would be removed upon the completion of the exploration and associated reclamation activity.
2. Access routes constructed or utilized to complete annual drilling activity would be reclaimed as soon as possible following drilling (within 1-2 weeks is preferred). If agency monitoring reveals impacts to adjacent sites from vandalism, illegal collection or looting before reclamation is complete, additional reclamation measures may be necessary and these would be completed by the Operator in cooperation with the BLM.
3. If cultural resources are discovered during plan-related operations, all activities in the vicinity of the resource would cease immediately and the Operator would notify the BLM Authorized Officer. The BLM or a BLM-permitted archaeologist would inspect and evaluate the discovery as soon as possible if during drilling operations but at most within 5 days to determine its nature and extent and eligibility to the National Register of Historic Places. If the resource is determined "eligible", the BLM would determine appropriate avoidance and protection measures after consulting with the Operator. If avoidance is not possible, data recovery would be completed by the

Operator according to Department of Interior policies and guidelines and the BLM Protocol with the Colorado State Historic Preservation Office.

4. Human remains and associated artifacts may be discovered during project development or during controlled archaeological test excavations. Discovery of such items would be handled in accordance with the provisions of the Native American Graves Protection and Repatriation Act. Pursuant to 43 CFR10.4(g), the BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR10.4 (c) and (d), activities must stop in the vicinity of the discovery and the discovery must be protected by the BLM and the Operator for 30 days or until the Operator is notified by the authorized officer. All reasonable measures would be taken to resolve any issues regarding affiliation and disposition of discovered remains within a 30 calendar day period beginning with the agency certification of initial notification.
5. The Operator is responsible for informing all persons associated with this project that they would be subject to prosecution for knowingly disturbing Native American Indian shrines, historic and prehistoric archaeology sites, vertebrate fossils, or for collecting artifacts of any kind, including historic items and/or arrowheads and pottery fragments from Federal lands.
6. BLM or BLM-permitted archaeologists would be required to be on site (within the Area of Interest/APE) semi-annually to monitor compliance with these conditions and to inspect the condition of cultural resource properties. Should the condition of cultural resources be found to be impacted or in a deteriorated state due to actions of the Operator, it's employees, or it's subcontractors, mitigation measures will be directed by the BLM and implemented to federal standards by the Operator and may involve excavation or intensive reclamation activity. If gross neglect or intent is involved, civil or criminal penalties may also apply.

Paleontology

1. If paleontological resources are discovered during plan-related operations, all activities in the vicinity of the resource would cease immediately and the Operator would notify the BLM Authorized Officer. The BLM or a BLM-permitted paleontologist would inspect and evaluate the resource as soon as possible if during drilling operations but within no longer than 5 days and appropriate measures to mitigate adverse effects to scientifically important paleontological resources would be determined by the authorized officer after consulting with the Operator. The Operator is responsible for the cost of any investigation necessary for the evaluation and for any mitigation measures. The Operator may not be required to suspend all operations if activities can avoid further impacts to a discovered site or be continued elsewhere, however, the discovery shall be brought to the attention of the authorized officer as soon as possible and protected from damage or looting.

   The Operator is responsible for informing all persons associated with this project that

they would be subject to prosecution for knowingly disturbing or collecting vertebrate fossils.

2. Should fossil resources be found during underground mining operations, reasonable efforts would be undertaken by the Operator to protect the fossil find or move it to a safe area for inspection, and notify the BLM Authorized Officer within 48 hours of discovery. The BLM would provide an assessment of the significance of the find within 10 days and may require additional reasonable measures to preserve it.
3. During construction activities on the surface (outside the mine passageways), if any paleontological resources are recorded within proposed disturbance areas during preliminary surveys and do not require avoidance, any construction activities disturbing the ground surface would be monitored for additional paleontological resources. If during planning for operations, a fossil inventory reveals fossil sites near or within the boundaries of proposed mining activity, and it is noted that deposits may lie beneath the surface, A BLM or BLM-permitted paleontologist would monitor any additional construction or road blading operations in the vicinity of the resource to document and determine if additional fossil protection is needed . If the monitor identifies additional material, it would be immediately evaluated by the BLM or BLM-permitted paleontologist and if found to be scientifically important, construction activity would cease and the discovery COA #1 (above) would be followed.

A BLM or BLM-permitted paleontologist may be required to monitor construction or maintenance operations as deemed appropriate by the BLM following their review of the Operator's annual or other proposals.

Public Health and Safety

Operational measures that are undertaken by the Operator at the Sunday Mines to protect worker health and safety include:

1. All miners would receive mandatory 40-hour MSHA safety training and annual 8-hour refresher training.
2. The Operator would have daily safety meetings and each worker fills out a safety card each shift identifying any hazards noted in the individual's work area to be addressed by the Operator.
3. Routine safety inspections would be conducted to check the work area for such hazards as loose roofs, dangerous gases, and inadequate ventilation.
4. Waste rock piles from mining would be wetted to control dust.
5. Water and, if necessary, surfactants would be used inside the mine workings to control dust from vehicular traffic, and all underground drilling activities use water so that dust from drilling is minimized.
6. Split-set roof bolts would be installed at a specified spacing to prevent roof cave-ins, the biggest cause of mining injuries. Brattice builders would construct doors,

walls, and partitions in tunnel passageways to force air into the work areas. Shift bosses would oversee all operations at the worksite.

7. Gamma surveys would be conducted in the working areas of the mine to ensure that workers are protected from external radiation.
8. Radon within the mine would be measured in accordance with regulations at 43 CFR, Part 57, to ensure worker safety and to control worker exposure to radon and its daughter products. Radon measurements would be used to adjust mine ventilation and the working environment as necessary to ensure that worker exposures do not exceed the annual dose limit for radon and to maintain exposures as low as is reasonably achievable.
9. Gamma surveys would be conducted accordance with regulations at 43 CFR, Part 57 within the working areas of the mines in order to monitor the potential external radiation exposure of mine workers. These surveys would provide necessary information to determine (1) time and distance restrictions, if necessary, within particular areas of the mines and (2) the need for personal radiation detection monitoring.
10. General worker safety would be ensured through routine observation of worker behaviors and working areas within the mines and the presence of safety personnel to ensure that MSHA safety requirements are met. In addition, frequent and regularly scheduled safety meetings would be conducted to ensure a very high level of safety training and awareness by mine workers. Such training and indoctrination would be mandatory.
11. Mine ventilation systems would be monitored and modified as needed to ensure that releases of radon are in compliance with the requirements of EPA's NESHAP program and that potential exposure of the public would be maintained below 10 mrem/year a the nearest receptor.
12. Public access to the mine site would be precluded in order to eliminate public safety concerns.

Stormwater Management

1. Operator would implement stormwater management plan.
2. Operator would conduct inspections of stormwater BMPs implemented on site at least monthly, and within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. For sites where final stabilization has not been achieved, the Operator would inspect the stormwater management system at least once every month.
3. The Operator would follow and review Best Management Practices (BMPs) as outlined in the stormwater management plan (SWMP).
4. The Operator would inspect the stormwater management system at active mines least twice per year (spring and fall) or more frequently if specified in the plan, and

document in the annual report submitted to CDPHE by February 15th of the following year.

5. The Operator would inspect the stormwater management system at inactive mines at least once per year, and document in the compliance report submitted to CDPHE by February 15th of the following year.
6. The Operator would provide spill response and reporting as specified in the Spill Prevention Control and Countermeasure (SPCC) and SWMP Plan.
7. The Operator would conduct training its personnel and subcontractors on spill response and cleanup, good housekeeping practices, and the proper use and storage of materials.
8. The Operator would revise SWMP when there is a change in design, construction, operation, or maintenance of the site, if the SWMP proves to be ineffective in controlling pollutants in stormwater discharges, or when BMPs are no longer necessary and are removed.

Spill Prevention Control and Countermeasures

1. The Operator would implement the Spill Prevention Control and Countermeasures (SPCC) Plan it prepared for operations.
2. If a spill occurs, the Operator would account for the safety of all workers and immediately contact manager or mine superintendent, and environmental manager.
3. The Operator would dispose of used recovery materials appropriately.
4. The Operator would keep fuel Logs of refueling activities for all refueling activities. The Operator would provide refueling contractors with fuel unloading procedures and guidelines.
5. The Operator would inspect and test buried oil-containing lines if they were exposed. If piping is removed from service or in standby, the Operator would bank-flange and mark them at terminal or transfer point.
6. The operator would inspect secondary containments after a rain event, including rain events resulting in water released from diked area via pump.
7. The Operator would conduct visual inspections of aboveground pipes, valves, appurtenances, bulk storage tanks, containments and portable oil storage on a monthly basis.
8. The operator would conduct bulk storage tank integrity testing every 10 years.
9. The Operator would maintain all records in the SPCC plan book at the mine site for at least 3 years.
10. The operator would conduct annual training for individuals responsible for oil-handling. Completion of training would be recorded and maintained within the SPCC plan book for 3 years.
11. The Operator would place fuel tanks in plastic lined secondary containment area or equivalent.

12. The Operator would store waste products of these chemicals, collected as a result of routine vehicle and equipment maintenance, in steel drums in the maintenance shop, or within a plastic and earthen lined bermed area. The drums would be picked up on a periodic basis by a contractor.