Section 5.0
Summary of Impacts

Resource	Construction	Operations	Closure
Land Use			
Regional and Local Land Use Patterns	Construction would not impact regional land use patterns. Landowners accessing surrounding lands from SH 90 would be affected by construction traffic potentially increased up to 40 percent above existing levels (see Transportation).	Operation would not impact regional land use patterns. Landowners accessing surrounding lands from SH 90 would be affected by operation traffic potentially increased up to 24 percent above existing levels.	Closure would not impact regional land use patterns. Landowners accessing surrounding lands from SH 90 would be affected by closure traffic less than during construction and operation.
Agriculture	Construction would remove 880 acres of seasonal grazing land and 90 to 124 AUMs. No commercial crop production would be affected by construction.	Seasonal grazing lands and AUMs removed during construction would continue to be removed during operations.	Closure would allow 722 acres to return as seasonal grazing land and 72 to 102 AUMs. There would be a permanent loss of 158 acres of seasonal grazing land and 16 to 22 AUMs for tailing cells.
Mineral Resources and Mining	Construction of the Mill would stimulate uranium/vanadium ore production in the region and allow reopening of some idle mines.	Operation of the Mill would stimulate uranium/vanadium ore production in the region and allow reopening of some idle mines.	Closure of the Mill could impact uranium/vanadium ore production in the region.
Recreation	Increased traffic could potentially impact Dolores River floaters en route to Bedrock launch site and bicyclists on SH 141 and SH 90. There would be 880 acres removed for hunting big game and small game within the Site during construction.	Increased traffic could potentially impact Dolores River floaters and bicyclists on SH 141 and SH 90, especially by ore trucks. Loss of 880 acres for hunting big game and small game within the Site would continue during operations.	Traffic impact to Dolores River floaters and bicyclists on SH 141 and SH 90 would be less than during construction and operation. 722 acres would potentially be returned to hunting use.
Land Use Planning Issues	The Site would become an area for commercial and industrial development, authorized by Montrose County, rather than rangeland.	The Site would continue as a commercial and industrial site.	Closure would allow 772 acres of the Site to be returned to rangeland.
Transportation			
Regional Traffic	Impact from increased traffic on SH 90 between the Site and SH 141 junction could potentially be 40 percent above 2008 levels, and 30 percent above existing levels on SH 141 between Naturita and 2 miles north of SH 90 junction.	Impact from increased traffic during operations on SH 90 between the Site and SH 141 junction could potentially be 24 percent above 2008 levels, and 18 percent above existing levels on SH 141 between Naturita and 2 miles north of SH 90 junction.	Traffic associated with closure would be less than during construction and operations. Impact would be concomitantly less as well.
Vehicular Crashes	Increased construction traffic could potentially result in 0.46 fatal and 0.7 injury highway crashes during the 630 day construction period.	The Proposed Action could potentially result in 0.06 fatal and 0.09 injury highway crashes each year of Mill operation.	The Proposed Action could potentially result in between 0.004 and 0.007 fatal, and 0.007 and 0.01 injury highway crashes during the 855 day closure period.
Geology and Soils			
Soil Productivity	Construction would result in disturbance of 414.6 acres of soil with potential for erosion and loss in productivity. Subgrade soils would be compacted in place or excavated and replaced with compacted materials required for construction of the Mill Facility.	During operations, surface disturbance outside of the Mill License Boundary and ancillary facilities would have been stabilized with vegetation and other methods. Potential impacts during construction might consist of erosion and sedimentation of surface drainages.	The primary earthwork involved in restoration would be removal of the ore pad, evaporation ponds, and mill pad, with redistribution of these contaminated soils in the final tailings cells. These areas outside the tailings cells would be regraded to original contours, topsoiled, and seeded.
Geologic Hazards	Impacts resulting from geologic hazards are not anticipated during construction. The Maximum Credible Earthquake has a probability of occurrence of 2 percent in 50 years, corresponding to a return period of 2,475 years. Liquefaction potential at the Site is negligible. Volcanism is not a threat.	All Mill Facilities would be designed in accordance with Montrose County building codes, now transitioning to the International Building Code (IBC), which includes a more comprehensive analysis of earthquakes. Under the IBC, the facility would be designed based on the Design Earthquake, which has a magnitude 4.8 at a distance of 10 miles from the Site.	Impacts resulting from geologic hazards are not anticipated during closure because the reclaimed tailings cells would have high factors of safety for earthquakes and the gradual, rock armored slopes are designed to pass the PMP storm event.
Water Resources			
Surface Water	Impacts to surface water quantity and quality are not expected during construction because Energy Fuels would obtain a Construction Stormwater Permit and follow BMPs in their Stormwater Management Plan. During construction of the stormwater control structures, there is the potential of stormwater eroding disturbed areas and contributing sediments to East Paradox Creek. Access roads and stormwater control structures would be completed before any other facility construction begins and would be in place to manage runoff and sediment through the construction of all other facilities.	Operation would result in capture of runoff from the Mill Facility in quantities up to 428 acre-feet/year under maximum annual precipitation. Impacts to surface water quality are not expected because the facility is designed as zero discharge. A large storm could possibly cause runoff erosion in diversionary channels, and add to turbidity in East Paradox Creek.	During closure, decommissioning would potentially expose some soils to possible erosion. Contaminated material from the Mill and evaporation ponds would be transported to, and placed in, the final tailings cell. There would also be potential for residual amounts of radioactive material to be spilled or blown as dust during closure activities. In post-closure, only the diversionary dike at the south end of the Site and channels bypassing the sealed tailings cells would remain, which should not measurably alter the natural hydrology.
Groundwater	Groundwater withdrawals from the bedrock aquifer would begin during construction and would be closely monitored to evaluate impacts on the aquifer. Stormwater control structures would intercept water that would otherwise have infiltrated or run off. This reduction of surface infiltration to groundwater has been claimed by Energy Fuels as a water right for industrial use.	Groundwater withdrawals from the bedrock aquifer and interception of a small amount of runoff from the facility would decrease combined groundwater discharge from the southeast portion of Paradox Valley to the river. This could potentially cause a slight decrease in groundwater flow to the river during operations, but it is unlikely this would be measurable. The water demand (224 acre-feet/year) is less than the annual average capture of rainwater by the zero-discharge area (252 acre-feet/year).	Potential impacts in closure include the gradual return of the groundwater system to its original baseline conditions with flows toward the Dolores River.
Water Use	Water use during construction would be minimal and would be mostly limited to that required for dust control and moisture conditioning of compacted soils.	There would be a consumptive use of 144 gallons per minute of water for operations. Drawdown of the aquifer could potentially impact surrounding wells.	Water use during closure would be minimal and would be mostly limited to that required for dust control and moisture conditioning of compacted soils.

Resource	Construction	Operations	Closure
Ecological Resources			
Vegetation	Construction would cause long-term removal of 236.5 acres of big sagebrush shrubland and 71.3 acres of mixed grassland within the Mill License Boundary; long-term removal of 8.8 acres of big sagebrush shrubland and 37.3 acres of mixed grassland outside of the Mill License Boundary; short-term removal of 2.3 acres of big sagebrush shrubland and 58.4 acres of mixed grassland outside of the Mill License Boundary.	Operation of the Proposed Action would displace native and domestic herbivores, causing browsing and/or grazing on vegetation resources that would otherwise not occur. Surface disturbance, increased vehicle traffic, equipment placement and operation, foot traffic, and other activities associated with operation may promote the spread of invasive plants and noxious weeds and affect native vegetation.	The majority of the Site would be returned to rangeland use, with the exception of the tailings cells, which would be capped with an engineered soil cover and revegetated. Revegetation would include spreading the salvaged topsoil over disturbed areas, seeding with a native seed mix, and mulching. Closure monitoring would include repair of eroded areas, implementation of weed-control measures, and reseeding areas with sparse vegetation.
Wetlands	No direct or indirect impacts are expected during construction.	No direct or indirect impacts are expected during operations.	No direct or indirect impacts are expected during closure.
Invasive, Non-native Species	Infestations of non-native species are already present. Additional noxious weed growth is possible in disturbed areas following surface disturbance, primarily along roads and areas of development; however, the spread of noxious weeds would be controlled through implementation of Energy Fuels' weed control program.	Additional noxious and invasive weed species could potentially be introduced by ore trucks entering the Site from mines outside the county or state, including invasive species not currently located at or within the vicinity of the Site; however, the spread of noxious weeds would be controlled through implementation of Energy Fuels' weed control program.	The potential for invasive, non-native species to become established, as during construction, would continue during closure; however, the spread of noxious weeds would be controlled through implementation of Energy Fuels' weed control program.
Federally Listed Threatened and Endangered Species	Increased traffic would increase the potential for mortality of Canada lynx Noise generated during construction could exceed 70 dBA in pinyon-juniper habitat and could disturb Mexican spotted owls if they are present. Accidental spills of petroleum products into the Dolores or San Miguel rivers could impact the four Colorado River endangered fish; however, the risk of a spill to the rivers is negligible. A spill would not be toxic 65 miles downstream where the fish species occur.	Increased traffic would increase the potential for mortality of Canada lynx. Restriction of most traffic to daylight hours would reduce but not eliminate risks of collisions of project-related vehicles with lynx. Noise generated during construction could exceed 57 dBA in pinyon-juniper habitat and could cause alert behaviors in Mexican spotted owls if they are present. Water depletions within the Upper Colorado River Basin could potentially affect the four endangered fish species and their designated critical habitats. Operation of the Mill Facility would withdraw water at an average annual depletion of 227 acre-feet. During operations, an accidental spill of ore, yellowcake, chemical reagents, or petroleum products could temporarily impact a short section of the river. The risk to endangered species is negligible because they are located 65 miles from potential spills.	The potential for vehicle collisions with lynx would be less than during construction or operation. Noise generated during construction could exceed 70 dBA in pinyon-juniper habitat and could disturb Mexican spotted owls if they are present. No impacts to the four endangered fish species due to closure are anticipated. Impacts from potential spills would be the same as described for construction.
Candidate Species	Soil disturbance during construction of the Mill Facility could provide habitat suitable for colonization by Gunnison's prairie dogs during or following construction. If they do colonize, they could be susceptible to direct mortality by construction equipment. Construction could potentially interfere with attempted movements by Gunnison Sage-grouse between occupied habitat in Dry Creek Basin and potentially suitable habitat in the East Paradox Valley.	Gunnison's prairie dogs could be impacted they access the evaporation ponds or tailings cells. The Mill Facility could potentially hinder re-establishment of Gunnison Sage-grouse populations in East Paradox Valley during operations because sage-grouse are sensitive to disturbance from roads and noise during breeding and females avoid nesting and utilizing brood-rearing habitats in areas with high levels of human presence.	No impact to Gunnison's prairie dogs is expected during closure. Site demolition and earthwork activities would tend to limit sage-grouse migration into the area because of the associated noise and traffic.
BLM Sensitive Species and State of Colorado Species of Special Concern	Noise from traffic and other sources during construction could potentially interfere with bats' echolocation of insect prey; however, most construction activity would occur during daylight hours when bats are not active. Removal of foraging habitat, or alteration in vegetation cover and vegetation composition from introduced, invasive species may negatively affect pocket gophers, if present. Accidental spills of petroleum products into the Dolores or San Miguel rivers could occur and affect Northern river otters, if present. The risk of a spill into the rivers is negligible. Increased traffic would increase the potential for bald eagles to be killed while feeding on roadside carrion.	Night lighting could potentially act as barriers to bat movements, reduce bat activity in the immediate vicinity or have an opposite effect, depending on light sources, by attracting nocturnal insects. Pocket gophers, if present, could potentially be impacted by passing through chain-link fencing to the evaporation ponds and the tailings cells. During operations, an accidental spill of ore, yellowcake, chemical reagents, or petroleum products could spill into the rivers potentially impacting river otters. The risk of a spill into the rivers is negligible. Increased traffic would increase the potential for bald eagles to be killed while feeding on roadside carrion.	Potential effects to bats during closure would be similar to those expected during construction. Pocket gophers would be effectively excluded from the tailings cells by the bio-intrusion barrier. An accidental spill of petroleum products into the Dolores or San Miguel rivers could affect otters, if present. The risk of a spill into the rivers is negligible. Increased traffic would increase the potential for bald eagles to be killed while feeding on roadside carrion.

Resource	Construction	Operations	Closure
	Western burrowing owls could be indirectly impacted during their breeding season from noise and vibration associated with construction and increased human presence, habitat loss including destruction or degradation of foraging habitat adjacent to occupied or potentially occupied burrows, and decrease in prey species. Midget faded rattlesnake could be impacted during construction if cover or hibernacula are removed, or if traffic associated with the Proposed Action increases road mortality. An accidental spill of petroleum products into the Dolores or San Miguel rivers could affect fish. The risk of a spill into the rivers is negligible.	Burrowing owls might not re-colonize the abandoned prairie dog burrows located west of the Site in the vicinity of the soil stockpiles because of increased human activity. Midget faded rattlesnake could be adversely impacted during operation if cover or hibernacula are removed, or if traffic associated with the Proposed Action increases road mortality. During operations, an accidental spill of ore, yellowcake, chemical reagents, or petroleum products could spill into the rivers potentially impacting fish. The risk of a spill into the rivers is negligible.	Impacts to burrowing owls during construction would be similar to those during closure but the presence of burrowing owls cannot be predicted. Midget faded rattlesnake could be adversely impacted during closure if cover or hibernacula are removed, or if traffic associated with the Proposed Action increases road mortality. An accidental spill of petroleum products into the Dolores or San Miguel rivers could affect fish. The risk of a spill into the rivers is negligible.
Terrestrial Wildlife	Construction of fencing along the Property Boundary could potentially cause mule deer and elk mortality. Habitat supporting mule deer and elk would be removed during construction potentially causing displacement of other animals from adjacent winter range and severe winter range. Functions of habitat could diminish. Increased poaching of big game could occur with increased population. Increased traffic would increase the potential vehicle collisions with big game, small game, and non-game species. Construction during the migratory bird nesting season between May 15 and July 15 could potentially result in a take of nesting migratory birds. Increased noise could cause birds to abandon nests.	Construction of fencing along the Property Boundary could potentially cause mule deer and elk mortality. Habitat supporting mule deer and elk would be removed during construction potentially causing displacement of other animals from adjacent winter range and severe winter range. Functions of habitat could diminish. Increased poaching of big game could occur with increased population. Increased traffic would increase the potential vehicle collisions with big game, small game, and non-game species. Most migratory bird species would be excluded from evaporation ponds and tailings cells by the use of bird netting and bird balls; however, there could potentially be impact to smaller non-game wildlife if they are not effectively excluded from the evaporation ponds or tailings cells.	Risk of vehicle collisions with big game, small game, and non-game species would be less than that during construction and operations. The presence of and effects to migratory birds, small game, and non-game species during closure cannot be predicted.
Aquatic Species	Potential impact to aquatic species could occur from an accidental spill of petroleum products into the Dolores or San Miguel rivers. The risk of a spill into the rivers is negligible.	During operations, impacts to aquatics species could potentially occur from spills of ore, chemical reagents, petroleum products, or yellowcake into the Dolores or San Miguel rivers. The risk of a spill into the rivers is negligible.	An accidental spill of petroleum products into the Dolores River or San Miguel Rivers could potentially affect aquatic species. The risk of a spill into the rivers is negligible.
Air Quality			
Emissions	Emissions during construction would be limited to fugitive dust emission associated with construction equipment and emissions from the diesel engines. There would be no exceedance of either National Ambient Air Quality Standards or Colorado Ambient Air Quality Standards.	Emissions during operations would include both fugitive and non-fugitive emissions, primarily PM_{10} and VOC emissions. There would be no exceedance of either National Ambient Air Quality Standards or Colorado Ambient Air Quality Standards.	Emissions during closure would be similar to those during construction. There would be no exceedance of either National Ambient Air Quality Standards or Colorado Ambient Air Quality Standards.
Noise			
Mill Site	Maximum estimated noise generated by construction equipment within the Site would attenuate to background levels (40 dBA) 5,000 feet away.	Maximum estimated noise generated by operation equipment (87 dBA at 50 feet) within the Mill Facility would attenuate to background levels (40 dBA) 2,600 feet away.	Maximum noise due to construction equipment during closure would be the same as noise generated during construction.
Traffic	Project related traffic during construction, added to existing (2008) traffic volumes, would generate noise on SH 90 attenuating to background levels 1,590 feet away east of the Mill Site and 1,290 feet away on SH 90 west of the Site.	Project related traffic during operation, added to existing (2008) traffic volumes, would generate noise on SH 90 attenuating to background levels 1,470 feet away east of the Mill Facility and 1,340 feet away on SH 90 west of the Mill Facility.	Traffic volumes would be less than during construction and operation and are expected to generate less noise on SH 90.
Historic and Cultural Resources			
Archeological Sites	NRHP-eligible sites would be avoided during construction. If previously unidentified cultural resources are encountered during construction, Energy Fuels would implement *the Unanticipated Discovery Plan* and confer with SHPO, as appropriate.	NRHP-eligible sites would be avoided during operations. If previously unidentified cultural resources are encountered during operations, Energy Fuels would implement the *Unanticipated Discovery Plan* and confer with SHPO, as appropriate.	NRHP-eligible sites would be avoided during closure. If previously unidentified cultural resources are encountered during closure, Energy Fuels would implement the *Unanticipated Discovery Plan* and confer with SHPO, as appropriate.
Visual and Scenic Resources			
Visibility	Large vehicles and construction equipment could be seen from Key Observation Points on SH 90. Areas stripped of vegetation and soil stockpiles would also be visible during the construction period.	Visual resources observed from Key Observation Points on SH 90 are not expected to be substantially impacted. However, middle and background viewsheds would be altered for the 40 year life of the Mill Facility. The administration building and associated parking area would be 675 feet from SH 90 and would be clearly visible to observers using the road. Outdoor lighting at the Mill Facility would change the nighttime viewshed in a place where no lights previously existed.	Large vehicles and construction equipment could be seen from Key Observation Points on SH 90.

Resource	Construction	Operations	Closure
Socioeconomic Resources			
Environmental Justice	No construction-related impact to minority populations, low income population, or Indian Tribes is expected.	No operation-related impact to minority populations, low income population, or Indian Tribes is expected.	No closure-related impact to minority populations, low income population, or Indian Tribes is expected.
Workforce	Construction workforce would increase from 25 workers in the 1st quarter to 200 workers in the 4th and 5th quarters, and fall to 10 workers during the 7th (final) quarter of construction. Local workers are expected to comprise 20 percent of the construction workforce. Additional indirect employment impacts of 126 workers.	Operational workforce would include 85 workers. Local workers are expected to comprise 80 percent of the operational workforce. Additional indirect employment impacts of 230 workers, mostly related to mining-activities.	Closure will cause the loss of 85 operational jobs. Closure workforce would include 10 workers. Local workers are expected to comprise the entire closure workforce. Minimal indirect employment impacts.
Economic Benefits	$14.3 million in regional labor income and $35.5 million in regional business sales during 21 month construction period.	$18.7 million in annual regional labor income and $140 million in regional business sales every year the Mill Facility is in operation	$662,857 in regional labor income and $1.65 million in regional business sales during 33 month closure period.
Population	Construction of the Mill Facility is expected to attract construction workers from across western Colorado and eastern Utah. Construction workers are transient workers who would typically not relocate permanently to communities near the job site and would not impact regional population trends.	No impact on regional population distributions because fewer than 20 mill workers would be expected to relocate to Paradox Valley. Some population gains in local communities of Naturita, Nucla, Bedrock, and Paradox.	No impact on regional or local population distributions is expected during closure although Mill closure could lead to population losses in local communities.
Housing	The Mill's peak construction workforce would be likely to fully occupy available short-term rentals in the local area, causing upward pressure on short-term housing prices, including motels and RV sites.	Because of the small influx of new residents, the Mill's operational workforce is not expected to face severe housing constraints or a rapid increase in prices in the local area.	Mill closure could result in falling housing prices regardless of out-migration of workers and population loss.
Land Values	Initial public perceptions could impact land values in the Paradox Valley.	The Proposed Action is not expected to have a long-term impact on agricultural and residential land values in the Paradox Valley.	Closure would have no impact on agricultural and residential land values in the Paradox Valley.
Community Services	The Mill's peak construction workforce could place increased demands on local medical services, volunteer fire departments, and public safety officers.	Mill operations would not impact local public safety services. Likely increase in insured patients using local medical services.	Mill closure could result in falling school enrollments. Mill closure would not be expected to have an adverse impact on medical service providers and public safety officials, nor on local water and wastewater treatment facilities.
Sales Tax Revenues	During 21 month construction period, sales and use tax revenues are estimated at $2.48 million to State of Colorado, $288,118 to Montrose County, and $286,118 to Montrose County, and $33,769 to each of the towns of Naturita and Nucla.	During Mill operations, annual sales and use tax revenues are estimated at $241,516 to the State of Colorado, $120,000 to Montrose County, and $58,841 to each of the towns of Naturita and Nucla.	During 33 month closure period, sales and use tax revenues are estimated at $194,868 to the State of Colorado, $116,678 to Montrose County, and $2,612 to each of the towns of Naturita and Nucla. Final Mill closure would result in the loss of sales tax revenue associated with Mill expenditures and household spending of income derived from mill operations.
Property Tax Revenues	Construction would generate approximately $37,796 in property taxes, derived by multiplying the unimproved land value of the Mill Site by a 29 percent assessment rate and then by the 2008 mill levy.	Property taxes are estimated to range between $1.9 in Year 1 and $1.1 million in Year 10 over the first 10 years of Mill operations.	Final Mill closure would result the loss of property tax revenue based on real and personal property values at the Mill Facility.
Public and Occupational Health			
Nonradiological	Potential nonradiological impacts associated with construction (i.e., trips and falls, strains, electrocution, crushing, pinching, fuel spills or releases, etc.) would be similar to those at any industrial construction site and would be prevented or mitigated by Energy Fuels' adherence to the applicable plans and reports described in Section 4.11.	The Mill Facility would be operated in compliance with MSHA regulations to protect workers and the public. During operations, potential nonradiological impacts include spills and releases of chemical reagents, fuels, feedstock and waste streams that could impact workers. Energy Fuels would implement the applicable plans and reports to protect workers from possible risks.	During closure, potential nonradiological impacts would be the same as operation but to a lesser extent.
Radiological	Potential radiological impacts during construction would be limited to the possible delivery of ore near the end of the construction period. Radiological controls would be implemented in the ore delivery area as identified in Section 4.11.	Potential radiological impacts would be present throughout most of the mill processes. The Mill Facility would be operated in compliance with CDPHE regulations to protect workers and the public. Energy Fuels must maintain radiation levels, to which workers are exposed, below regulatory limits. To protect the public, Energy Fuels must maintain radiation levels to 100 mrem/year (or less) above background at the Property Boundary. Energy Fuels would comply with the applicable plans and reports prepared for the Mill Facility (see Section 4.11).	During closure, potential impacts would be associated with residual radioactivity above background remaining on equipment, structures, and in soils. Energy Fuels would implement the radiological protection procedures applicable plans and reports to protect workers and the public. Post closure, the Site would be surveyed and monitored in accordance with state and federal regulations.
Waste Management			
Nonradiological	Waste generated during construction would be typical of any industrial building site and would be disposed of in compliance with applicable local and state regulations.	Waste resulting from operation of the Mill Facility would be recycled where possible; disposed of in compliance with local and state regulations; and in the case of potential hazardous waste generation, Energy Fuels would abide by RCRA regulations, which are enforced by CDPHE. The septic system would be designed according to state and county requirements.	Waste generated during closure would be disposed of in compliance with local and state regulations.
Radiological	Construction would not generate radiological waste.	The radiological waste generated during operation (i.e., 11e.(2) byproduct material) would be disposed of in the tailings cells and evaporation pond and would be in compliance with state and federal regulations.	At the time of closure, remaining radiological waste would be disposed of in Tailing Cell C, and the tailings cell area would be covered and monitored in compliance with state and federal regulations.