

Appendix A Proposed Action and Subalternative Mitigation Summary
These mitigation measures are fully described in the Environmental Assessment

Resource Area	Proposed Action Design Mitigations	Subalternative Proposed Action with Additional Mitigation
	<p>As identified in the Proposed Action, EGL would implement the following design criteria and mitigation:</p>	<p>In addition to mitigation and design criteria identified in the Proposed action, BLM would require EGL to:</p>
Air Quality	<ul style="list-style-type: none"> • Comply with CDPHE Air Pollution Control Division (APCD) construction emissions permit stipulations • Implement emission control measures. 	<ul style="list-style-type: none"> • Cooperate with existing atmospheric deposition and visibility impact monitoring programs. • Surface roads and well locations on soils susceptible to wind erosion to reduce the amount of fugitive dust generated by traffic or other activities. • Use dust inhibitors (surfacing materials, non-saline dust suppressants, water, etc.) as necessary on unpaved collector, local and resource roads to prevent fugitive dust problems. • Establish and enforce speed limits (15 to 30 mph) on all project-required roads in and adjacent to the project area.
Cultural Resources	<ul style="list-style-type: none"> • Survey for and mitigate any cultural resources prior to construction. 	<ul style="list-style-type: none"> • Inform all persons associated with the project operations that they would be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. • Stop all activity in the area if historic or archaeological materials are uncovered during any project or construction activities and immediately notify the BLM Authorized Officer. • Notify the BLM Authorized Officer by telephone and with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Stop activities in the immediate area of the find, and the discovery would be protected for 30 days or until notified to proceed in writing by the BLM Authorized Officer.
Farmlands, Prime and Unique	<ul style="list-style-type: none"> • Stockpile soils and protect from degradation. • Return topsoil to pre-construction depths and locations. 	<ul style="list-style-type: none"> • Separate, store, mark and document the A soil horizon or the top 6 inches, whichever is deeper to maximum extent allowable based on soil horizon • Minimize total disturbed area. • Avoid prime farmland soils when reasonably possible. • Control noxious weeds.
Invasive, Non-native Species	<ul style="list-style-type: none"> • Use certified weed-free erosion control and 	<ul style="list-style-type: none"> • Re-vegetate disturbed areas. (see Vegetation section of the Proposed Action with Mitigation.)

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	<p>reclamation materials (e.g., straw bales and seed mixes).</p> <ul style="list-style-type: none"> • Monitor and control noxious weeds throughout the project and final reclamation. 	<ul style="list-style-type: none"> • Keep all disturbed areas as free of noxious weeds and undesirable species as practicable during drilling, production, and reclamation operations. • Conduct pre-construction field surveys each spring prior to construction, to identify existing noxious weed infestations within the project area. • Consult with BLM and local weed agencies to develop treatment strategies • Require vehicles and equipment to arrive at the work site clean, power-washed, and free of soil and vegetative debris capable of transporting weed seeds or other propagules. • Determine need for wash station in conjunction with the BLM and local weed agencies after spring surveys have been completed. Wash water would be contained and grease traps would be added as required. • Seed disturbed areas. (see Vegetation section of the Proposed Action with Mitigation).
Migratory Birds		<ul style="list-style-type: none"> • Re-survey for nesting migratory birds, including raptors, before project initiation if construction is delayed until February 1, 2007 • No surface occupancy allowed within one-half mile of active nests of threatened, endangered, or BLM sensitive species of migratory birds, including raptors, from February 1 through August 15 • No surface occupancy allowed within one-quarter mile of active nests for all non-listed migratory bird species from February 1 through August 15. • Contact BLM for USFWS consultation if any special status species nests are discovered on or adjacent to the project area. • No vegetation clearing while migratory birds are nesting (February 1 through August 15). • Preclude migratory bird access to, or contact with, reserve pit contents using methods that effectively eliminate migratory bird contact with pit contents and meet BLM's approval. • Notify BLM of the method that would be used to eliminate migratory bird use of reserve pits two weeks prior to initiation of drilling activities and implement within 24 hours after drilling activities have begun. • Report all lethal and non-lethal events that

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		involve migratory birds to a WRFO Petroleum Engineer Technician immediately.
Threatened, Endangered, and Sensitive Animal Species	<ul style="list-style-type: none"> • To exclude animals line reserve pits, fence on all four sides with net-wire and cover with plastic barrier. • Net pits to prevent bird access • Reclaim pits as soon as possible after use. 	<ul style="list-style-type: none"> • Re-survey for nesting migratory birds, including raptors, before project initiation if construction is delayed until February 1, 2007 • Conduct surveys prior to construction activities to determine which species would require clearance surveys in the project area if construction occurs in spring of 2007. • No surface occupancy allowed within one-half mile of active nests of threatened, endangered, or BLM sensitive species of migratory birds, including raptors, from February 1 through August 15 • No surface occupancy allowed within one-quarter mile of active nests for all non-listed migratory bird species from February 1 through August 15. • Contact BLM for USFWS consultation if any special status species nests are discovered on or adjacent to the project area. • No vegetation clearing while migratory birds are nesting (February 1 through August 15). • Limit activities within a one-half mile radius of active nests of raptors that are threatened, endangered, or BLM sensitive between February 1 – August 15 (one-fourth mile for other raptors) and consulting with USFWS if any special status species nests are discovered on or adjacent to the project area; and • Prevent vegetation clearing while migratory birds are nesting (February 1 through August 15).
Threatened, Endangered, and Sensitive Plant Species	<ul style="list-style-type: none"> • Coordinate with the BLM if threatened, endangered, or BLM sensitive plant species or habitat are identified during future field surveys. 	<ul style="list-style-type: none"> • Avoid plants that occur outside the project area and install exclusion fencing to prevent disturbance from construction activities; • Conduct source population surveys in areas where plants could not be avoided to determine the magnitude of impact on the entire population; and • Evaluate the potential for site design modifications in areas where plants occur. The potential for site design modifications would depend on feasibility and site-specific terrain conditions.

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Wastes, Solid or Hazardous	<ul style="list-style-type: none"> • Comply with applicable laws and regulations. • Maintain the project area in a sanitary condition. • Provide trash containers on-site. • Dispose of trash at an appropriate disposal site; • Provide portable toilets on-site; properly dispose of contents. 	<ul style="list-style-type: none"> • Use, store, transport, and/or dispose of hazardous materials in accordance with applicable federal and state laws. • Implement spill prevention measures, inspection and training requirements, and spill response and notification procedures to minimize the potential for accidental spills or leak.
Water Quality, Surface and Ground	<ul style="list-style-type: none"> • Obtain and comply with necessary federal and state permits <ul style="list-style-type: none"> • Corps of Engineers Nationwide Permit 12 conditions, • CDPHE Water Quality Control Division (WQCD) Minimal Industry Discharge Permit conditions, • Stormwater discharge permit, and • all other applicable water quality requirements. 	<ul style="list-style-type: none"> • Develop a groundwater monitoring and response plan consistent with the groundwater monitoring programs for all oil shale RD&D tracts. • Continue groundwater monitoring as long as needed to determine that the site is acceptable for abandonment. • Obtain a stormwater discharge permit and submit its stormwater management plan to the WRFO. • Prepare and implement a spill prevention, control and countermeasure (SPCC) plan for BLM approval. • Adhere to “Gold Book” fourth edition surface operating standards for oil and gas exploration and development for all surface disturbing activities. • Submit a water monitoring and response plan to the Authorized Officer prior to project implementation.
Wetlands and Riparian Zones	<ul style="list-style-type: none"> • Obtain and comply with the Corps of Engineers Nationwide Permit 12 conditions. 	<ul style="list-style-type: none"> • Install monitoring wells on the tract and collect surface water data from Ryan Gulch and Black Sulphur Creek to determine hydrologic interactions.
Soils		<ul style="list-style-type: none"> • Strip to a depth of 6 to 12 inches, depending on its depth. • Store any subsoil stripped during grading separately from topsoil to prevent mixing. • Seed soil stockpiles and cover. • Return soils to their pre-construction locations during reclamation. • Install and maintain temporary erosion and sediment controls, immediately following

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		<p>clearing and grading of the site to control erosion. Remove them during reclamation, as appropriate.</p> <ul style="list-style-type: none"> • Return the site to its pre-construction contours; loosen compacted soils using a tractor-pulled ripper or similar device. • Seed all disturbed areas with BLM approved seed mixes. • Install permanent erosion control measures, such as mulch and geotextile fabrics where needed. • Prepare and implement an SPCC plan for BLM approval aimed at reducing the potential for adverse impacts associated with spills and leaks.
Vegetation	<ul style="list-style-type: none"> • Minimize vegetation removal to the extent necessary to allow for safe and efficient construction activities. • Install and maintain erosion control measures until vegetation becomes established. • Restore pre-construction contours, drainage patterns, and topsoil. 	<ul style="list-style-type: none"> • Cut trees with a chain saw and/or mechanical shears and cutting brush as close to the ground as possible. • Leave stumps and root balls in place except in areas requiring topsoiling, or as necessary to create a safe and level workspace. • Shred or chip brush and salvage with topsoil; • Salvage and replace topsoil. • Improve re-vegetation potential by preparing seedbed prior to seeding. • Control noxious weeds. • Use certified weed-free seed purchased from and blended by qualified producers and dealers. • Comply with BLM Instruction Memorandum No. 2006-073 entitled <i>Weed-Free Seed Use on Lands Administered by the BLM</i> and as listed in the Table in the Vegetation Section. • Redistribute large, woody material salvaged during clearing operations in order to meet fire management objectives, provide wildlife habitat and seedling protection.
Wildlife, Aquatic	<ul style="list-style-type: none"> • Develop and conduct a comprehensive groundwater monitoring program. • Develop a response plan to implement in the event of evidence of any hydraulic connection between affected groundwater and surface water. • Monitor stream flow and 	<ul style="list-style-type: none"> • Comply with USFWS Recovery Implementation Program requirements for water depletions, if necessary. • Prohibit storage of hazardous materials, chemicals, fuels and lubricating oils, and prohibit concrete coating and refueling activities within 200 feet of any water body or wetland. • Minimize erosion from upland areas by restoring and seeding disturbed areas.

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	<p>water quality in nearby streams and springs.</p> <ul style="list-style-type: none"> • Install erosion and sediment control measures. • Maintain erosion and sediment control measures at the project site. 	
Wildlife, Terrestrial	<ul style="list-style-type: none"> • Support carpooling. • Establish a policy of reduced vehicular speed. • Line reserve pits, fence on all four sides with net-wire and covered with plastic barrier. • Reclaim pits as soon as possible after use. 	<ul style="list-style-type: none"> • Prohibit construction activities in severe/critical mule deer and elk winter range between December 1st and April 30th; • Redistribute large, woody material salvaged during clearing operations so as not to exceed 3 to 5 tons/acre. • Mulch excess woody materials. • Limit fencing on the tract to facilities. • Seed disturbed areas according to BLM standard.
Access and Transportation	<ul style="list-style-type: none"> • Support carpooling. • Establish a policy of reduced vehicular speed. • Maintain access roads. • Consider providing limited temporary overnight accommodations in the area to reduce round-trip travel to Meeker or Rifle during certain periods of the project. • Control dust. • Minimize tracking of soil onto paved roads. 	<ul style="list-style-type: none"> • Comply with county weight and load restrictions. • Maintain unsurfaced roads during construction and operations of the project. • Restore unsurfaced roads to equal or better condition than pre-construction condition.
Fire Management	<ul style="list-style-type: none"> • Control noxious weeds and cheatgrass (see Invasive, Non-Native Species section). • Seed disturbed areas. 	<ul style="list-style-type: none"> • Coordinate with the BLM and Rio Blanco County emergency response teams in developing fire suppression priorities, identifying management restrictions, and determining appropriate fire suppression strategies. • Equip construction appropriate equipment with approved spark arresters. • Carry fire-fighting equipment (long-handled, round-point shovel and dry chemical fire extinguisher) on motor vehicles and equipment. • Take immediate action to suppress accidental fires. • Create defensible space around the facilities. • Comply with BLM fire management requirements in all activities. • Redistributing large, woody material salvaged

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		during clearing operations on WRFO-administered lands. <ul style="list-style-type: none"> • Implement appropriate mitigation identified in the BLM Fire Management Activity Plan (FMAP). • Develop and provide to all employees on site, county and BLM officials an evacuation plan.
Forestry Management	<ul style="list-style-type: none"> • Seed disturbed areas. • Control noxious weeds. 	<ul style="list-style-type: none"> • Cut trees with a maximum stump height of six inches and dispose of the trees by one of the following methods: <ul style="list-style-type: none"> ○ cutting the trees into four-foot length, down to four inches in diameter; ○ place the trees along the edge of the disturbance; ○ remove the trees from federal land for resale or private use; or ○ chipping and scattering the trees. • Acquire a fuel woods permit to compensate the BLM for trees.
Noise		<ul style="list-style-type: none"> • Install and maintain appropriate mufflers and silencers on construction equipment and facility machinery. • Housing or cover noise producing sources with appropriate insulated facilities.
Paleontology		<ul style="list-style-type: none"> • Require a paleontologic monitor be on site prior to any ground-disturbing activities. • Train construction and operation personnel that collection of paleontological specimens is not allowed.
Rangeland Management	<ul style="list-style-type: none"> • Seed disturbed areas. • Control noxious weeds. 	
Realty Authorizations		<ul style="list-style-type: none"> • Use the “One Call” system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavation. • Provide 48-hour notification to the owner/operator of and foreign pipeline prior to performing any work within 10 feet of buried or aboveground-pressurized gas piping. • Prohibit machine excavation within 5 feet from any known or proposed existing pipeline encountered in the ROW unless authorized by the pipeline owners/operators.

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Socioeconomics		<ul style="list-style-type: none"> • EGL would initiate discussions with Rio Blanco County to determine appropriate mitigation measures to offset the demands on local services.
Visual Resources	<ul style="list-style-type: none"> • Run water trucks through construction areas to minimize dust as needed. • Seed disturbed areas as soon as possible (see Vegetation section). • Encourage carpooling and other methods to reduce traffic, parking, and damage to roadsides. 	<ul style="list-style-type: none"> • Paint all aboveground facilities in accordance with BLM-recommended color schemes. • Restore disturbed portions of the tract to original contours to the degree possible after monitoring well installation, facility construction, and finally upon site restoration to restore natural drainage and runoff patterns. • Where feasible: <ul style="list-style-type: none"> ○ site structures off ridge line; ○ use low-profile structures; ○ site slash/debris piles in low visibility areas; ○ feather and thin edges of cleared areas outside the site buffer zone, and inside the facility. • Co-locate utility services in combined right-of-way.