

ENVIRONMENTAL ANALYSIS
MILES CITY AREA COAL FIRE PROJECT
9/2/09

SECTION 1.0: PURPOSE AND NEED FOR ACTION

AGENCY NAME:

Montana Department of Environmental Quality
Mine Waste Cleanup Bureau
Abandoned Mine Lands Program

LOCATIONS:

- NW ¼ of Section 12 Township 5N, Range 49E
- NENE ¼ ¼ of Section 12 Township 5N, Range 49E
- SE NW ¼ of Section 1 Township 4N, Range 45E
- NE ¼ of Section 34 and NW NW ¼ ¼ of Section 35 Township 14N, Range 51E

TYPE AND PURPOSE OF ACTION:

The Montana Department of Environmental Quality (DEQ), Mine Waste Cleanup Bureau, has elected to investigate and evaluate the need for extinguishing one coal fire in Prairie County and three coal fires in Custer County, Montana. The purpose of this project is to address the coal seam fire associated with the coal seam outcrop.

Specific actions, which will take place as part of this reclamation project to control the most imminent threat from the outcrop fire, include:

- a. Excavating and extinguishing the burning coal seam, and replacing the overburden material.
- b. Grade and Contour disturbed areas
- c. Revegetation

To accomplish the reclamation project described above, the Office of Surface Mining and Enforcement Field Office Director must authorize the use of the Montana Mine Waste Cleanup Bureau, Abandoned Mine Lands Program funding.

The coal fires are associated with high risk of wildland fire activity and general land degradation. The reclamation plan would be centered around excavating and extinguishing the burning material, backfilling, grading, and contouring any disturbance area, and revegetating the disturbed area with native grasses.

SECTION 1.1 PROPOSED ACTION

This project will be undertaken under the direction of the Abandoned Mine Lands Program administered by the Remediation Division of the Montana Department of Environmental Quality to perform coal fire control work and to repair surface damage at one site located in Prairie and three sites located in Custer County.

Coal fire control work will remove, cool, and bury hot, burning coal materials, which is burning up to 30 feet below the surface. This work will require excavating overburden to expose hot areas, repairing associated surface damages, and preparing disposal areas. Approximately, 17.14 acres of backfilling, grading and contouring will be required to fill excavated areas and reclaim other construction disturbance. Erosion control measures would be put in place. Water will be supplied and delivered to two of the sites for dust suppression and cooling.

SECTION 2: IMPACTS ON THE PHYSICAL ENVIRONMENT

MILES CITY AREA COAL OUTCROP FIRES

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</p> <p>Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?</p>	<p>Soils present at the Miles City Area Outcrop Fire Sites are unstable and erosive due to sloughing, heat, and baked soil conditions. There are no special reclamation activities being considered for the Miles City Area fires outside the normal scope of work.</p> <p>The coal outcrop fires located near Miles City are situated within the Lebo and Tongue River Members of the Fort Union Formation in an unknown coal bed. The Miles City area is associated with fine shales, sand and siltstones and has typical badlands formations.</p> <p>Stratigraphically, the highly dissected terrain, underlain by discontinuous sandstones, siltstones, shales, and relatively thin coal seams, are found eastern Montana. At the surface, exposed sandstone cliffs, steep slopes, and badland land formations naturally weather and erode, resulting in toppling of rock and sloughing of surface materials on slopes.</p>
<p>2. WATER QUALITY, QUANTITY AND DISTRIBUTION:</p> <p>Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?</p>	<p>The outcrop sites are located within the Tongue River and Lebo members of the Fort Union Formation. Very little surface water is available in the area. Surface water that flows in the vicinity of the actively burning coal seams are ephemeral and occur primarily during the spring run-off. The project will not impact the groundwater or surface water quality in the vicinity of the outcrop fires.</p>
<p>3. AIR QUALITY:</p> <p>Will pollution or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>The current ambient air quality of the area of the outcrop fire sites is good. This project is not located in any special air quality zones regulated by the State of Montana.</p> <p>In addition to greenhouse gases, coal seam fires are unregulated discharges of carbon monoxide, benzene, toluene, and other organic compounds to the atmosphere and the soil</p>
<p>4. VEGETATION COVER, QUALITY AND QUANTITY:</p> <p>Will vegetative communities be significantly impacted? Are any rare plants or cover types present?</p>	<p>The native plant communities that would be impacted are common on the sedimentary plains of Montana. Consultation with the Montana Natural Heritage Program indicates no sensitive or plant species of concern occur within the project area. No noxious weed infestations were noted. Reclamation of the sites and seeding of native plant species would limit impacts to the vegetative communities.</p>

SECTION 2: IMPACTS ON THE PHYSICAL ENVIRONMENT

MILES CITY AREA COAL OUTCROP FIRES

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>5. TERRESTRIAL, AVIAN AND AQUATIC LIFE HABITATS:</p> <p>Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>A variety of big game, small mammals, game birds, and song birds typical of undeveloped land throughout Custer and Prairie county potentially use this area. The existing land use is anticipated to continue and therefore, no direct or cumulative wildlife impacts are anticipated</p>
<p>6. UNIQUE, ENDANGERED, FRAGILE, OR LIMITED ENVIRONMENTAL RESOURCES:</p> <p>Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?</p>	<p>The Department of Environmental Quality has consulted with the Montana Natural Heritage Program for information on threatened and endangered animal species that might reside in the vicinity of the outcrop fires. The Natural Heritage Program indicated that Townsend’s Big-eared bats, the Lark Bunting, and the Common Sagebrush Lizard are species of concern for the area. The project area does not support suitable habitat for bat species as there are no caves, mine openings or treed areas near the project locations. The project area also does not support suitable habitat for the Lark Bunting or Sagebrush Lizard as the fires and resulting effects have destroyed any nesting or security coverage such as sagebrush or other forbs. No other species of concern have been documented near the project area. No wetlands have been delineated in the project area..</p>
<p>7. HISTORICAL AND ARCHEOLOGICAL SITES:</p> <p>Are any historical, archeological or paleontological resources present?</p>	<p>Consultation on historical and archeological site is continuing. Access routes have been rerouted to avoid areas of potential concern.</p>
<p>8. AESTHETICS:</p> <p>Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>The project area is situated in a quiet rural area. Ranching activity associated with the movement of livestock are the only noises at the sites. Access to the project area is through privately held property and Bureau of Land Management controlled property. The project area is not located on or near any prominent topographic features.</p>
<p>9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:</p> <p>Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?</p>	<p>The project will require the use of minimal quantities of water in order to perform abatement activities and dust control. Sources of water will come from landowner supplied livestock watering tanks.</p>
<p>10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:</p> <p>Are there other activities nearby that will affect the project?</p>	<p>There are no other activities nearby that will affect the projects</p>

SECTION 3: IMPACTS ON THE HUMAN POPULATION

MILES CITY AREA OUTCROP FIRES

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>1. HUMAN HEALTH AND SAFETY:</p> <p>Will this project add to health and safety risks in the area?</p>	<p>Extinguishing the coal seam fires would eliminate threats to public health and general welfare.</p>
<p>2. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:</p> <p>Will the project add to or alter these activities?</p>	<p>The project area has social and economic values as part of Montana ranch operations. The project area contributes little in the way of social or economic value outside of the ranching context.</p>
<p>3. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:</p> <p>Will the project create move or eliminate jobs? If so, estimated number.</p>	<p>The project will have a positive impact on the local economy due to the local employment via materials purchased at the local level and Davis-Bacon wages paid to laborers through the selected contractor.</p>
<p>4. LOCAL AND STATE TAX BASE AND TAX REVENUES:</p> <p>Will the project create or eliminate tax revenue?</p>	<p>No effect on tax base or revenues.</p>
<p>5. DEMAND FOR GOVERNMENT SERVICES:</p> <p>Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?</p>	<p>Any additional traffic added to existing roads will occur during initial mobilization and final demobilization of the project areas and will not require any additional government services.</p>
<p>6. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:</p> <p>Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p>Reclamation construction activities associated with the project area would comply with all Federal, State, regional, and local land use plans, programs, and policies. Management plans in areas regulated by the Bureau of Land Management will be implemented and taken into account during the projects duration.</p>
<p>7. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:</p> <p>Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?</p>	<p>The project areas are located on private property. Access is through privately held property. The project area receives very little to no recreational use; thus, the project area has negligible recreational resource value and wilderness activities will not be adversely affected by the project.</p>

SECTION 3: IMPACTS ON THE HUMAN POPULATION

MILES CITY AREA OUTCROP FIRES

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>8. DENISTY AND DISTRIBUTION OF POPULATION AND HOUSING:</p> <p>Will the project add to the population and require additional housing?</p>	<p>The project will not require long term housing needs. However, due to the remoteness of the project areas, temporary lodging such as hotels may be needed throughout the project duration.</p>
<p>9. SOCIAL STRUCTURES AND MORES:</p> <p>Is some disruption of native or traditional lifestyles or communities possible?</p>	<p>The project will not disrupt native or traditional lifestyles or communities.</p>
<p>10. CULTURAL UNIQUENESS AND DIVERSITY:</p> <p>Will the action cause a shift in some unique quality of the area?</p>	<p>The projects will not cause any shifts in unique qualities of the areas.</p>
<p>11. PRIVATE PROPERTY IMPACTS:</p> <p>Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants, of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.</p>	<p>At the completion of the projects, work areas that required revegetation will be fenced off in order to provide opportunities for successful revegetation. This action has been approved by all landowners involved with the projects. No other regulatory action will take place.</p>

A. PERSONS, ORGANIZATIONS AND AGENCIES CONTACTED

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Tuesday, October 06, 2009

Dept. of Environmental Quality
Remediation Division

Devin Clary
DEQ

Re: Miles City Area Coal Fires OSM Grant Funding, Custer & Prairie Counties

Dear Devin:

Thank you for consulting with us regarding potential effects to Historic Properties as a result of proposed federal undertaking abating coal fires in Custer and Prairie Counties.

We have received the RTI report *Waldie, Tonn Ranch and O'Neill Ranch Coal Fire Suppression: A Cultural Resource Inventory* and agree with the methods and recommendations therein. Further, we **concur** in your No Properties Effected finding for the Waldie and Tonn fires by project redesign around 24CR1139 and 24CR1138.

With regards the O'Neil fire we agree that the eligibility of 24PE726 should be resolved by archaeological testing. We are generally ignorant of coal fire abatement techniques and as such have little feeling as to the extent of necessary ground disturbance. Perhaps that is unknown until the extent of the subsurface burn is revealed during suppression. Nonetheless, and we always welcome input from the field archaeologists who having been on site have a very important perspective, we believe that it is clear that some limited number of 1x1m excavation units are warranted. It is entirely possible that a total of six units could provide information necessary to resolve eligibility. Perhaps two 1x1s on the western lower bench close to the area marked coal fire on Figure 13., two southeast of the upper bench as referred to as the terrace in the narrative on page 14 as the area with the densest surface cultural material, and two on the upper bench would be adequate. Each to be placed at the field archaeologist's discretion and excavated to 30cm minimum or to two sterile 50x50cm levels if cultural material are located below 30cm. The approach could be predicated on the first of each pair indicating presence of subsurface cultural materials. Testing may reveal that the site does not have integrity, lacks sufficient materials or features to answer important research questions or may, on the other hand reveal what sorts of potential is there for answering developed research questions as the statement of significance in the report alludes. Certainly fewer units, or other prospecting methods such as shovel probes are possible - but such an approach could simply delay consensus with equivocal results.

Sincerely,



Stan Wilmoth, Ph.D.
State Archaeologist/Deputy, SHPO

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