Environment Assessment

AML 16G-II & III DAY LOMA RECLAMATION PROJECT

(WDEQ numbers: WY001551NCA, WY001485NCA, WY102725NCA)

Township 32N, Range 91W, Sections 13, 14, 23 & 24

Fremont County, Wyoming

WY-050-EA 11-100

May 2011

BLM

Lander Field Office, Wind River/Bighorn Basin District, Wyoming

The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

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Prepared by
U.S. Department of the Interior
Bureau of Land Management, Lander Field Office

In Cooperation with
Wyoming Department of Environmental Quality
Abandoned Mine Land Program

(May 2011)

Chapter 1

Purpose and Need

1 INTRODUCTION

The Wyoming Department of Environmental Quality, Abandoned Mine Land Division (AML) proposes to reclaim heavily disturbed abandoned mine lands in an area known as the Day Loma Area. The project is located on public lands administered by the Bureau of Land Management, Lander District Office (BLM). The work area is adjacent to previous reclamation areas that were constructed by AML or mine companies. The proposed project is a renewed effort to reclaim this area following a decade of inactivity by AML at the Day Loma project area. A previous project was undertaken but this effort was subsequently cancelled in 2001 and no AML work has occurred there since then.

The Day Loma Area encompasses nearly two square miles of previously mined area in the Gas Hills Uranium District, approximately 60 miles southeast of Riverton in Fremont County. These abandoned uranium mines represent a portion of the extensive areas within the Gas Hills Mining District that were disturbed by mining starting in the 1950s and continuing into the 1980s that were left unreclaimed when mining was discontinued. The abandoned mines in the Gas Hills, in addition to causing environmental degradation over hundreds of acres, have left numerous hazards to public health and safety. The project area has remaining highwalls that pose a danger to the recreational public, ranchers, livestock, and wildlife. These highwalls are unmarked and unprotected, and are from one to three hundred feet tall with sheer drops, and unstable edges. The flooded Day Loma Pit also has a drop into deep water should someone fall over the edge of the highwall there.

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to remediate hazards associated with abandoned uranium mine pits by reducing highwalls, filling old mine pits, reestablish drainage in impaired drainages, and restore wildlife habitat by reestablishing native vegetation communities. The Day Loma Area is comprised of unstable and eroding highwalls surrounding a devegetated open pit mines that were abandoned without any attempt at reclamation. The associated spoils are eroding, unstable, degraded mine waste areas with, acid-forming spoils, and no vegetation. Figure 1 shows the general project area. Figure 2 shows the extent of disturbance on an aerial photo. Photos 1-8 show features that will be reclaimed and remediated by this proposed action. The need for the action is the BLM's obligations under FLPMA and other federal laws and policies to evaluate proposals for actions on federally managed lands and to address solutions to health and human safety issues.

1.2 CONFORMANCE WITH BLM LAND USE PLAN

The proposed action conforms to the Record of Decision and Approved Resource Management Plan (RMP) for the Gas Hills Management Unit dated June 1987. This plan is under revision with expected completion in 2012. The decisions in the Lander RMP provide general management direction and allocation of uses and resources on the public lands in the area.

Abandoned mine lands were not addressed specifically in the RMP. The proposed action is consistent with the decisions for the management of cultural and historic resources, hazardous materials and waste management, recreation, off-road vehicle use, and watershed management. In addition, the proposed action falls within alternatives analyzed in the RMP revision.

1.3 SCOPING

Scoping is an important part of the analysis that is done for a proposed action under NEPA. In addition, the WDEQ issued a public notice in the Sunday, April 24, 2011 issue of the Casper Star Tribune, the most widely distributed paper in the state, detailing the project and opening a 30 day public comment period. No response was received as of the date of the FONSI.

Chapter 2

Description of Alternatives

2 INTRODUCTION

The project under review is an abandoned mine land restoration and reclamation project that is intended to reduce and remove hazards to human health and safety, and to restore the natural environment on lands presently denuded of vegetation and in a hazardous condition. The areas proposed for this reclamation action are on public lands open to the general public. These sites have dangerous highwalls, hazardous flooded pits, and degraded, unproductive soils that cannot support vegetation. Additionally, there are impaired watercourses, and an unstable mine waste dumps (spoils).

2.1 PROPOSED ACTION

AML Project 16G-II & III, a renewal of the original Day Loma Reclamation Project, would eventually reclaim several pits and mine waste piles, address a poorly reclaimed heap leach area, and remove mine spoils from a blocked drainage. Phase 1 of this project, scheduled for summer of 2011, is focused upon partially backfilling the Clyde/Bret Pit, encapsulating the Western Nuclear Heap Leach waste material, and would partially remove a huge mine waste pile from the Coyote Creek Drainage. Subsequent phases, potentially as many as 11-14 additional phases, would eventually fill and grade the Clyde/Bret Pit, removing the highwall hazard at that site, and would also remove the Coyote Springs Spoils from the Coyote Creek drainage, reclaim the Clyde Pit, the Day Loma Pit, and reclaim several other mine spoils areas collectively known as the Coyote Springs Spoils. Because of the size of this undertaking, a multi-phase, multiple-year construction program is the only practicable approach to allow completion of the work. By completing all phases of this work approximately 9,640 linear feet of dangerous highwalls would be eliminated, pit-ponds with low-pH waters would be remediated, and a creek drainage would be restored to its former functionality. The ultimate goal of this massive reclamation project would be to restore the former mining disturbance back to habitat with a more beneficial use. The project proposes to reestablish native vegetation to improve the range condition of over approximately 550 acres of wildlife habitat and rangeland in the area.

The Proposed Action is to implement highwall reduction, heap leach material encapsulation, pit fill, and spoil reconfiguration, including reestablishment of the natural drainages, to addresses the public health and safety dangers associated with the abandoned uranium mines on public land. The Proposed Action would reduce these hazards and reestablish a native habitat that would be beneficial to humans, wildlife, and livestock. The proposed option provides the greatest reduction of highwalls and other hazards without encroaching further into native ground to accomplish the reclamation. It also provides mitigation of existing environmental impacts for the abandoned mine workings. The work area is presently on previously disturbed lands, much of which cannot presently support vegetation. The Proposed Alternative is implementation of the proposed reclamation activities for AML Project 16G-II & III.

Work will be limited to an approximate 90 day season from August 1 through October time frame with the end of season being determined by weather. The entire project is likely to take approximately 5-6 years. Re-vegetation will be progressive as portions of the reclamation are

completed. Subsequent to planting, functional vegetation cover would likely be reestablished within 3-5 years.

Under the Proposed Action, the old Western Nuclear Heap Leach situated on the Coyote Springs Spoil area will be remediated, repairing the failed 1997 reclamation treatment from that time has failed, and the heap leach materials have been re-exto prevent erosion of the leach materials into the Coyote Creek drainage. The Proposed Action is to encapsulate, cover, and protection the Heap Leach from erosion which will make the material, which while not a hazardous waste has elevated radiation levels, unavailable for transport in the environment or into plant rooting zones.

The proposed project at the Day Loma Area will be largely a cut and fill operation that will reduce the highwalls, bury the mine waste, encapsulate the heap leach material, recontour dangerous slopes, and reestablish a drainage through the area. Nearly all the work over the life of the project will occur on previously and currently disturbed area. A small portion of undisturbed native land will be affected by the drainage repairs, and around the perimeter of the original disturbance as the final topography is blended into the surrounding native vegetation. The best estimate of this new disturbance is that it would not exceed 50 acres, most of it along the margins of the disturbed area. See Chapter 3 for a discussion of the current condition of the margin area. Some previous reclamation will be redisturbed as it is worked into the new natural-regrade contouring technique that will establish more natural drainages and relief to the reclamation topography.

The Phase 1 work would involve areas of the Clyde/Bret Pit and Coyote Springs Spoils areas which are presently entirely disturbed, and almost entirely devoid of vegetation of any kind. The primary action of Phase 1 would be to move and isolate the Western Nuclear Heap Leach waste material. The disposal area for the heap leach material would be within the Clyde/Bret Pit, which is presently about 150 feet deep at its maximum depth. A portion of the Coyote Springs Spoils will be excavated and hauled to the Clyde/Bret Pit to backfill the pit to a level that is 20 feet above the calculated level of recovery for the groundwater in the area, based on groundwater recovery after reclamation of the entire area has been completed, and the Day Loma Pit would have been backfilled. This groundwater level recharge level has been modeled for all the pit bottoms within the project area. Once the initial backfill has been completed, a special geosynthetic clay liner (GCL) mat would be installed and secured in place on top of this backfill layer. Within this prepared containment area, the material from the Western Nuclear Heap Leach area would be encapsulated. The GCL was selected for this purpose because is a more effective liner than clay alone, and its installation is more uniform and controllable. Phase 1 would complete a minimum of 10 feet of additional backfill cover over the encapsulated heap leach material. The completed slope on the initial backfill cover would be installed at about a 12:1 slope to discourage erosion while the cap is in an interim state between construction phases.

Subsequent phases of this project would eventually move remaining spoil materials into the Clyde/Bret Pit until 20-to 60 feet of fill would be achieved above the heap leach material. The difference in depths across the old pit would be used to develop appropriate “natural re-grade” engineered topography over the reclaimed pit area. In this project, the encapsulated material would be placed at least 20 feet above the predicted recovery level of the ground water, and 10 feet beneath the anticipated rooting zone for reclamation vegetation. The final grading scheme

would be designed to limit erosion over the encapsulated material, and to provide a stable ground surface on the reclaimed area.

Final plans for the entire Day Loma Area are presently under development and will require additional NEPA analysis. The exact configuration of the final grading will depend on whether or not the Day Loma Pit is filled by the 16G project. This particular action will be determined by further negotiations with Strathmore, the current claimant in the area. One scenario of the Strathmore mining plan may require the storage capacity of the pit for disposal of overburden spoils from a future mine operation. The final plan will be completed such that it would not preclude future mining options at this site.

The final restoration of the Day Loma Pit is not being analyzed in this EA because additional study is required to identify all of the possible approaches to be considered. One option is to fill the Day Loma Pit to a level above the acidic pit water, and the predicted groundwater recovery level, and to retain a small surface water pond that would provide water for livestock and wildlife. Another option is to not provide for surface water but to completely revegetate the site. Before a final plan is selected, additional NEPA analysis will be required to determine impacts to wildlife, vegetation, and livestock grazing. The first phase, while related to the final restoration, can be undertaken without precluding any of the options to be considered in the later phase while addressing the safety issues immediately while funding is available.

The ultimate outcome of the 16G project will be hazard reduction and restoration of native habitat over the extent of the currently disturbed and degraded Day Loma Area. The recontouring will use a natural-regrade approach that will provide natural-looking topography that mimics native drainage patterns, and provides multiple dun-drainages that in turn will provide microclimate variations for plant establishment and wildlife cover. The final surface will blend with surrounding natural terrain, and will rehabilitate the natural drainages that have been impacted by past mining practices. The final revegetation with carefully selected and BLM approved native plants will help reestablish viable sage grouse habitat, and benefit many other species such as pronghorn, mule deer, passerine birds, raptors, and small mammals. The following see mixture will be utilized:

Pure live seed (PLS) will be used where possible as PLS is not often available for forb.

For drill seeding* as follows:

Western wheatgrass (Rosana)	4 lbs PLS/a
Slender wheatgrass (Pryor)	2 lbs PLS/a
Bluebunch wheatgrass (Secar)	4 lbs PLS/a
Indian ricegrass (Nezpar)	2 lbs PLS/a
Green needlegrass (Lodorm)	2 lbs PLS/a
Winterfat	1 lbs PLS/a
Wyoming big sagebrush	½ lb PLS/a
American vetch	2 lb PLS/a
Rocky Mtn. penstemon (Bandera)	0.3 lb PLS/a

Prairie clover (purple for moderate to heavy soils or white for sandy soils)	0.25 PLS/a

*Double the amount if seed is to be broadcast.

2.2 NO ACTION

The No-Action Alternative is to do nothing to remove the hazards or clean up the environmental degradation at the Day Loma Area. Under the No-Action Alternative, the proposed reclamation action would be denied, and the potential of public injury accidents at the sites would be unabated. Threats to public health and safety would continue and environmental degradation at the site would continue.

Chapter 3

Affected Environment

3 INTRODUCTION AND GENERAL SETTING

The project location is in the Gas Hills Uranium District, which was extensively mined starting in the 1950s, and continuing into the early 1980s. Mining conducted in the vicinity was in the form of very large open pits and underground mines, often at the same location. Large tracts of mined land in this area remain unreclaimed, but the AML Program has been systematically reclaiming large tracts since 1988, and some mine companies are continuing to reclaim bonded acreages in the locale. The remaining native areas that were not open pit mined are sagebrush-grassland hills with sandstone and shale outcrops. Extensive areas of reclaimed acreage now occur where previous uranium mining was conducted.

The Day Loma Area has approximately 9,640 linear feet of unguarded 100-300 foot tall highwalls, and more than 550 acres of currently disturbed areas including open pit areas and several mine spoil pile areas without vegetation. The highwalls are accessible both top and bottom by two-track roads, and being on public lands, access is not restricted. In some areas, wall failures have eroded the highwall lip toward the edge of these roads, creating a very hazardous condition. At the Day Loma Pit, there is a large flooded pit beneath the highwall. The recreational use of these federal lands is year-round and often heavy, increasing the risk of accidents associated with the crumbling highwalls. The spoils are composed of acid-forming material, which makes them unsuitable for plant growth. The spoils and pits have blocked or otherwise interrupted natural drainages. Portions of the spoils are steep and eroded, making them dangerous to off-road vehicle operators. The area is used year round by recreationalists and livestock grazing.

3.1 AFFECTED RESOURCES

3.1.1 Historic and Cultural Resources

With the exception of approximately 50 acres around the perimeter of the entire proposed reclamation area, including some area that would be affected by watershed rehabilitation, work areas were completely disturbed by prior mining activity. The areas of work encompass a large spoil piles, haul roads, and open pits. There are no remaining historical or cultural resources within the proposed work area that would be impacted. There is a nearby National Register of Historic Places-eligible prehistoric resource (48FR4509) that would not be directly impacted by the proposed reclamation construction, however, because of its proximity to the proposed work, monitoring will be required when construction occurs in its immediate vicinity. Work in the vicinity of 48FR4509 would not occur during Phase 1, but would occur during a later phase when restoration of the Coyote Creek drainage is undertaken. Copies of correspondence with the State Historic Preservation Officer and the BLM on cultural resources are provided in Appendix A. The entire Gas Hills area is being considered to determine National Register eligibility as a historic mining district.

3.1.2 Hydrology

Project site is located in the headwaters areas of Coyote Creek, tributary to Muskrat Creek. The

hydrologic characteristics of these sites are typical of a semiarid climate, and the local drainages are ephemeral to intermittent. Moderate to steep slopes, erosive soils, and sparse vegetative cover characterizes the native drainage basins in this area. These drainage basin characteristics result in high runoff and sediment yield potential. The natural drainage of Coyote Creek has been compromised by past deposition of a very large spoil pile within and adjacent to the drainage. The open pits also disrupted tributary flows from the side slopes of the drainage basin.

3.1.3 Vegetation

The native vegetation within undisturbed areas of the project vicinity, typical of native sagebrush plant communities is scant, but dominated by sagebrush. The spoil piles and pit bottoms are largely devegetated, with a scattering of weed species where soils will support vegetation at all.

No plant species currently listed, or proposed/petitioned for listing, as threatened or endangered (T&E) were observed during surveys of the project area and none are expected. Although surveys have not been completed in the project area for Wyoming BLM Sensitive plant species, the Wyoming Natural Diversity Database (WYNDD) probability models indicate a moderate probability that Cedar Rim thistle, a sensitive species, could occur in the project area. It is unlikely that this species actually occurs on the project site as past mining removed all vegetation and very few native plant species currently exist.

The margin edge between previously disturbed and undisturbed has been adversely impacted by erosion, sedimentation, and weed encroachment from the disturbed area and is becoming less biologically diverse with less native vegetation. The margin continues to degrade over time even with no additional disturbance.

An additional degraded area is the old Western Nuclear Heap Leach that is situated on the Coyote Springs Spoil area. This heap leach was covered by a clay cap and random soils prior to its release from the Western Nuclear permit by the Nuclear Regulatory Commission (NRC) in 1997; however the reclamation treatment from that time has failed, and the heap leach materials have been re-exposed by erosion, and are migrated into the Coyote Creek drainage. While the heap leach material is not considered a hazardous waste, it is unsuitable for plant growth, and portions have elevated radiation compared to background levels over most of the area. Without encapsulation, cover, and protection from erosion the material will continue to be transported into the environment and move into plant rooting zones. Copies of documents pertaining to evaluation and release of the Western Nuclear Heap Leach by the NRC are provided in Appendix A.

3.1.4 Wildlife Resources

No wildlife species currently listed, or proposed/petitioned for listing, as threatened or endangered under the Endangered Species Act (ESA) were observed during surveys of the project area. Additionally, no sign (i.e., droppings, tracks) or critical habitats for those species were present. Potential habitat for any listed species at this location is unlikely.

Several Wyoming BLM Sensitive wildlife species occur within or adjacent to the project area. These species include raptors and sagebrush obligate songbirds. Raptors frequent the area, and

some species nest on abandoned mine high walls. Golden eagle nests have previously been recorded at the Clyde/Bret Pit. No active nests were observed in the project area in April, 2011, however nests have been recorded in the project vicinity in the past. BLM listed Sensitive songbirds including sage thrasher, loggerhead shrike, sage sparrow, and Brewer's sparrow are known to occupy adjacent habitats and use the project area for foraging of insects.

Wildlife observed within the immediate vicinity of the reclamation area over time included coyote, red fox, pronghorn, mule deer, desert cottontail rabbit, white-tailed jackrabbit, horned lark, ferruginous hawk, black-billed magpie, western meadowlark, common raven, American kestrel, red-tailed hawk, golden eagle, prairie falcon, and feral horses.

The project area is not within greater sage-grouse Core Area because of the extent of disturbance from early mining. Most of the reclaimed areas have been denuded of vegetation and none of the project area has adequate vegetation to support greater sage grouse. Suitable habitat exists adjacent to the project area and greater sage-grouse Core Area is designated approximately 1 mile from the site.

Additional information regarding wildlife resources is provided in Appendix 1 and in the T&E clearances attached in the Appendix.

Because the drainages in the project area are ephemeral, there are no aquatic systems. No wetlands have developed in the drainages, and no fisheries exist in the project area. The perenially flooded Day Loma Pit has a pH of 4, and will not support the aquatic life necessary to support a fishery. Two other pit bottoms do hold water seasonally, and these also have acid water like the Day Loma Pit.

3.1.5 Invasive Non-Native Species

Black henbane is found in the project area and adjoining properties. WDEQ AML is treating the existing problem.

3.1.6 Soils

The U.S. Department of Agriculture soil survey of the area shows that soils in the project area are predominantly Forell-Poposhia-Blazon soils which are all generally loamy. Because of the low precipitation and short growing season these soils are most suitable to support rangeland and wildlife habitat. Soils at the sites are highly disturbed and considerably mixed as a result of mining and subsequent reclamation activities. No prime or unique soils are present in the project areas. The soils do not support prime farm land.

3.1.7 Recreational Resource Values

The project vicinity is a mix of BLM public lands and mine-owned lands, much of which are at some stage of reclamation. Areas between mine pits and spoil piles are largely undisturbed

native ground. Sufficient wildlife populations exist in the area to attract considerable hunting pressure, and other recreational uses.

3.1.8 Air Quality

Local air quality is typical of a rural rangeland setting. Large tracts of barren ground can contribute large amounts of fugitive dust into the ambient air when strong winds are present. Use of the existing two-track roads contributes sediment to the air.

Both the No Action Alternative and the Proposed Action would be reasonable expected to result in less than 25,000 metric tons of CO2-equivalent greenhouse gas (GHG) emissions on an annual basis, the indicator for when a quantitative or qualitative assessment may be meaningful as identified in Council on Environmental Quality's February 18, 2010 memorandum *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions.*

3.1.9 Climate Change

The climate of the Gas Hills area is low precipitation with most precipitation coming in the winter as snow or in the spring. While it is not possible to identify how future changes in climate will impact specific areas, most projections of climate changes for areas in Wyoming in the low precipitation zones such as the area in which the project is located will be more precipitation occurring as snow with earlier spring runoffs. Temperatures are expected to be higher although different models predict different levels of temperature increases. Within the short to long-term, it is unlikely that changing climate will be at a level that will impact vegetation or wildlife. However, storms are expected to increase in severity with more precipitation coming in more intense storms (BLM, 2009).

3.1.10 Noise

The noise level in the area is typical of rural rangeland. Some heavy construction equipment is periodically active in the vicinity during ongoing reclamation efforts at nearby sites.

3.1.11 Topography

Terrain in the vicinity of the project varies from nearly level to steep hills on natural terrain, and includes remnant vertical highwalls where mine pits are unreclaimed. Elevations at the sites range between 6,300 and 6,600 feet.

3.1.12 Socioeconomic

The project is situated in rural rangeland at considerable distance from any economic or population center. There is new uranium exploration in the area, and some mine permitting is in process at some locations within the general area, including evaluation and planning around the proposed work area.

The project area has remaining highwalls that pose a danger to the recreational public, ranchers, livestock, and wildlife. These highwalls are unmarked and unprotected, and are from one to three hundred feet tall with sheer drops, and unstable edges. The flooded Day Loma Pit also has a drop into deep water should someone fall over the edge of the highwall there.
The recreational use of these federal lands is year-round and often heavy, increasing the risk of accidents associated with the crumbling highwalls.

The Day Loma Area is comprised of unstable and eroding highwalls surrounding a devegetated open pit mines that were abandoned without any attempt at reclamation. The associated spoils are eroding, unstable, degraded mine waste areas with, acid-forming spoils, and no vegetation. This condition causes a risk of injury to the general public.

3.1.13 Special Areas

No special areas are located near the proposed reclamation site including no waterways suitable for inclusion in the Wild and Scenic River System. No portion of the proposed project area is located in an existing or proposed ACEC or within the viewshed of an historic trail. The area does not contain wilderness characteristics and is not within the viewshed of lands with wilderness characteristics.

3.1.14 Visual Resources

The current visual resource management class for this area is Class IV and this management is continued in all alternatives in the proposed RMP revision. The project area is located in an area of low sensitivity but is highly visible to users of the County Road. The site is highly degraded with industrial use that contrasts with the undisturbed surrounding areas.

Chapter 4

Environmental Impacts

4 DIRECT AND INDIRECT IMPACTS

Direct and indirect impacts from the alternatives are those impacts that are the result of the proposed action. Direct impacts are those that occur in the immediate time frame of the proposed action; indirect impacts are those that occur at a later time but still the result of the proposed action. Cumulative impacts, which are discussed below, are those impacts that are the result of other actions (whether authorized by the BLM or others) which are evaluated to determine if, when considered with the direct and indirect impacts of the project, would change the effect of the project impacts.

4.1 PROPOSED ACTION

4.1.1 Historic and Cultural Resources including Paleontological Resources

The work areas are within extensive acreages of disturbed ground surface. No cultural or paleontological resources within the project area have been documented, and no impacts to cultural resources are anticipated from the Proposed Action. There is, however, a nearby prehistoric site that will require avoidance and monitoring. The site is to be protected by a 200-foot buffer zone. The BLM stipulation states that AML shall provide an archeologist with a current BLM Cultural Resources Use Permit to monitor reclamation activities at the specific location. The archeologist is to notify BLM prior to the commencement of work, and to ensure that the cultural resource is not affected by the construction. Should the archeological monitor determine there may be an effect, or if a discovery of new material is made, the work at that location is to be suspended until BLM can determine appropriate measures for protection or mitigation. Because of the keep out zone and the identified mitigation for any new discoveries, the proposed action will have no adverse impacts to cultural or paleontological resources.

4.1.2 Hydrology

Drainage patterns in this semiarid work area will be maintained as required to protect ongoing reclamation during and after construction of this project. In the Proposed Action, the Coyote Creek drainage would be restored and rehabilitated. This should improve drainage, and the quality of the water available in the vicinity, both beneficial impacts. The slope stabilization, natural-regrade topography, and revegetation with native species will beneficially impact water for use by wildlife and livestock. Short-term temporary adverse impacts to surface waters will be controlled and mitigated through standard construction stormwater control methods, as necessary, through use of a Wyoming Pollutant Discharge Elimination System (WYPDES) stormwater permit and on-site best management practices. The short term adverse impacts from the proposed action are expected to be negligible. Long-term impacts are anticipated to be very beneficial. The Day Loma Pit is not part of the natural hydrologic system of the area so its reclamation will not impact hydrologic resources.

4.1.3 Vegetation

No vegetation species currently listed or proposed/petitioned for listing under ESA or as Wyoming BLM Sensitive Species will be affected by this action. The vegetation in the project area will receive minimal adverse impact associated with construction activities, while long-term impacts are anticipated to be entirely beneficial because vegetative cover will be reestablished where the highwalls and spoil piles presently preclude establishment. Remaining mining-related barren areas will be revegetated, increasing range carrying capacity in the affected areas. Impacts from activities associated with the proposed action are expected to be short-term and negligible and substantially outweighed by the long-term benefits from the Proposed Action.

4.1.4 Invasive Non-Native Species

Soil disturbance during site construction would increase the susceptibility of the area to support INNS and noxious weeds. However, this is a short-term potential adverse impact that will be managed through BMPs and continued spraying and treatment. Only native plant species will be used in revegetation. Following construction, the site will be revegetated using broadcast or drill seeding methods, as appropriate, for the weed-free native seed mixture. Prompt revegetation will minimize the potential for invasive plants and noxious weeds to become established on the site. Following successful reclamation and revegetation, the vegetative production of these sites is expected to increase from levels prior to construction since much of the current area is void of vegetation. The reclaimed area will be less susceptible to the spread of INNS than barren soil.

Revegetation success will be monitored for a period of three growing seasons. If establishment success is unsatisfactory, or if noxious weed species become a problem, the situation will be evaluated and such problems will be addressed as appropriate (e.g., reseeding or application of acceptable weed control methods). Any weed control would be compliant with the standard BLM stipulations for weed control on public lands. These stipulations list acceptable herbicides, and require submittal of a Pesticide Use Plan to BLM prior to implementation.

4.1.5 Wildlife Resources

No wildlife species currently listed or proposed/petitioned for listing as threatened or endangered under ESA will be affected by this action. More common wildlife species are expected to avoid the construction areas, but displacement will likely last until activity ceases following reclamation. There will be an increase in wildlife mortalities from increased traffic use associated with the construction activities but these are expected to be minimal. The project area will be fenced to limit conflict with wildlife and construction travel will be required to follow posted speed limits.

Although raptor nests have been recorded in the immediate vicinity of the proposed work, the Phase 1 work is not scheduled to begin until after July 31, 2011, therefore no adverse impacts to nesting raptors are anticipated. As additional phases are developed, raptor nest activity will be assessed seasonally to determine if protective or mitigative measures will be required such as seasonal protection during the breeding and nesting period. The area is not in a Sage Grouse Core Area, however, the reclamation seed mixture would be designed to provide preferred elements of sage grouse habitat.

Wildlife will benefit from the long-term improvement in water quality and quantity.

In the short-term, negligible adverse impacts to wildlife from the proposed action, primarily from disruption caused by construction, will occur. This temporary impact will be offset by the long-term beneficial impacts from improved vegetation, reduction of erosion and fugitive dust, and improved water quality.

In a later phase of the project, it is likely that the non-discharging Day Loma Pit that has water that continues to degrade in quality will be replaced by a surface water pond that will provide a clean water source for livestock and wildlife. This will be accomplished by backfilling the pit and establishing a stock pond that is at least 10 feet above the predicted recovery groundwater table. In addition to providing a source of clean surface water, the reclamation would establish positive drainage from the area so that the pit would no longer capture all incoming surface water. Even if no new stock pond is created, the Proposed Action will result in the removal of the degraded water.

The other pit bottoms that hold water seasonally and become filled with acid water like the Day Loma Pit will be recontoured to provide positive surface water drainage which will beneficially impact riparian areas and the wildlife that utilizes them.

4.1.6 Soils

No prime or unique farmland values exist in the project area, therefore, these will not be affected. Standard construction erosion controls will be used to conserve soils. While construction will disturb soil, only limited disturbance will occur on previously undisturbed soils. The long-term impacts of the Proposed Action to soils will be beneficial as erosion will be controlled and degradation reversed as vegetation is re-established. The limitation on erosion will provide beneficial impacts to the ephemeral drainages that will be particularly important if the projected increase in storm severity with changing climate occurs.

4.1.7 Recreational Resource Values

Recreational resources in the project area are limited due to mining effects, but are expected to be improved by this action. Unsafe mined landforms will be reconfigured, and esthetics will improve. Once the nearby mine lands are fully reclaimed, this site will provide a safer and more appealing area for recreation. Improvements to the vegetation and hydrology will increase the use of the area by wildlife which will beneficially impact wildlife based recreation such as hunting and birding.

4.1.8 Air Quality

Impacts to local air quality from the proposed action are expected to be negligible. Construction trucks and worker transportation vehicles would emit GHG and particulate matter. Fugitive dust will be controlled by standard methods and BMPs. Fugitive dust from these sites should

ultimately be reduced by revegetation of the presently barren areas. Construction crews would be required to commute in carpools to the extent feasible.

4.1.9 Noise

Impacts to noise levels from the proposed action are expected to be temporary although occurring through-out the project and will not cause long-term effects.

4.1.10 Visual Resources

In time, the Proposed Action will result in beneficial impacts to the visual resources by re-establishing a more natural contour and re-vegetating barren soil and preventing the spread of degraded conditions to undisturbed areas. The short-term construction activity will neither benefit nor adversely impact visual resources.

4.1.11 Socioeconomic

Short-term socioeconomic impacts are anticipated from the Proposed Action by reason of the construction expenditures. The contract bids have not been received but the total financial commitment of the proponent is in the millions of dollars. A substantial portion of the construction cost will be spent in the local community. These expenditures are small in comparison to the total economy but will benefit employment in the construction industry and supporting trades and suppliers.

The Proposed Action will not adversely impact existing mining claimants in the area. The potential mining interests of the claimants will be preserved by the reclamation design. The reclamation would not impair the ability of a claimant to develop a mine plan in or around the reclaimed area as it is designed. Restoration of vegetation at the conclusion of the project is expected to restore grazing in the area for the grazing lessee although this beneficial impact will be minimal.

4.2 NO ACTION ALTERNATIVE

4.2.1 Historic and Cultural Resources

No impacts to historic and cultural resources are anticipated from the No-Action Alternative. However, continued degradation of the highwalls could damage unknown or undiscovered cultural resources. In addition, continued fugitive dust from the barren soils could on a long-term basis adversely impact cultural resources outside of the project area.

4.2.2 Hydrology

The No-Action Alternative would not repair the impaired drainage, and would allow sedimentation from loose mine spoils to continue to migrate into drainages with both short and long-term adverse impacts.

4.2.3 Vegetation

The No-Action Alternative would not reestablish a robust native plant community as is ultimately anticipated to be the long-term effect of the proposed reclamation. The lack of vegetation would continue to allow erosion of mine spoils, and impacts to drainages. Fugitive dust would continue to degrade vegetation resources. No rangeland for wildlife and livestock would be reestablished and vegetation resources would be adversely impacted by acid-forming soil migration into otherwise productive areas.

4.2.4 Invasive Non-Native Species

There would be no additional soil disturbance under the No-Action Alternative so that there would be no increase in areas that would be vulnerable to the spread of INNS. However, the ground that is currently barren would be at risk of INNS spread to the extent that the soil could support vegetation. Annual treatments would be utilized as they are currently being done with modest beneficial impacts to reducing INNS.

4.2.5 Fish and Wildlife Resources

The No-Action Alternative would not restore wildlife habitat, but would instead leave unvegetated areas within the abandoned mine sites. There would be no adverse impacts from wildlife and vehicle conflicts associated with increased traffic to the proposed project area.

4.2.6 Soils

The No-Action Alternative would allow soils to continue to erode, and would allow acid-forming soils to continue to migrate into otherwise productive areas. Without the landform stabilization and revegetation, soils would continue to be lost to water and wind erosion and would continue to be vulnerable to INNS spread. If project increases in storm severity occur, damage to ephemeral drainages is likely to increase as well if current management continues.

4.2.7 Recreational Resource Values

Under the No-Action Alternative, human health and safety hazards would continue to present a threat to the recreational public using this area. Without reduction of these highwalls and removal of the dangerous spoil piles, the hazards to the public would remain.

4.2.8 Air Quality

Impacts to local air quality from the No-Action Alternative would be the continued generation of fugitive dust from unvegetated and mine spoil piles. There would be no emission of GHG or particulates associated with construction vehicles. Travel to the site by crews and delivery trucks would not occur so there would be no air quality short-term adverse impacts.

4.2.9 Noise

The No-Action Alternative is not expected to alter noise levels.

4.2.10 Socioeconomic

The No-Action Alternative is not expected to produce economic impacts. While over time, non-disturbed soils and vegetation may be adversely impacted as discussed above, these are likely to have minimal adverse economic impacts. There would be no economic benefit associated with the construction that would result from the Proposed Action. The No-Action Alternative would not alleviate the human health and safety hazards present at the proposed reclamation area.

4.3 CUMULATIVE IMPACTS

4.3.1 Required Analysis

The NEPA requires an assessment of the potential cumulative impacts of the proposed project. Cumulative impacts evaluate the incremental impact of actions under each alternative when added to other past, present and reasonably foreseeable future activities. Cumulative impacts can result from individually minor, but collectively significant actions occurring over a period of time.

The CEQ regulations do not require that cumulative impacts to all resources be analyzed. Instead, the CEQ indicates that the cumulative impact analysis should focus on meaningful impacts. In light of the extent of existing disturbance, an analysis of cumulative impacts to the vegetation in the area is predictive of the impacts to wildlife, livestock grazing, visual resources, and recreation (hunting). Impacts to vegetation (both beneficial and adverse) will determine the degree to which erosion occurs, loss of soil, and degradation of water resources.

4.3.2 Cumulative Impacts Analysis Area

The cumulative impacts analysis area (CIAA) for analysis of past, present and reasonably foreseeable future activities is the portion of the Gas Hills uranium development that was excluded from the greater sage-grouse Core Area (Figure 1). This CIAA was chosen for analysis for cumulative impacts because the Core Area Implementation Team determined that the disturbed areas were not suitable for greater sage-grouse habitat but that area within Core Area was important habitat for supporting grouse populations. The edge between the severely disturbed CIAA and Core Area is more blurred on the ground than the boundary depicted in

Figure 1 but is determined in part by the change in geology associated with Beaver Rim.

This CIAA is appropriate for analysis because the vegetation (or lack thereof) within the CIAA is typical of the project area. Identifying potential impacts to Core-Area vegetation would provide no additional insight in evaluating the cumulative effects on the project area.

4.3.3 Past Activities

The past activities within the project area itself are described in the Affected Environment and are depicted in the photographs that are attached. The effect of past activities within the CIAA but outside of the project area known to the BLM are:

Case Number (all WYW)	Type of case (all are 43 CFR)	Type of action	Mineral
168186	3809	Notice	Uranium
168187	3809	Notice	Uranium
159806	3809	Notice	Bentonite
168143	3809	Notice	Bentonite
139562	3715	Occupancy[1]	
167994	3809	Notice	Uranium
140590	3809	Plan	Uranium
168087	3809	Notice	Uranium

The mineral actions identified above include actions on private and state surface with federal minerals. The activities resulted in the disturbance described in the Affected Environment.

4.3.4 Current and Future Activities

Current and future activities that are reasonably certain are the projects identified in the project area are:

Project	Type of disturbance	Project period	Impact to vegetation
Cameco Uranium Mine in situ recovery operation	Intensive disturbance with interim reclamation. Some disturbance at end of project with removal of mine infrastructure	2012-2030	Short and long term adverse
Bullrush AML	Reclamation of existing disturbance. Some minor initial disturbance but long term reclamation.	2011-2016	Very short term adverse; long term beneficial

[1] Occupancy under 43 CFR 3715 is residence on the public lands for purposes of developing a locatable mineral (mining action under 43 CFR 3809.)

The Cameco uranium mine will result in adverse impacts to vegetation resources in the short term as extensive drilling occurs on 100' centers or less with removal of vegetation on the well pad and possibly drilling pits. Roads, header houses, and pipelines will be installed. Interim reclamation will be undertaken for soil stability, perhaps enhanced to improve reclamation success and to improve soil resources for long term reclamation. At the conclusion of the mining operations (perhaps by 2030 or later), some addition disturbance will occur to remove buried infrastructure including pipelines. This disturbance will be less extensive than during the installation phase but will be an adverse impact to vegetation. Subsequent reclamation will prioritize restoration of wildlife friendly vegetation appropriate for the ecological site which is a beneficial impact. However, the beneficial impact to vegetation will occur outside of the planning time frame for the Day Loma pit.

The AML reclamation project at the Bullrush area will be a very short term adverse impact to vegetation resources in the CIAA because, like the Day Loma reclamation, a small amount of vegetation that was not disturbed during past mining will be removed or crushed. This vegetation is already degraded by the erosion and sedimentation of the disturbed soils and by the leakage of degraded water from past reclamation. The degraded nature of the vegetation to be affected and the minimal quantity result in very minor adverse impacts. Almost immediately, the result of the Bullrush reclamation will have beneficial impacts to vegetation in the CIAA. The beneficial impacts are likely to increase over time as the re-vegetation success increases and more previously disturbed areas are reclaimed. The Bullrush project is expected to have both short term and beneficial impacts to vegetation resources.

4.3.5 Other AML Projects

WDEQ has identified a number of projects in Fremont County, some of which may be near or within the CIAA; see WDEQ AML webpage. However, the time frame within which these other AML projects will be conducted has not been identified. Accordingly, the cumulative impacts of AML work being evaluated here are limited to the Bullrush projects. However, it is reasonable to assume that all AML work will have minor, short-term adverse impacts with increasingly larger medium to long-term beneficial impacts, similar to those identified for the Bullrush project.

4.3.6 Summary

4.3.6.1 Proposed Action

The short and long term beneficial impacts to vegetation (after a very minor initial adverse impact) by the proposed action are made more important when considering the cumulative impacts of other actions. The Cameco uranium mine, in particular, will result in adverse consequences to vegetative resources. While much of the area to be disturbed by the Cameco project was disturbed in the past, vegetation has been re-established, albeit not at the biological diversity or plant succession that existed prior to disturbance. The proposed action will help to mitigate the new adverse impacts that will occur to vegetation by reason of the cumulative actions.

Chapter 5

Persons, Groups, and Agencies Consulted

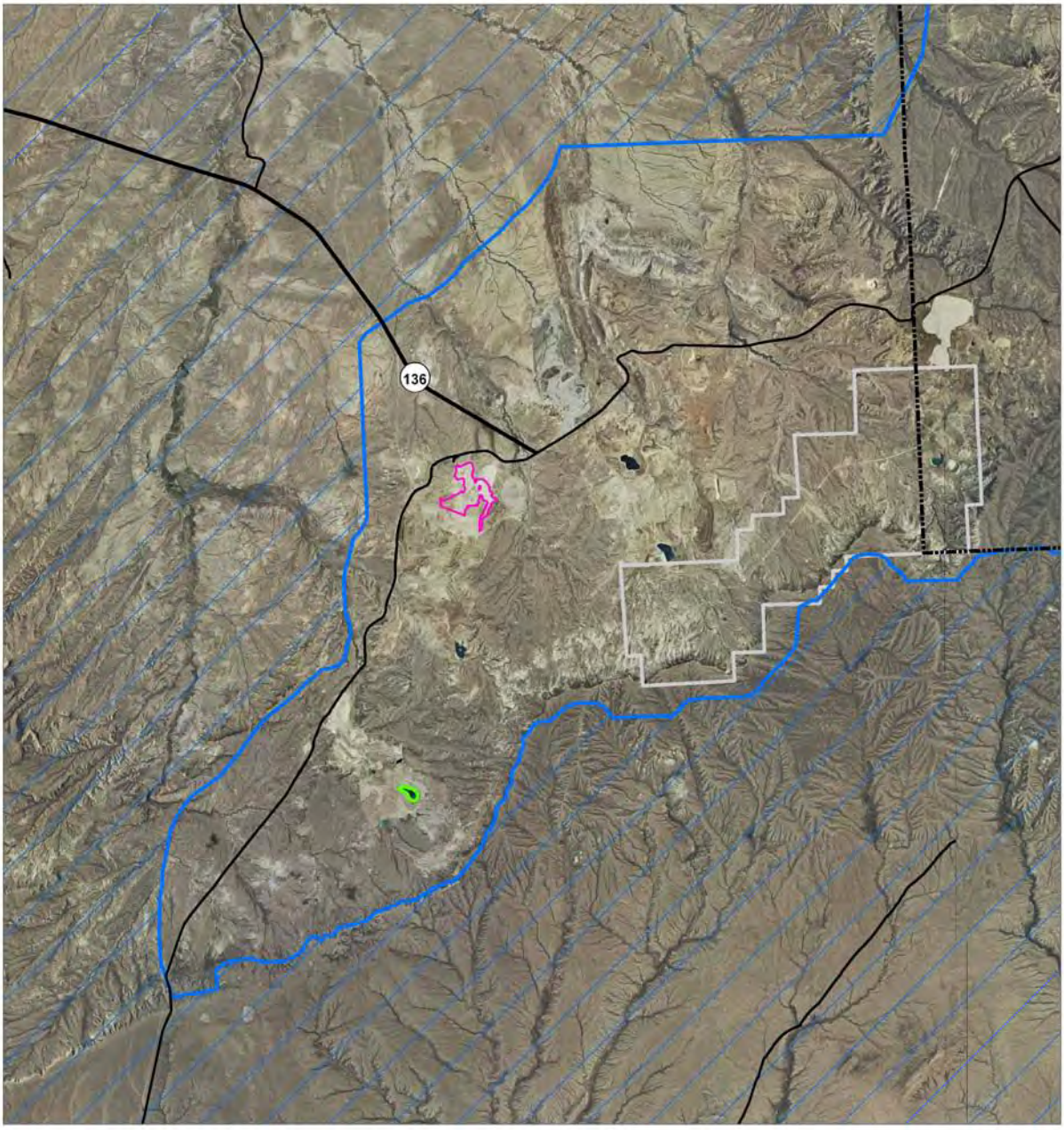
5 PUBLIC INVOLVEMENT

A legal notice was posted in the Casper Star-Tribune to notify the public that AML will undertake reclamation in this area, and to provide an opportunity for public comment on the projects. No comment was received. A copy of the notice is provided in Appendix A.

5.1 PERSONS, ORGANIZATIONS, AND AGENCIES CONTACTED

The Wyoming Department of Environmental Quality, Abandoned Mine Land Division (AML) prepared this Environmental Assessment. Agency personnel and other professionals involved with preparation of any part of this analysis are listed below as well as personnel contacted in other state and federal agencies during the course of preparing this EA.

Wyoming Department of Environmental Quality		
Alan Edwards	AML Administrator	Cheyenne, WY 82002
Vicky Zimmerman	AML Project Manager, Construction	Lander, WY 82520
Marcia Murdock	AML NEPA Compliance Coordinator	Lander, WY 82520
Assessment and Analysis		
Eddie Batson	BLM Worland Field Office, District Manager	Worland, WY 82401
Kristin Yannone	BLM Lander Field Office, NEPA	Lander, WY 82520
Jon Kaminsky	BLM Lander Field Office, Lands and Geology	Lander, WY 82520
Gina Clingerman	BLM Lander Field Office, Cultural Resources	Lander, WY 82520
Sue Oberlie	BLM Lander Field Office, Wildlife	Lander, WY 82520
Tom Larson	LTA, Inc., Cultural Consultant	Laramie, WY 82072
Harold Hutson	BRS Inc. Engineering	Riverton, WY 82501
Strathmore Minerals Corp.	Mineral Claimant	Riverton, WY 82501



Gas Hills Project Locations

- Highway
- Maintained Road
- Bullrush AML Area
- DayLoma Highwall AML Area
- Greater Sage-Grouse Core Area
- Cameco Permit Area
- Lander Field Office Boundary

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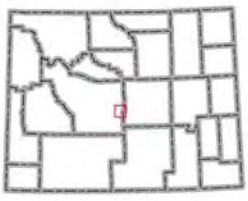
Miles

No warranty is made by the Bureau of Land Management (BLM) for use of the data for purposes not intended by BLM.



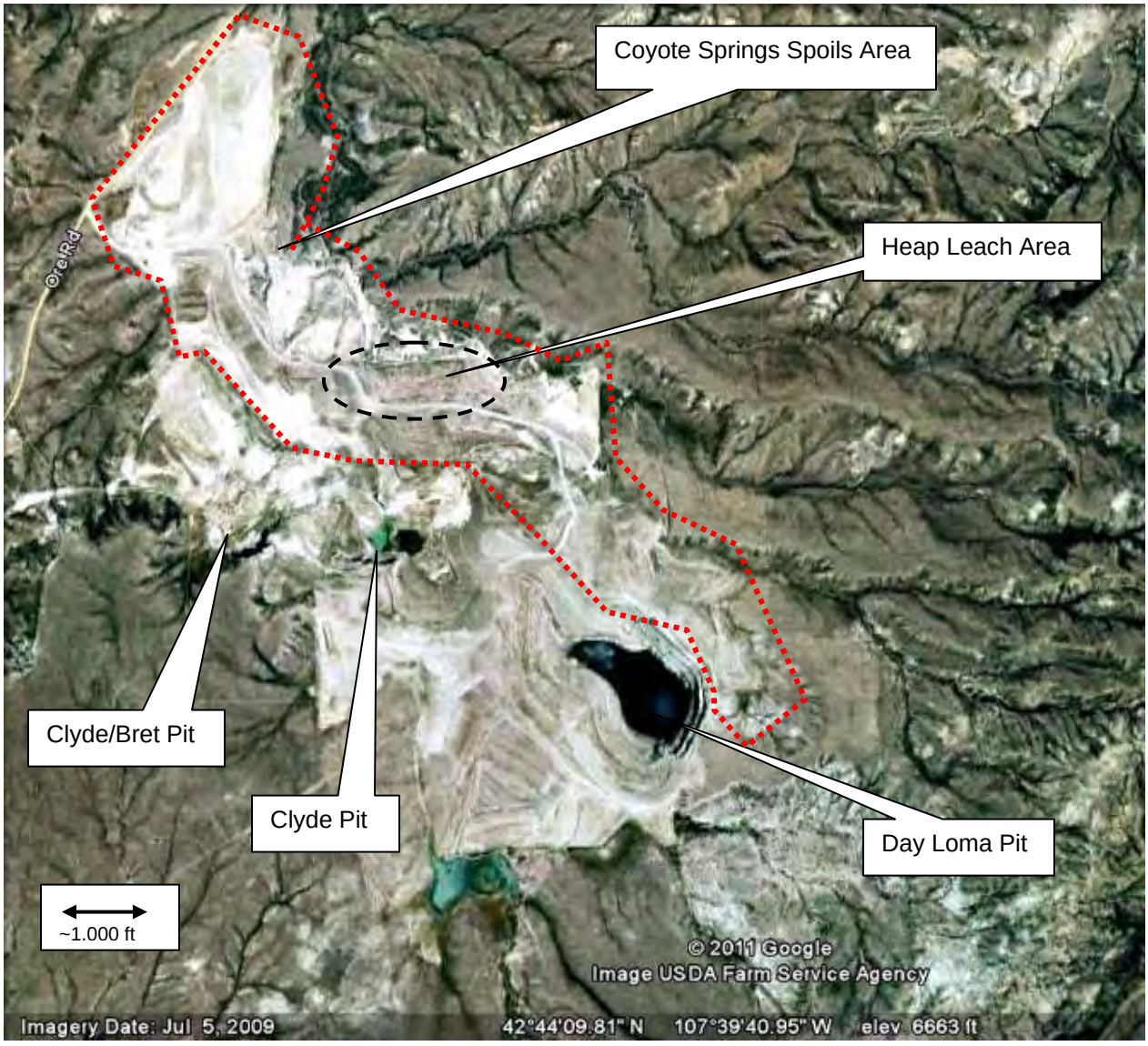


Figure 2. Air photo of proposed Day Loma Area reclamation ca. 2009. This photo shows the extensive mine spoils area referred to collectively the Coyote Springs Spoils, and provides a perspective of the size of the area involved.

REPRESENTATIVE PHOTOGRAPHS OF PROPOSED RECLAMATION AREA

Photo 1. Upper end of Clyde/Bret Pit where Phase 1 will start the backfill with Coyote Springs Spoils and encapsulate waste from Western Nuclear Heap Leach pile. This highwall is approximately 150 feet tall. Note crumbling pit rim in foreground. A road accesses the opposite wall at arrow.

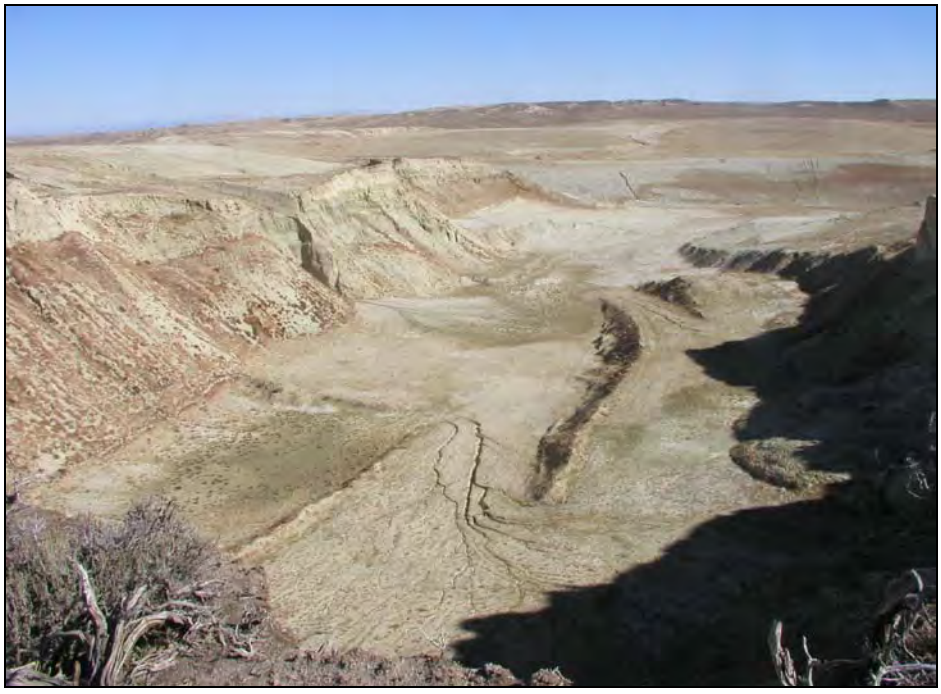


Photo 2. View from highwall rim of Clyde/Bret Pit across pit bottom where Phase 1 work will start reclamation of the pit and dispose of heap leach waste materials.

Photo 3. Eroding heap leach material at Day Loma project area. As can be observed, erosion has breached the cap material and is redistributing the unsuitable materials into the drainage of Coyote Creek. Note the absence of vegetation.

Photo 4. Overview of Coyote Springs Spoils where the spoils have encroached into the drainage bottom and have partially blocked the drainage (arrow).

Photo 5. Close view of Coyote Springs Spoils below where heap leach is eroding toward the drainage bottom.

Photo 6. Coyote Springs Spoils showing blockage of drainage by spoils (arrow) and general sedimentation of valley floor.

Photo 7. Remnant highwall at the Clyde Pit area. Much of the area in the photo has not been revegetated through any reclamation efforts to date.

Photo 8. Flooded pit and highwall at Day Loma Pit. Some reclamation has been completed on the surrounding slopes.

APPENDIX A

NATURAL RESOURCE EVALUATION REPORT

AML Project 16-II & III Day Loma Reclamation Area
6 Threatened and Endangered Species Survey and Natural Resource Evaluation

General Area Description – The work location is in the Gas Hills Uranium District, which was extensively mined starting in the 1950s, and continuing into the early 1980s. Mining conducted in the vicinity was in the form of very large open pits and underground mines, often at the same location. The location of this project had open pits that left significant highwalls, devegetated pit bottoms, and unreclaimed mine spoils. Large tracts of mined land in this area remain unreclaimed, but AML has progressively reclaimed many of the abandoned mine sites, and some mine companies are continuing to reclaim bonded acreages in the locale. The native areas are sagebrush-grassland hills with sandstone and shale outcrops. Extensive areas of reclaimed acreage now occur where previous uranium mining was conducted.

Numerous natural resource surveys have been conducted in the vicinity of this work area over time, starting in 1987, with the most recent survey of the Day Loma area conducted for the evaluation prior to the original AML Project 16G work at the Day Loma Area which was started in 1997 and cancelled in 2001. Information reported here is from combined results of past surveys as well as site specific surveys conducted by Marcia B. Murdock, AML Wildlife Biologist/Botanist on April 21, 2011.

Vegetation – The proposed work areas are largely devoid of vegetation except a few weedy species common in the abandoned mine areas of that vicinity. The majority of the proposed construction area is mining-disturbed ground, with the exception of approximately 50 acres of degraded habitat around the perimeter of the proposed work areas, and some adjacent undisturbed area that would be involved in the drainage restoration work planned for Coyote Creek. Although this area is native surface, the disturbance-to-native edge has been significantly impacted by past disturbance, erosion, sedimentation, and weed encroachment, and will ultimately benefit from reestablishment of a more diverse native vegetation assemblage.

Vegetation in the surrounding area includes bluebunch wheatgrass (*Elymus spicatus*), needle-and-thread (*Stipa comata*), Sandberg bluegrass (*Poa secunda*), Junegrass (*Koeleria macrantha*), foxtail barley (*Hordeum jubatum*), Indian ricegrass (*Oryzopsis hymenoides*), crested wheatgrass (*Agropyron cristatum*), alkali bluegrass (*Poa juncifolia*), Baltic rush (*Juncus balticus*), sandwort (*Arenaria hookeri*), oval-leaved buckwheat (*Eriogonum ovalifolium*), phlox (*Phlox hoodii*), tansy aster (*Haplopappus nuttallii*), sedum (*Sedum lanceolatum*), nailwort (*Paronychia sessiliflora*), prickly phlox (*Leptodactylon pungens*), goldenweed (*Haplopappus acaulis*), prickly pear (*Opuntia polyacantha*), branched goldenweed (*Haplopappus multicaulis*), curlycup gumweed (*Grindelia squarrosa*), thistle (*Cirsium sp.*), lupine (*Lupinus sp.*), broomrape (*Orobanche sp.*), sweet colver (*Melilotus sp.*), Russian thistle (*Salsola tragus*), dandelion (*Tragopogon dubius*), milkweed (*Asclepias speciosa*), phlox (*Phlox muscoides*), golden pea (*Thermopsis rhombifolia*), wild parsley (*Lomatium sp.*), Easter daisy (*Townsendia sp.*), and ragwort (*Senecio canus*).

Wildlife – Wildlife species observed in the area over multiple visits at different seasons include common raven (*Corvus corax*), lark bunting (*Calamospiza melanocorys*), horned lark (*Eremophila alpestris*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), black-billed magpie (*Pica hudsonius*), ferruginous hawk (*Buteo regalis*), coyote (*Canis latrans*), desert cottontail rabbit (*Sylvilagus audubonii*), mule deer (*Odocoileus hemionus),* and pronghorn (*Antilocapra americana*). Feral horses also roam the area. Other mammalian species expected in the area include white-tailed jackrabbit (*Lepus townsendii*), red fox (*Vulpes vulpes*), badger (*Taxidea taxus*), and a variety of small mammals. The only wildlife species observed onsite during the April 2011 survey was the pronghorn.

Wetlands – No wetlands occur in the work areas.

Migratory Birds of High Federal Interest – Some raptor species use the area for nesting and foraging territory. On the April 21, 2011 survey, active raptor nests were observed in the project vicinity. Past records indicate that raptors do nest in the area, and during any given breeding season abandoned highwalls in the work area may support an active raptor nest. Because the Day Loma reclamation project will span several years, nest occupancy surveys will be needed annually to ensure that no raptor nests will be impacted as the project advances through the extensive work area. No raptors were observed in the Day Loma reclamation area on the April 2011 survey, however, an immature ferruginous hawk and American Kestrel were observed in flight in the general area, and a red-tailed hawk was observed on a nest on the George Highwall some distance away.

In 1990 there were golden eagle nests present on the Clyde/Bret highwall (Mariah 1990). These nests were reported as being on small ledges that barely supported the nest structures, and that nest material had sloughed from both structures to the pit floor. One of the nests was judged to have been active in 1990. It is likely, from the description of the nest substrate, that these nests eventually disintegrated due to lack of sufficient support structure beneath them, and were abandoned. In September 2007 a probable golden eagle nest was observed on the Clyde Pit highwall. This nest was not relocated in April 2011, however, golden eagles are frequently observed in the area, and the probability of an active nest in the vicinity any given year remains high.

Threatened or Endangered Species – No threatened or endangered species were observed nor are any expected.

Summary and Recommendations – No wildlife issues were identified during the April 2011 site survey. Initiation of the project in 2011 should not require timing constraints. In the long-term, however, annual nest activity surveys are recommended prior to construction on or around the highwalls that will be remediated during the life of the project.

Referenced Previous Wildlife Survey Report:

Mariah Associates Inc.. 1990. Threatened and Endangered Wildlife Survey for Day Loma Abandoned Mine Land Project Area. Laramie, WY. November 1990.

SHPO AND BLM CORRESPONDENCE ON CULTURAL RESOURCES

ARTS. PARKS. HISTORY.
Wyoming State Parks & Cultural Resources

State Historic Preservation Office
Barrett Building, 3rd Floor
2301 Central Ave.
Cheyenne, WY 82002
Phone: 307-777-7697
FAX: 307-777-6421
http://wyoshpo.state.wy.us

February 3, 2011

Marcia B. Murdock
AML NEPA Compliance Coordinator
Wyoming Department of Environmental Quality
Lander Field Office
510 Meadowview Drive
Lander, WY 82520

re: AML Project 16G II & III, Day Loma Reclamation Area (SHPO File # 1100RLC031)

Dear Ms. Murdock:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced project. We have reviewed the project report and find the documentation meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44716-42). We concur with your finding that sites 48FR4507 and 48FR4508 are not eligible for listing in the National Register of Historic Places (NRHP) and no further work or protective measures are necessary.

Site 48FR4509 is eligible for the NRHP and will not be affected by the project as planned.

You have recommended a monitor of construction for this project. We concur with the stipulation and ask that a monitoring report and/or follow up correspondence be submitted to our office so that we may be informed of the results of monitoring. This will also serve to notify us that the Section 106 compliance process for the project has been concluded.

This letter should be retained in your files as documentation of a SHPO concurrence with your finding of no historic properties affected. Please refer to SHPO project #1100RLC031 on any future correspondence regarding this project. If you have any questions, please contact me at 307-777-5497.

Sincerely,

Richard L. Currit
Senior Archaeologist

8143
BLM Report #:
050-2008-150
Project/Case/Lease
#: 050-2011-035

January 19, 2011

Marcia Murdock
Abandoned Mine Lands Coordinator
Department of Environmental Quality
Lander Field Office
510 Meadowview Drive
Lander, Wyoming 82520

Re: The Proposed **Wyoming Department of Environmental Quality's AML Project 16G II & III: The Day Loma Reclamation Area, Fremont County, Wyoming (BLM Report Number 050-2011-035).**

Dear Ms. Murdock:

With regard to Section 106 of the National Historic Preservation Act, the Bureau of Land Management (BLM) is communicating with you on the subject undertakings. The proposed undertakings consist of a proposed mining reclamation-related project.

A Class III inventory of all areas of potential effect, following the Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48FR190), has been conducted by **LTA, Inc.** for the proposed undertaking, as indicated in the attached report. Identification efforts have determined that the resources listed in the following table are within or near the area of potential effect.

SITE NUMBER	SITE TYPE	ELIGIBILITY	CRITERIA	AFFECTED?	PREVIOUS CONCURRENCE
48FR4507	Historic Homestead	Not Eligible		Yes	Yes
48FR4508	Prehistoric Lithic Scatter	Not Eligible		Yes	Yes
48FR4509	Prehistoric Artifacts/Features	Eligible	D	Yes	Yes

The project will have an effect upon historic properties, but with the following stipulations, the effect should be **No Adverse Effect**.

STIPULATIONS

1. **CULTURAL RESOURCES, SITE PROTECTION MONITORING**. The holder of this authorization shall provide an archeologist, with a current BLM Cultural Resources Use Permit, to monitor reclamation activities at the following locations:

   T.32N., R.91W. Section 14 SESENENE SNESENENE (Site 48FR4509 – 200 ft. buffer zone)

   The archeologist shall notify the authorized officer prior to beginning site protection monitoring. The archeologist shall ensure that significant historical features and artifacts are not affected by reclamation activities. If the archeologist determines that activities will affect significant historic resources, the holder shall suspend all activities in the vicinity of such a discovery until notified to proceed by the authorized officer. The decision as to the appropriate measures to mitigate adverse effects to significant cultural resources will be made by the authorized officer after consulting with the holder.

   The holder shall be responsible for the cost of any mitigative measures.

   A report of all archeological activities shall be submitted to the authorized officer within 30 days of completion of the field work.

2. **CULTURAL RESOURCES, SITE PROTECTION.** The holder of this authorization shall ensure that the top one foot of any shaft to filled in shall be covered with rock similar to local tailings. The on-site monitoring archeologist shall guide the selection and placement of this rock.

3. **CULTURAL AND PALEONTOLOGICAL RESOURCES STIPULATION**. Any cultural and/or paleontological resource (historic or prehistoric site or object or fossil) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures shall be made by the authorized officer after consulting with the holder.

Thank you for your assistance with this case. Should you have any questions, please contact me at (307)332-8432. **In correspondence concerning this project, please refer to BLM Report Number 050-2011-035.**

Sincerely,

Gina M Clingerman

Field Archeologist

cc: LTA, Inc., 421 S. Cedar Street, Laramie, WY 82072
Jon Kaminsky, LFO Geologist

GCLINGERMAN:gmc:01/19/11 LTA 2011 035 No Adv Effect Letter to DEQ.docx

CORRESPONDENCE STAMP

[ ] CASE FILE
[ ] ARCH FILE
[ ] SHPO COPY

WESTERN NUCLEAR HEAP LEACH DOCUMENTS

[Federal Register Volume 62, Number 208 (Tuesday, October 28, 1997)]
[Notices]
[Pages 55838-55840]
From the Federal Register Online via the Government Printing Office
[www.gpo.gov]
[FR Doc No: 97-28530]

NUCLEAR REGULATORY COMMISSION.

[Docket No. 40-1162]

Western Nuclear, Inc.; Final Finding of No Significant Impact; Notice of Opportunity for Hearing

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) proposes to amend NRC Source Material License SUA-56, issued to Western Nuclear, Inc. (WNI), by removing reference to the Day Loma uranium heap leach site. To document its review of the potential environmental impacts associated with the proposed action, the NRC staff prepared an Environmental Assessment in accordance with the requirements of 10 CFR Part 51. The conclusion of the Environmental Assessment is a Finding of No Significant Impact (FONSI) for the proposed licensing action.

FOR FURTHER INFORMATION CONTACT: Mr. Robert D. Carlson of the Uranium Recovery Branch, Mail Stop TWFN 7-J9, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone 301/415-8165.

[[Page 55839]]

SUPPLEMENTARY INFORMATION:

Background

The Day Loma uranium heap leach site is located approximately 40 kilometers (25 miles) northeast of Jeffrey City, Wyoming, in an area known as the Gas Hills Region. This 14,975-hectare (37,000-acre) region is rich in naturally occurring deposits of uranium ore, and widespread uranium mining activity occurred in the region from the late 1950s until the 1980s.

Source Material License SUA-582, which covered activities at the Day Loma site, was originally issued to WNI in 1962. Operations at the site terminated in 1972, and in 1976, SUA-582 was combined with Source Material License SUA-56 for WNI's Split Rock uranium mill. Currently, the Day Loma site is licensed by the NRC under SUA-56 for possession only of byproduct material in the form of heap leach waste from the processing of uranium ore generated from past mining operations.

The NRC approved WNI's reclamation plan for the Day Loma site in 1981, and WNI completed reclamation activities at the site in 1985. The

NRC staff inspected and approved the completion of the reclamation work in August 1986. The reclaimed leached material, consisting of approximately 494,000 tons of low-grade (less than 0.05 percent) uranium-bearing rock, was placed on an impervious liner that was constructed on top of existing uranium spoil materials comprised of overburden and mine waste. Following recontouring, a final disposal cell cover of between 2.4 and 4.0 meters (8 and 13 feet) in thickness was constructed of clay and random fill material. The 6.3 ha (15.6 acre) reclaimed site is surrounded by exposed mine spoils unreclaimed mining lands of the Gas Hills Region.

By letter dated October 19, 1995, WNI requested that all reference to the Day Loma site be removed from SUA-56, thereby ending current monitoring and the need for long-term monitoring of the site. A consequence of granting the proposal will be to not require transfer of the Day Loma site to Federal or State ownership as authorized by Section 83b.(4) of the Atomic Energy Act of 1954, as amended.

The State of Wyoming Department of Environmental Quality (WDEQ) will be performing substantial reclamation operations in the Day Loma site area over the next five years in an effort to return this area to its original pre-mining condition. The WDEQ plans to incorporate the heap leach site into its reclamation efforts by recontouring the site into the surrounding landscape.

Conclusions

The NRC staff has evaluated the environmental impacts associated with the removal of reference to the Day Loma site from Source Material License SUA-56, and has determined that approval of the proposed action (1) will be consistent with requirements of 10 CFR Part 40, (2) will not be deleterious to public health and safety, and (3) will not have long-term detrimental impacts on the environment. The following statements support the FONSI and summarize the conclusions resulting from the staff's environmental assessment:

1. The Gas Hills Region is sparsely populated and likely to remain so indefinitely, as the climate is harsh, the land is relatively barren, and the groundwater in the region is considered of such poor quality that it is deemed unsuitable for either domestic or agricultural use;

2. Using conservative assumptions in which the Day Loma heap leach material was assumed to have no radon cover, the NRC staff showed that potential doses to members of the public from the heap leach site and associated risk factors for public health and the environment are much less (0.34 mrem/yr) than the 10 CFR Part 20 public dose limit of 100 mrem/yr and those resulting from the naturally occurring uranium ore deposits which surround the site (34 mrem/yr);

3. The WDEQ will incorporate the heap leach site in its efforts to further reclaim existing mine spoils in the Day Loma area over the next five years; and

4. The staff has determined there will be no significant impacts associated with approval of the amendment request, and accordingly no disproportionately high and adverse effects or impacts on minority and low-income populations. Except in special cases, these impacts need not be addressed for Environmental Assessments in which a FONSI is made.

Special cases may include regulatory actions that have substantial public interest, decommissioning involving on-site disposal in accordance with 10 CFR 20.2002, decommissioning/decontamination cases which allow residual radioactivity in excess of release criteria, or cases where environmental justice issues have been raised previously. Consequently, further evaluation of `Environmental Justice' concerns, as outlined in Executive Order 12898 and NRC's Office of Nuclear Material Safety and Safeguards Policy and Procedures Letter 1-50, Rev.1, is not warranted.

In conducting its evaluation, the NRC staff considered the following: (1) information and analyses provided by WNI as part of its license amendment request; (2) additional analyses conducted by the NRC staff; and (3) information derived from NRC staff communications with the WDEQ.

Alternatives to the Proposed Action

The proposed action is to amend NRC Source Material License SUA-56, by removing reference to the Day Loma uranium heap leach site, as requested by WNI. Therefore, the alternatives available to NRC are to:

(1) Approve the license amendment request as submitted by WNI;

(2) Approve the license amendment request with such conditions as are considered necessary or appropriate to protect public health and safety and the environment; or

(3) Deny the license amendment request.

Based on its review, the NRC staff has concluded that there are no significant environmental impacts associated with the proposed action; therefore, any alternatives with equal or greater environmental impacts need not be evaluated. Since the environmental impacts of the proposed action and the other two alternatives are similar, there is no need to further evaluate alternatives to the proposed action.

Finding of No Significant Impact

The NRC staff has prepared an Environmental Assessment for the proposed amendment of NRC Source Material License SUA-56. On the basis of this assessment, the NRC staff has concluded that the environmental impacts that may result from the proposed action would not be significant, and therefore, preparation of an Environmental Impact Statement is not warranted.

The Environmental Assessment and other documents related to this proposed action are available for public inspection and copying at the NRC Public Document Room, in the Gelman Building, 2120 L Street N.W., Washington, DC 20555.

Notice of Opportunity for Hearing

The Commission hereby provides notice that this is a proceeding on an application for a licensing action falling within the scope of Subpart L, ``Informal Hearing Procedures for Adjudications in Materials and Operator Licensing Proceedings,'' of the Commission's Rules of Practice for Domestic Licensing Proceedings in 10 CFR Part 2 (54 FR 8269). Pursuant to Sec. 2.1205(a), any person whose interest may be

affected

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by this proceeding may file a request for a hearing with respect to the technical evaluation and the Environmental Assessment performed by the NRC staff that forms the basis for the decision to amend the license and remove reference to the Day Loma heap leach site from Source Material License SUA-56. In accordance with Sec. 2.1205(c), a request for a hearing must be filed within thirty (30) days from the date of publication of this Federal Register notice. The request for a hearing must be filed with the Office of the Secretary either:

(1) By delivery to the Docketing and Service Branch of the Office of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville, MD 20852; or

(2) By mail or telegram addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

Each request for a hearing must also be served by delivering it personally or by mail to:

(1) The applicant, Western Nuclear, Inc., 200 Union Blvd., Suite 300, Lakewood, Colorado, 80228;

(2) The NRC staff, by delivery to the Executive Director of Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852; or

(3) By mail addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

In addition to meeting other applicable requirements of 10 CFR Part 2 of the Commission's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

(1) The interest of the requestor in the proceeding;

(2) How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in Sec. 2.1205(g);

(3) the requestor's areas of concern about the licensing activity that is the subject matter of the proceeding; and

(4) The circumstances establishing that the request for a hearing is timely in accordance with Sec. 2.1205(c).

Any hearing that is requested and granted will be held in accordance with the Commission's ``Informal Hearing Procedures for Adjudications in Materials and Operator Licensing Proceedings'' in 10 CFR Part 2, Subpart L.

Dated at Rockville, Maryland, this 22nd day of October 1997.

For the Nuclear Regulatory Commission.

Joseph J. Holonich,

Chief, Uranium Recovery Branch, Division of Waste Management, Office of Nuclear Material, Safety and Safeguards.

[FR Doc. 97-28530 Filed 10-27-97; 8:45 am]
BILLING CODE 7590-01-P

Western Nuclear/Heap Leach Spoils*

The Western Nuclear/Heap Leach Spoils consist of materials which are unsuitable with respect to radionuclide, pH, acid/base potential, and selenium located within and/or contaminated by the heap leach, and surrounding mine spoil. The unsuitable material should be isolated above the predicted water table recovery level and place at least 10 feet subgrade. The unclassified material can be used for general backfill purposes, including placement within the water table, and/or as cover for the unsuitable material. Analytical data follows in Table1.

Table 1. Western Nuclear/Heap Leach Spoils

Drill Hole Interval	Ra 226 pCi/gm	Gamma cps	pH	Acid / Base Potential	As mg/kg	Se mg/kg	Fe mg/kg	Mo mg/kg	Classification
DH-1008 0-25	6.5	309	7.4	7	<0.02	<0.02	2.8	<0.1	Unclassified
DH-1008 25-35	16.2	778	4.4	-16	<0.1	0.07	38	0.2	Marginal
DH-1008 35-40	11.6	556	7.3	-10	<0.02	2.3	12	0.8	Marginal
DH-1008 40-55	21.9	1047	7.4	-12	0.03	0.66	12	0.9	Unsuitable
DH-1008 55-70	5.3	256	8.0	3	<0.02	0.15	3.9	0.1	Unclassified
DH-1009 0-10	20.1	963	5.9	-11	0.04	1.6	28	<0.1	
DH-1009 10-30	13.1	628	3.5	-27	0.09	0.26	70	0.6	Marginal
DH-1009 30-40	7.5	358	7.9	-3	0.02	0.7	5.4	0.3	Marginal
DH-1009 40-60	9.7	463	8.2	0.9	0.01	1.1	5.4	0.7	Marginal
DH-1009 60-85	16.8	806	8.1	-12	0.02	1	6.4	1.3	Marginal
DH-1010 0-5	13.5	648	4.9	-3	<0.01	0.6	10	<0.1	Marginal
DH-1010 5-25	6.6	316	6.0	-7	0.02	0.21	14	<0.1	Unclassified
DH-1010 25-35	30.8	1475	5.3	-57	0.37	0.57	100	1.1	Unsuitable
DH-1010 35-75	6.7	319	8.3	4	<0.07	0.43	5.8	1	Unclassified
DH-1010 75-80	11.1	532	7.8	-2	<0.01	0.31	5.8	0.6	Marginal
DH-1010 80-100	5.9	283	8.4	3	<0.01	1	6.8	0.4	Marginal
DH-1011 0-5	12.5	599	4.0	-13	0.01	0.6	20	<0.1	Marginal
DH-1011 5-35	9.3	446	8.3	-5	<0.01	0.45	4.3	0.7	Marginal
DH-1011 35-55	8.5	408	8.3	0.5	<0.01	0.56	4.3	0.1	Marginal
DH-1012 0-20	10.5	505	5.1	-48	0.03	0.03	26	<0.1	Unsuitable
DH-1012 20-30	20.0	956	7.3	-60	0.01	0.45	16	0.7	Unsuitable
DH-1012 30-50	10.7	510	7.5	-4	0.02	0.47	14	0.3	Marginal
DH-1012 50-60	6.3	301	8.3	5	<0.01	0.2	5.1	0.1	Unclassified
DH-1013 0-10	10.6	507	3.1	-47	0.02	0.2	37	<0.1	Unsuitable
DH-1013 10-20	7.0	336	7.9	-15	0.01	0.64	10	<0.1	Unsuitable
DH-1013 20-40	8.4	400	8.1	-8	0.01	1.4	10	0.1	Marginal
DH-1013 40-60	9.9	472	8.2	-8	<0.01	0.43	4	0.1	Marginal
DH-1014 0-10	8.0	381	6.4	1	<0.01	0.1	11	<0.1	Unclassified
DH-1014 10-30	8.1	388	8.1	4	<0.01	0.35	4.1	0.2	Marginal
DH-1014 30-65	6.9	330	8.4	5	<0.01	0.75	8.1	0.4	Marginal
DH-1014 65-85	7.1	341	7.9	-4	<0.01	1.5	8.6	0.4	Marginal
DH-1015 0-50	7.7	371	8.4	-9	<0.01	0.58	8	<0.1	Marginal
DH-1015 50-60	11.0	525	8.4	-22	<0.01	1.8	9.2	0.6	Marginal
DH-1015 60-75	6.1	294	8.3	-33	<0.01	0.39	9.1	0.6	Unsuitable

DH-1015 75-85	6.0	286	8.2	-1	<0.01	0.25	5.5	0.3	Unclassified
DH-1015 85-110	3.8	182	8.0	7	<0.01	0.05	4.9	<0.1	Unclassified
DH-1015 110-115	3.0	146	8.9	3	<0.01	<0.02	6.9	<0.1	Unclassified
DH-1016 0-5	5.5	264	7.7	6	<0.01	0.3	16	<0.1	Unclassified
DH-1016 5-10	12.1	580	7.8	-11	0.01	0.23	13	<0.1	Marginal
DH-1016 10-15	87.6	4197	4.5	-17	0.05	9.3	37	2.3	Unsuitable
DH-1016 15-35	71.0	3398	4.3	-37	0.02	3.1	28	<0.1	Unsuitable
DH-1016 35-55	9.9	476	7.6	-8	<0.01	1.5	9.8	<0.1	Marginal
DH-1017 0-10	8.5	408	5.6	-7	0.01	0.1	14	<0.1	Unclassified
DH-1017 10-20	75.6	3620	4.9	-35	0.01	<0.02	30	3.3	Unsuitable
DH-1017 20-30	50.7	2427	3.9	-35	0.04	5.4	73	3.3	Unsuitable
DH-1017 30-40	64.8	3103	3.8	-31	0.05	7.6	150	11.7	Unsuitable
DH-1017 40-60	13.2	631	7.7	-18	<0.01	2.1	16	0.9	Unsuitable
DH-1017 60-70	15.4	738	8.2	-38	<0.01	1.01	17	0.4	Unsuitable
DH-1017 70-80	10.5	503	8.4	-10	<0.01	1	12	0.5	Marginal
DH-1017 80-100	8.2	393	8.4	3	<0.01	1.7	9.7	0.7	Marginal
DH-1018 0-5	6.9	331	7.5	9	<0.01	<0.02	8.8	<0.1	Unclassified
DH-1018 5-10	7.7	367	8.2	-2	<0.01	0.04	7.3	<0.1	Unclassified
DH-1018 10-20	57.9	2774	5.5	-21	0.07	1.3	16	1.4	Unsuitable
DH-1018 20-30	73.3	3509	3.2	-41	0.03	20	51	11.2	Unsuitable
DH-1018 30-40	59.9	2869	6.7	-12	<0.02	1.1	19	1.9	Unsuitable
DH-1018 40-55	10.6	509	7.9	-31	<0.02	0.32	12	0.5	Unsuitable
DH-1018 55-70	13.4	640	7.3	-21	0.02	0.44	22	0.9	Unsuitable
DH-1019 0-15	9.7	465	7.4	2	<0.02	<0.02	10	<0.1	Unclassified
DH-1019 15-35	90.7	4343	3.6	-36	0.1	2.1	32	3.1	Unsuitable
DH-1019 35-40	11.8	566	7.5	-12	<0.02	0.8	8.7	0.4	Marginal
DH-1019 40-65	9.9	472	8.1	-24	<0.02	0.23	10	1.4	Unsuitable
DH-1019 65-80	12.8	613	8.4	-12	<0.02	1.4	11	0.5	Marginal
DH-1020 0-10	9.3	444	8.2	5	<0.02	0.35	7.4	0.5	Unclassified
DH-1020 10-30	57.8	2767	4.1	-25	0.05	1.4	42	1.3	Unsuitable
DH-1020 30-55	7.4	352	8.2	-7	<0.02	0.7	10	0.2	Marginal
DH-1020 55-70	6.8	326	8.3	-19	<0.02	0.7	12	0.6	Unsuitable
DH-1020 70-105	6.5	309	8.4	-6	<0.02	0.12	7.6	<0.1	Marginal
DH-1021 0-10	7.8	374	7.6	1	<0.02	0.294	9.4	<0.1	Unclassified
DH-1021 10-15	13.4	641	4.2	-17	0.05	1.1	48	<0.1	Unsuitable
DH-1021 15-35	9.8	467	8.1	-0.1	<0.02	0.481	7.4	0.2	Marginal
DH-1021 35-60	6.6	317	8.3	3	<0.02	4.25	12	0.5	Marginal
DH-1021 60-80	9.1	435	4.9	-13	<0.02	0.82	15	<0.1	Marginal
DH-1042 0-5	9.4	452	5.7	-9	0.041	0.179	35	0.4	Marginal
DH-1042 5-25	21.4	1023	3.3	-37	0.017	0.053	190	5.2	Unsuitable
DH-1042 25-40	5.8	278	4.3	-22	0.023	0.041	110	0.4	Unsuitable
DH-1042 40-50	4.2	203	7.8	17	0.01	0.026	27	0.3	Unclassified
CRITERIA	<20	<960	5.5-8.5	>-5	<2	<.3		<1	
AVERAGE	9.2	439	6.9	-12.65	0.04	1.320	22.61	1.28	

Material Classification Key: Material Exceeding Recommended Criteria - Marginal Material - Alkaline Material – Topsoil - Unclassified (no shading)

*Source: AML Project 16G, Day Loma and Clyde Pits Reclamation Project, Day Loma Uranium Mining District, Report of Investigation; BRS & Lidstone Associates, March 2009

PUBLIC NOTICE

LEGAL NOTICE

The Wyoming Department of Environmental Quality, Abandoned Mine Land Division, is planning to enter and perform work to reclaim abandoned mine lands in Fremont County, Wyoming. The AML program hereby provides public notice of its intent to enter and perform work in Township 32N, Range 91W, Sections 13, 14, 23 & 24.

The abandoned uranium mine workings constitute hazards to the safety and general welfare of the public. This project will be conducted under the Wyoming Abandoned Mine Land Program authorized by W.S. § 35 11 1201 through 1207 and associated regulations. Comments on this project are hereby solicited from the public. Anyone desiring a public hearing on this matter should contact, in writing, the individual below giving reasons for their request. Further information may be obtained from:

Marcia Murdock, AML NEPA Coordinator
Abandoned Mine Land Division
Department of Environmental Quality
510 Meadowview Drive
Lander, Wyoming 82520
(307) 335-6946

Comments and requests must be received by May 27, 2011.

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