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3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The Permit Area is located in the northeastern corner of Sweetwater County, Wyoming near Carbon County, Wyoming. The Permit Area is about 15 miles southwest of the Bairoil, Wyoming, about 38 miles northwest of Rawlins, and about 90 miles southwest of Casper. The Permit Area consists of 199 unpatented federal lode claims and one state lease totaling 4,220 acres. The general location of the Permit Area is shown in [Figure 1.2-1](#).

The regional landscape consists of rolling plains with some draws, rock outcroppings, ridges, bluffs and some isolated mountainous areas. Vegetation is primarily sagebrush and rabbit brush. The area is sparsely populated, and the closest residence is approximately 15 miles from the Permit Area boundary. The weather is dry and windy, with short, hot summers and cold winters. There is no perennial surface water, although there are a few ephemeral drainages that can convey surface water during spring snowmelt and following intense rainstorms.

3.1 Land Use

The land within the Permit Area is entirely publicly owned. Eighty-five percent is federal land, managed by BLM through the Rawlins and Lander Field Offices. Fifteen percent is owned by the State of Wyoming. The primary study area for land use includes a two-mile radius from the Permit Area boundary. Within the study area, 96 percent of the land is federally owned, three percent is state owned, and one percent is privately owned ([Figure 3.1-1](#)). The primary land use in the study area is rangeland for cattle, but the area is also used for dispersed recreation such as hunting, off-highway vehicle (OHV) use, and antler collecting. There are no maintained roads within the study area, but a power line is present. Regional land uses include grazing, industry, wildlife habitat, hunting, dispersed recreation, OHV use, oil and gas extraction, gas and carbon dioxide (CO₂) pipelines, and transmission lines.

3.1.1 Existing Land Uses

3.1.1.1 Rangeland and Agriculture

There is no crop production within the Permit Area or within two miles of the Permit Area; the only agricultural production is related to grazing. The study area includes portions of three BLM grazing allotments: Stewart Creek, Cyclone Rim, and Green

Mountain ([Figure 3.1-2](#)). These allotments provide forage for cattle that are generally sold as food sources, as well as a small number of horses and sheep. Grazing rights are assigned by section, so all sections that are at least partly within two miles of the Permit Area are included in the grazing allotment study area. Water sources that support this grazing are discussed in **Section 3.5**.

The Stewart Creek and Cyclone Rim allotments are managed by the BLM Rawlins Field Office, and cover 22,101 acres within the study area. Together, these two allotments provide 3,027 animal unit months (AUMs) of summer and winter grazing (Calton, M. Range Specialist. BLM Rawlins Field Office. Personal communication. July, 2007.) The Green Mountain allotment is managed by the BLM Lander Field Office, and includes 9,339 acres within the study area. This acreage provides 635 AUMs of summer grazing. An AUM is an animal unit month, the common unit of measure defined as “the amount of forage to sustain one mature cow or the equivalent, based on an average daily forage consumption of 26 pounds of dry matter per day” (BLM, 2004a). The total AUMs for the study area is 3,662, which would provide year-round forage for the equivalent of 305 cattle. For a 1,000-pound cow, the average meat yield is 550 pounds (National Sustainable Agriculture Information Service, 2007). Therefore, the annual potential total meat production associated with the Permit Area is roughly 168,000 pounds if all the cattle are slaughtered. However, some animals are generally kept for breeding, so the actual meat production is probably somewhat smaller.

In 2000, one AUM for cattle was worth \$33.27. At these values, the BLM calculated that cattle production would produce \$65.07 per AUM of total economic impact, which includes both direct and secondary returns (BLM, 2004a). Using these figures, livestock production on rangeland within the grazing allotments of the Permit Area has a potential value of about \$238,000 per year based on the current AUMs of the study area.

3.1.1.2 Wildlife Hunting and Viewing

WGFD hunting areas for antelope, deer, elk, and mountain lion include the Permit Area. Hunting seasons run from September through December, but hunting occurs primarily in October and November. Hunter days for the hunt areas that include the Project are shown in [Table 3.1-1](#). There are no designated wildlife viewing locations in the study area.

3.1.1.3 Recreation and Special Use Areas

Considerable dispersed recreational activity takes place in the Green Mountains and Ferris Mountains, eight miles to the north and 25 miles northeast of the Permit Area, respectively. The Green Mountain Area has one developed campground with 17

campsites, water, and toilets (Rau, P. Recreation Specialist, BLM Rawlins Field Office. Personal communication. 2007.). This campground is under-used and is closed during elk calving season. There are also additional primitive camping areas available for campers with recreational vehicles (RVs) and tents. The general area is designated as an Extensive Resource Management Area (ERMA), which does not have restrictive use compared to a Special Recreation Management Area (SMRA) or Wilderness Study Area (WSA).

According to BLM's Natural Resource Recreation Settings, which are the criteria used for classification and prescriptions for BLM lands, the area is managed for Middle Country Designation. This designation does not restrict natural resource development and allows motorized and mechanized uses in most areas with some restrictions (BLM, 1987 and 2004c). A Middle Country designation falls between a Primitive classification and an Urban classification. The physical characteristics of the land area appear natural, except for primitive roads and within 0.5 miles of all improved roads, although improved roads may be visible.

3.1.1.4 Minerals and Energy

Bairoil is the residential area closest to the Permit Area, and is economically dependent on energy development in the area. Bairoil has an airport landing strip and residential and industrial units, a school, and town offices, including a police department.

Wyoming is a state with active mineral development. The types of minerals developed include oil and gas, coal and other minerals. About half the oil produced in the Resource Management Plan Planning Area (RMPPA) during 2000 and 2001 was from the Lost Soldier-Wertz Fields near Bairoil. This field complex is in a tertiary phase of oil recovery via CO₂ injection; it is expected that no future oil production enhancement can be accomplished.

There are no nuclear fuel cycle facilities within 50 miles of the Lost Creek Permit Area (NRC, 2007). However, there are several conventional uranium mills and mines and ISR projects within 50 miles of the Permit Area; the locations are shown on [Figure 3.1-3](#). Other than Kennecott Uranium Company's Sweetwater Mill (NRC License No. SUA-1350; WDEQ Permit No. 481), which is currently on stand-by, and the PRI Gas Hills Project (NRC License No. SUA-1511-Amendment; WDEQ Permit No. 603), which is a new ISR project not yet in operation, all of the operations shown in [Figure 3.1-3](#) are in decommissioning or reclamation or have been reclaimed by the operator or the WDEQ Abandoned Mine Lands Division. The closest facility to the Project is the Sweetwater Mill, which is located about five miles south-southwest of the center of the Project, with about two miles separating the permit boundaries.

3.1.1.5 Infrastructure

Regional transportation corridors are discussed in **Section 3.2** of this report. A power line runs in a north-south direction along the western boundary of the Permit Area. The right-of-way easement for this power line is 25 feet wide.

3.1.2 Planned Land Uses and Developments

Both Carbon and Sweetwater Counties are experiencing considerable natural resource development, much of which is related to oil and gas exploration and production. Based on publicly available information, no projects are currently planned within the study area (Simons, D. Planning and Environmental Coordinator, BLM Rawlins Field Office. Personal communication. 2007; Murray, C. Planning and Environmental Coordinator, BLM Lander Field Office. Personal communication. 2007). Although specific locations and plans have generally not been publicly disclosed, uranium exploration in the general vicinity has recently increased in response to the current uranium market.