

LOST CREEK ISR, LLC

Lost Creek Project

WDEQ-LQD Permit Application



VOLUME 8a

LC East Amendment

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Lost Creek Project
WDEQ-LQD KM and LC East Amendments
Original

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D10 Background Radiological Characteristics

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Operations Plan

Reclamation Plan

FORM 8 LANDOWNER CONSENT

Based on experience from the Lost Creek Permit to Mine Application submitted in 2007, the U.S. Bureau of Land Management will not sign a Form 8 "Landowner Consent Form" until the application has substantially progressed through the permitting process; including the completeness review. Therefore, the Form 8 will not be submitted to the agency until the completeness review is officially finalized. The U.S. BLM controls 1000% of the surface and mineral at the LC East Project.

Table ADJ-1 List of Regulatory Requirements (Page 1 of 2)

REGULATORY AUTHORITY	PERMIT OR LICENSE	STATUS	COMMENTS
Federal			
NRC	Source and Byproduct Material License	Amendment request submitted August 2014.	The submittal follows the format required in a State of WY Permit to Mine Application.
EPA	UIC Class I & Class III Wells	--	See WDEQ permits as Wyoming has primacy for all applicable EPA programs.
	Aquifer Exemption	To be submitted toward the end of the State of WY review.	Selection of exemption boundaries under discussion between EPA & WDEQ. LC ISR, LLC will submit request to WDEQ which will in turn submit request to EPA.
BLM	Plan of Operations	Application Submitted August 2014.	BLM has agreed to take the lead on the NEPA review.
State			
WDEQ - AQD	Air Quality Permit	Amendment request to be submitted.	A permit is in place for Lost Creek but will need to be updated to incorporate LC East activities.
WDEQ - LQD	License to Mine	A License to Mine has already been granted.	
	LQD Permit-to-Mine and Underground Injection Control Permit (Class III ISR wells)	Amendment request application submitted August 2014.	Because LQD has primacy for UIC Class III wells, the UIC permit serves as the Permit-to-Mine.
State (continued)			
WSEO	Permit to Appropriate Groundwater	Each well will be permitted prior to drilling. The WSEO no longer requires permits for monitor wells.	

Table ADJ-1

List of Regulatory Requirements (Page 2 of 2)

REGULATORY AUTHORITY	PERMIT OR LICENSE	STATUS	COMMENTS
	Permit for Storage Ponds	Already approved for Lost Creek.	No additional storage ponds are planned for LC East.
WDEQ - WQD	Underground Injection Control Permit Class I (deep disposal wells)	To be submitted.	The need to install Class I wells at LC East will depend on the effectiveness of water disposal capacity at Lost Creek.
	General Permit to Discharge Storm Water Associated with Large Construction Activity Under WYPDES	Renewal approved June 17, 2011 per Permit Authorization Number WYR103695. (exp. Mar. 15, 2016)	Storm Water Pollution Prevention Plan (SWPPP) available per General Permits & maintained on-site life-of-mine. Includes Lost Creek and Lost Creek East. Updated annually.
	General Authorization to Discharge Storm Water Associated with Industrial Activities Under WYPDES	Approved May 29, 2013 per Permit Authorization Number WYR001378. (exp. Aug. 31, 2017)	
Local			
Sweetwater County Planning Commission	County Re-zoning Permit	To be submitted.	LC ISR, LLC presented information about the Project at the County Commissioners' meeting in October 2007.
	Septic System	Not required	There are no plans to install a septic system at LC East.



**The 8 drawings specifically
referenced in the table of
contents have been
processed into ADAMS.**

**These drawings can be
accessed within the ADAMS
package or by performing a
search on the
Document/Report Number.**

D01 – D08

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Table D1-2 Population Data



D1 LAND USE

The LC East Amendment to the Lost Creek Permit Area (“Amendment”) is located in the northeastern corner of Sweetwater County, south-central Wyoming. The Amendment is in an unpopulated area about 14 miles southwest of Bairoil, Wyoming, about 38 miles northwest of Rawlins, and 91 miles southwest of Casper. The Amendment covers approximately 5,751 acres. The main portion of the Amendment consists of 297 unpatented federal lode claims. The Amendment includes approximately 19 acres within the original Lost Creek Permit Area classified as “no right to mine acres”. This acreage has since been covered by unpatented federal lode mining claims to which Lost Creek ISR controls the mineral rights. **Figure D1-1a** shows the general location of the Amendment and the existing Lost Creek Permit boundary, to which it is contiguous. **Figure D1-1b** shows the boundaries of the Amendment and the current Lost Creek Permit Boundary superimposed on NAIP Imagery taken in 2012.

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 (see **Appendix D8**). The weather is dry and windy, with short, hot summers and cold winters (see **Appendix D4**). 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 (see **Appendix D-6**).

The land within the Amendment is 100% publicly owned, federal land, managed by the United States (US) Bureau of Land Management (BLM) through Rawlins Field Office. The primary study area of land for use includes a two-mile radius from the Amendment boundary. Within the study area, 97 percent of the land is federally owned and three percent of the land is state owned (**Figure D1-2**). The Primary land use in the study area is rangeland for cattle and wildlife habitat, but the area is also used for dispersed recreation such as hunting, off-highway vehicle (OHV) use, and antler collecting. Regional land uses include grazing, industry, wildlife habitat, hunting and dispersed recreation, mining oil and gas extraction, and energy infrastructure.

D1.1 Rangeland and Grazing

There is no crop production within the Amendment or within two miles of the Amendment; the only agricultural production is related to grazing. The study area includes portions of three BLM grazing allotments: Stewart Creek, Cyclone Rim and Arapahoe Creek (formerly known as Green Mountain, **Figure D1-3**).

D1.2 Wildlife Habitat and Hunting

Wildlife use of the Amendment is discussed in detail in **Appendix D9**. The Wyoming Game and Fish Department (WGFD) hunting areas for antelope, deer, elk, and mountain lion include the Amendment. Hunting seasons run from September through December, but hunting occurs primarily in October and November. Hunter days for the areas that include the Amendment are shown in **Table D1-1**. There are no designated wildlife viewing locations in the study area.

D1.3 Recreation and Special Use Areas

There are no designated recreation areas or facilities within two miles of the Amendment, but there is some dispersed recreational use. Dispersed recreation consists of primarily of hunting, antler collecting and OHV use. The general area is designated by BLM as an Extensive Resource Management Area (ERMA), which does not have restrictive use compared to a Special Recreation Management Area (SRMA) or Wilderness Study Area (WSA). According to the BLM’s Natural Resource Recreation

Settings, 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).

D1.4 Minerals and Energy

Wyoming is a state with active Mineral development. The types of development in the region include oil and gas, coal and other minerals. About half the oil produced in the Resource Management 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.

Uranium exploration in the Amendment area is described in detail in Appendix D2 and Appendix D5. There are several conventional uranium mills and mines and In-Situ-Recovery (ISR) Projects within 50 miles of the Amendment; the locations are shown Figure D1-4. Other than Kennecott Uranium Company's Sweetwater Mill (NRC License No. SUA-1350; Wyoming Department of Environmental Quality [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 D1-4** are in decommissioning or reclamation or have been reclaimed by the operator or the WDEQ Abandoned Mine Lands Division. The closest facility to the Amendment is the Sweetwater Mill, which is located about seven miles south-southwest of the center of the Amendment, with about two miles separating the permit boundaries.

D1.5 Transportation and Infrastructure

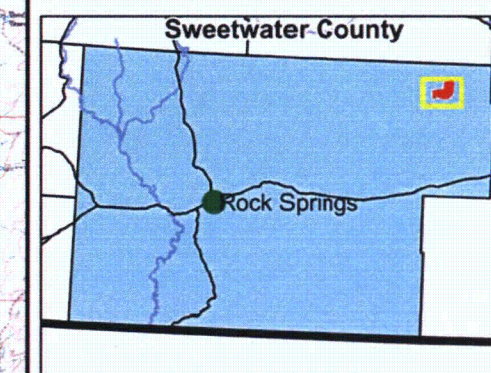
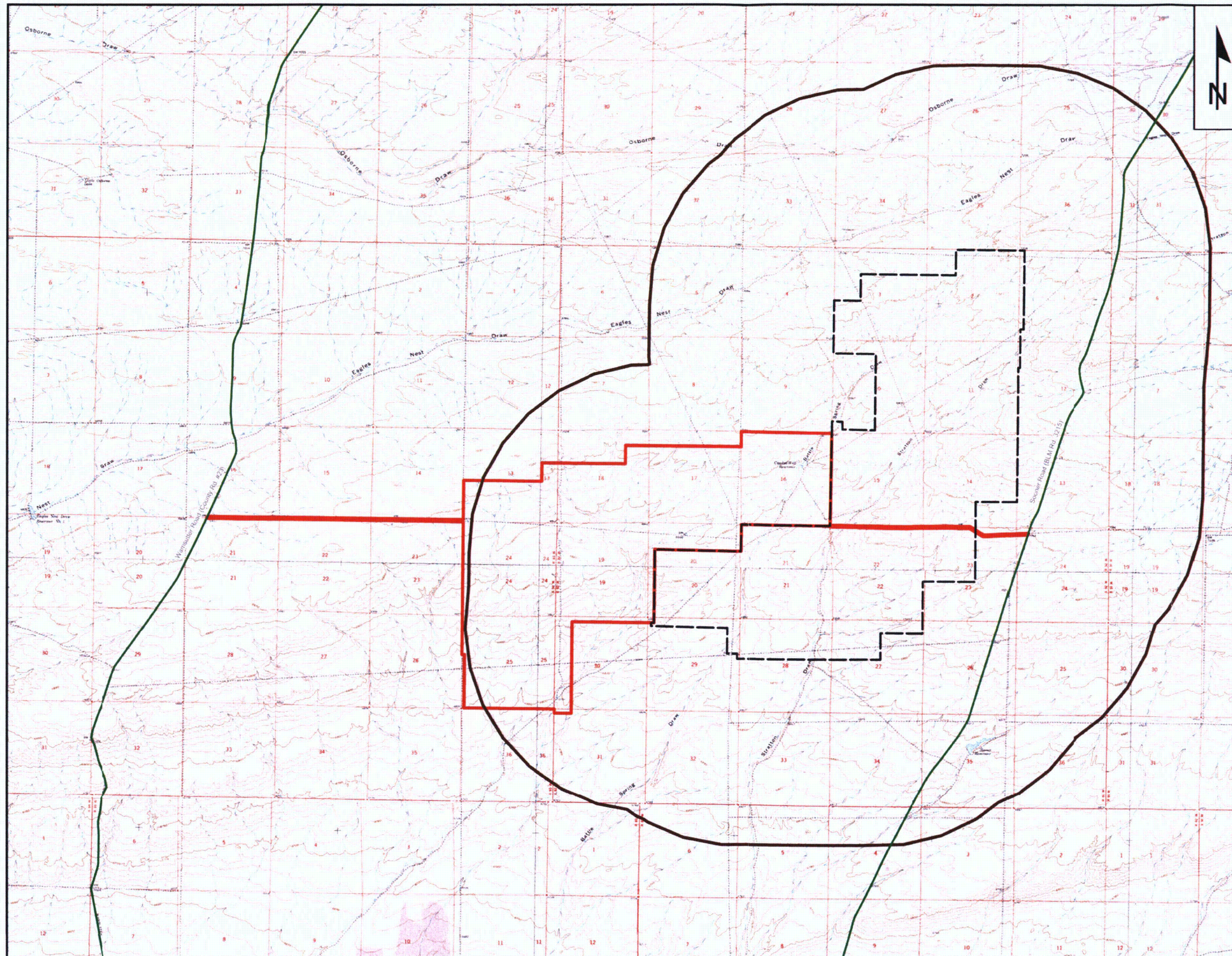
The transportation system serving the Amendment relies almost exclusively on existing public roads and highways. The local and regional transportation network relevant to the Amendment consists of primary, secondary, local and unimproved roads (**Figure D1-5**). The Amendment is served by: an Interstate Highway (I-80); a US Highway (US 287); Wyoming State Routes (SR 220 and 73 to Bairoil); local Carbon and Sweetwater, and Fremont County roads; and BLM roads. In addition to the designated routes, there are a number of four-wheel drive routes that traverse the area for recreation and grazing access, as well as various other uses, including oil, gas and mineral exploration. The road network within two miles of the Amendment consists of an raised-gravel road, originally a two-track road improved (under WDEQ PT0788) by Lost Creek ISR, LLC as a mine access road and BLM roads, passable with most conventional passenger vehicles and un-maintained two-track roads that are passable with four-wheel drive vehicles.

A power line runs in a north-south direction along the western boundary LCI's existing WDEQ PT0788, just west of, and outside of, the Amendment study area. The right-of way easement for this power line is 25 feet wide.

D1.6 Population Distribution

The Amendment is located in a remote area in the Great Divided Basin. There are no population centers within two miles of the Amendment. The nearest town, Bairoil with a population of approximately 106, is about 13 miles northeast of the Area of Amendment. **Figure D1-6** shows the population centers within a 50-mile (80-kilometer) radius of the center of the Amendment.

Table D1-2 presents the population information for Sweetwater and Carbon Counties. The Sweetwater County population in 2010 was 43,806 people. Sweetwater County had a population density of 4.2 people per square mile. The majority of the population (83.5 percent) lived in urban clusters. The Carbon County population was 15,885 in 2010.



Lost Creek ISR, LLC
Casper, Wyoming USA

Legend

- 2 Mile Buffer Around LC East Amendment to Lost Creek Permit to Mine #788
- Lost Creek Permit to Mine #788
- Permitted Access Road
- LC East Amendment to Lost Creek Permit to Mine #788
- County/BLM Road

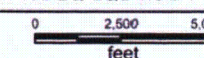
Figure D1-1a

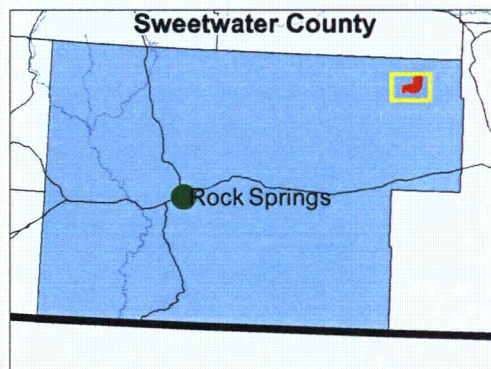
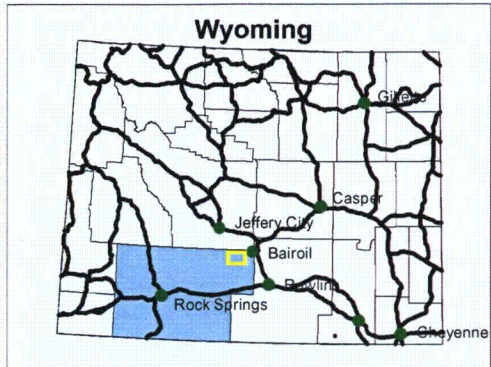
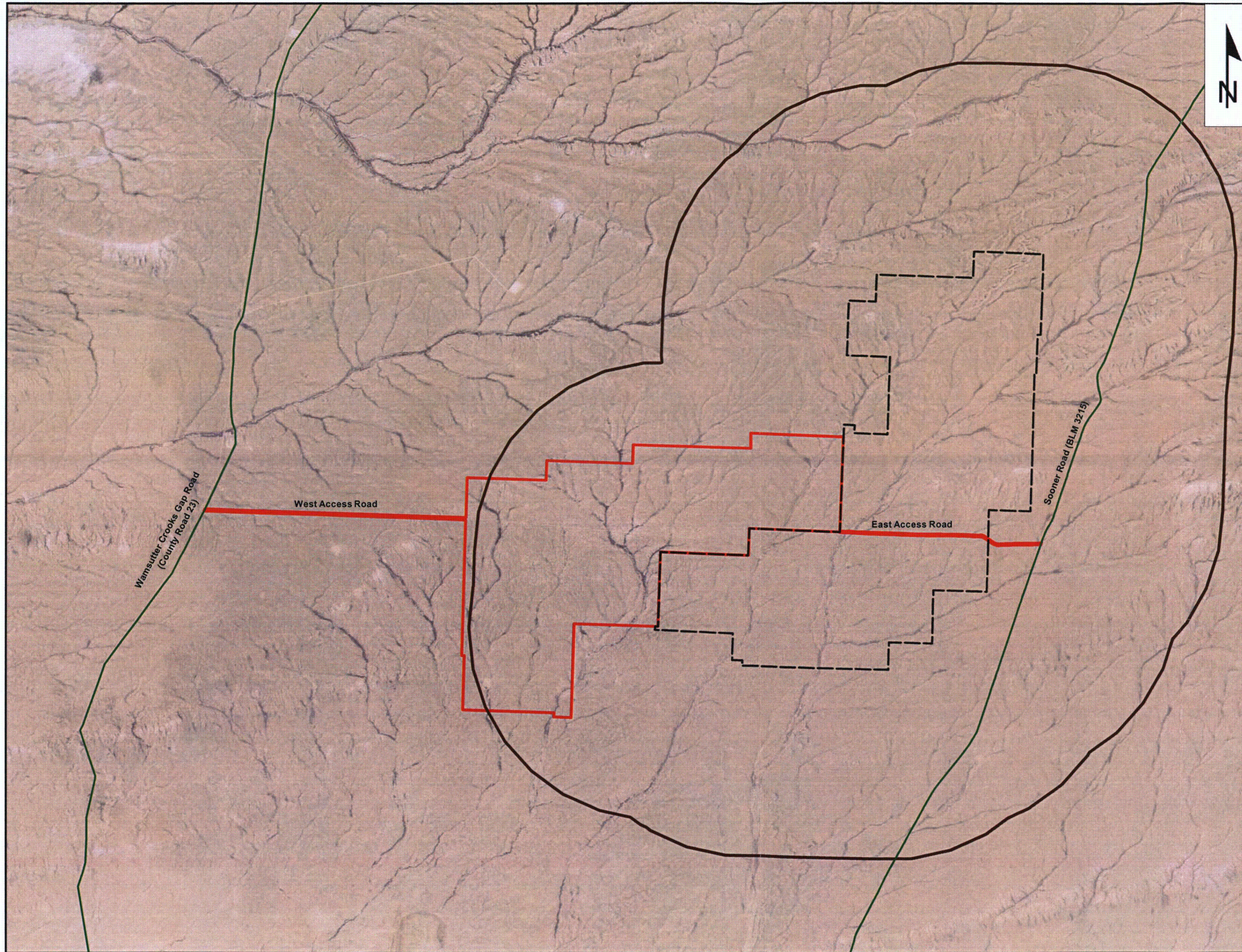
General Location of the LC East
Amendment to Lost Creek
Permit to Mine No. PT788
Sweetwater County, Wyoming

Issued For: WDEQ-LQD 1.0 Drawn By: WB

Issued/Revised: mm/dd/13/

Drawing No.: WDEQ-LQD1.0-D1-1a mm/dd/13-WB





Lost Creek ISR, LLC
Casper, Wyoming USA

Legend

- 2 Mile Buffer Around LC East Amendment To Lost Creek ISR PT0788
- Lost Creek Permit ISR PT0788
- LC East Amendment to Lost Creek Permit ISR PT0788
- County/BLM Road
- Access Road

Figure D1-1b

Aerial Photo of LC East Amendment
to Lost Creek ISR PT0788
NAIP 2012 June

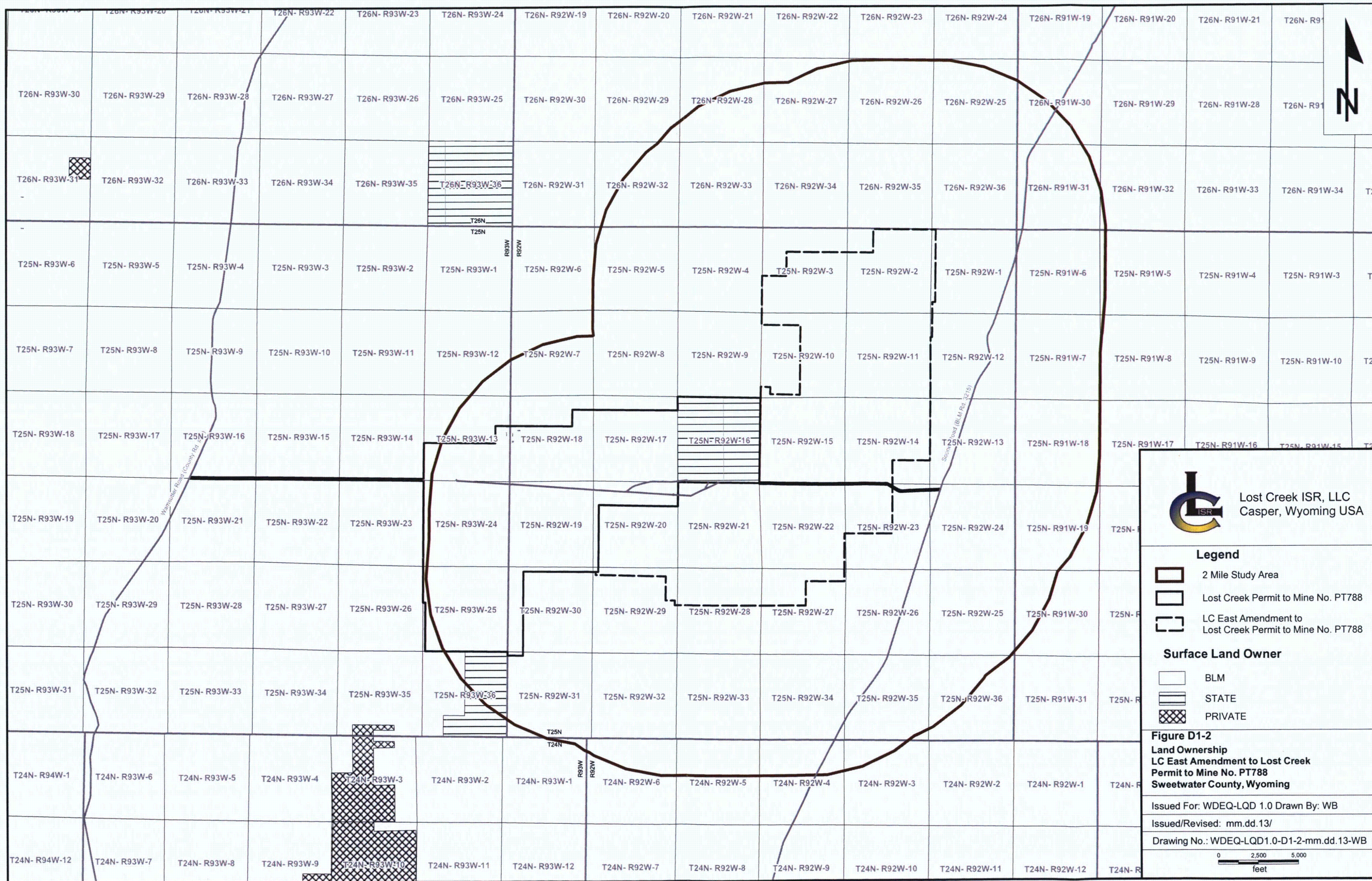
Sweetwater County, Wyoming

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Lost Creek ISR, LLC
Casper, Wyoming USA

Legend

- 2 Mile Study Area
- Lost Creek Permit to Mine No. PT788
- LC East Amendment to Lost Creek Permit to Mine No. PT788

Surface Land Owner

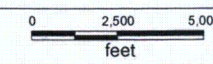
- BLM
- STATE
- PRIVATE

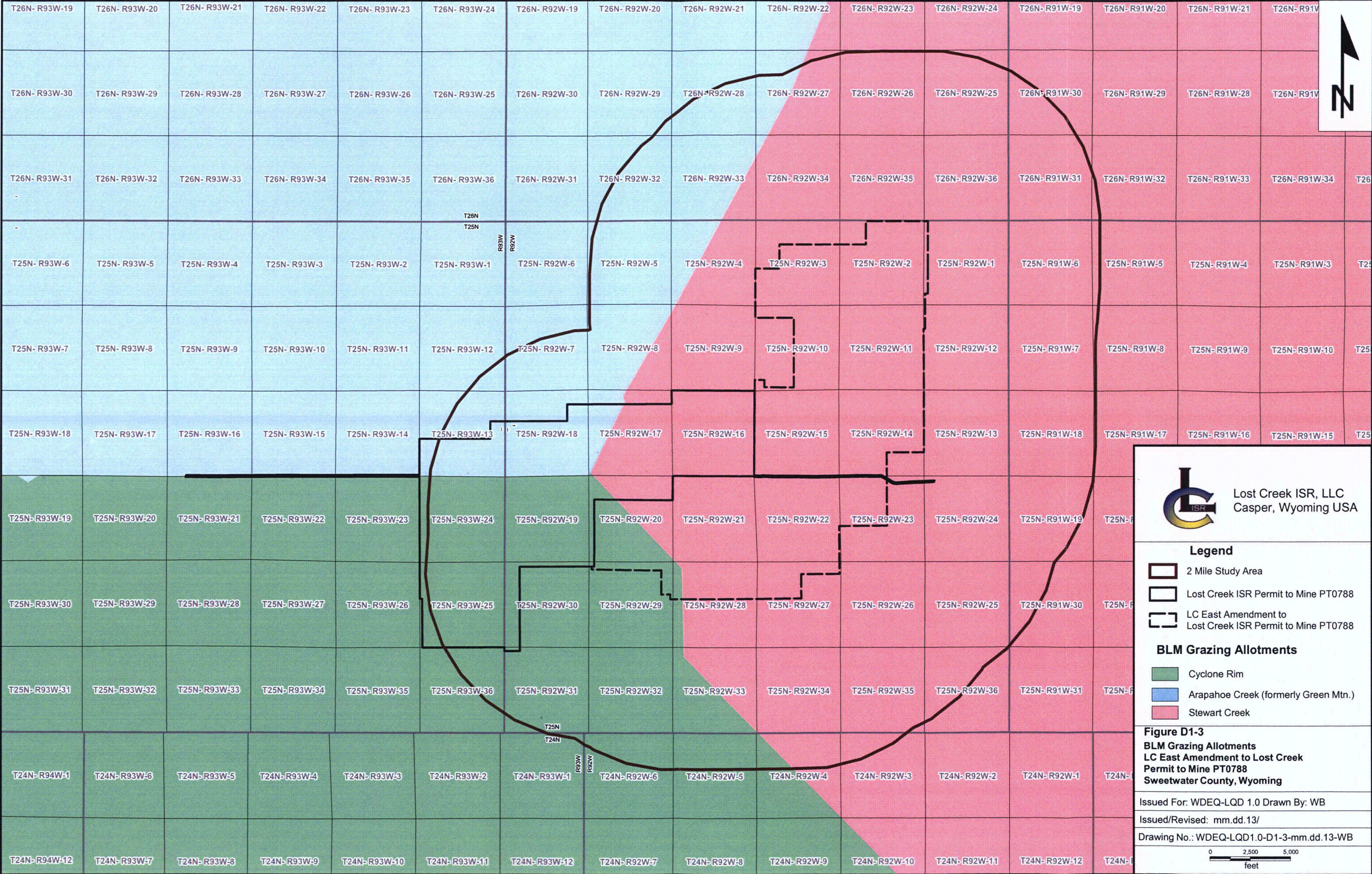
Figure D1-2
Land Ownership
LC East Amendment to Lost Creek
Permit to Mine No. PT788
Sweetwater County, Wyoming

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Lost Creek ISR, LLC
Casper, Wyoming USA

Legend

- 2 Mile Study Area
- Lost Creek ISR Permit to Mine PT0788
- LC East Amendment to Lost Creek ISR Permit to Mine PT0788

BLM Grazing Allotments

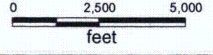
- Cyclone Rim
- Arapahoe Creek (formerly Green Mtn.)
- Stewart Creek

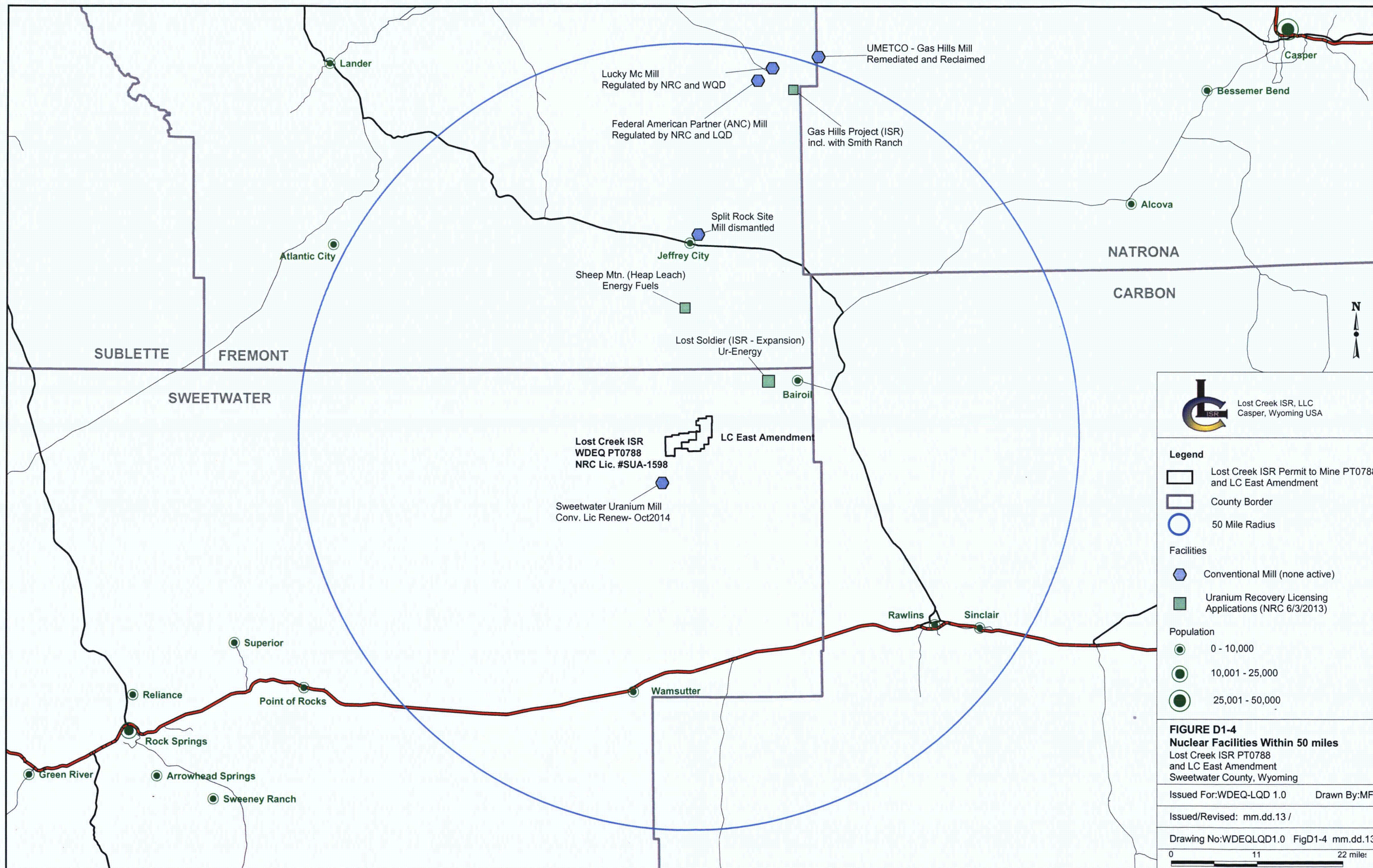
Figure D1-3
BLM Grazing Allotments
LC East Amendment to Lost Creek
Permit to Mine PT0788
Sweetwater County, Wyoming

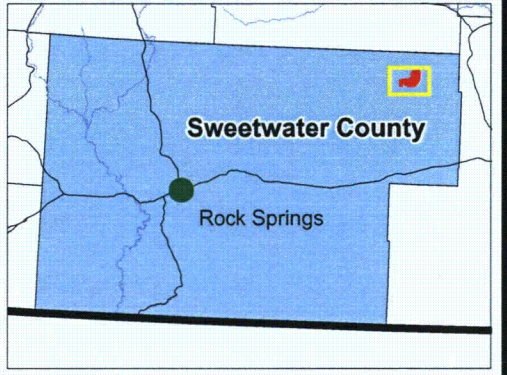
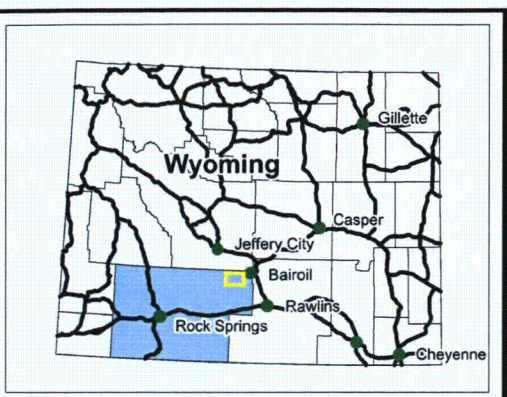
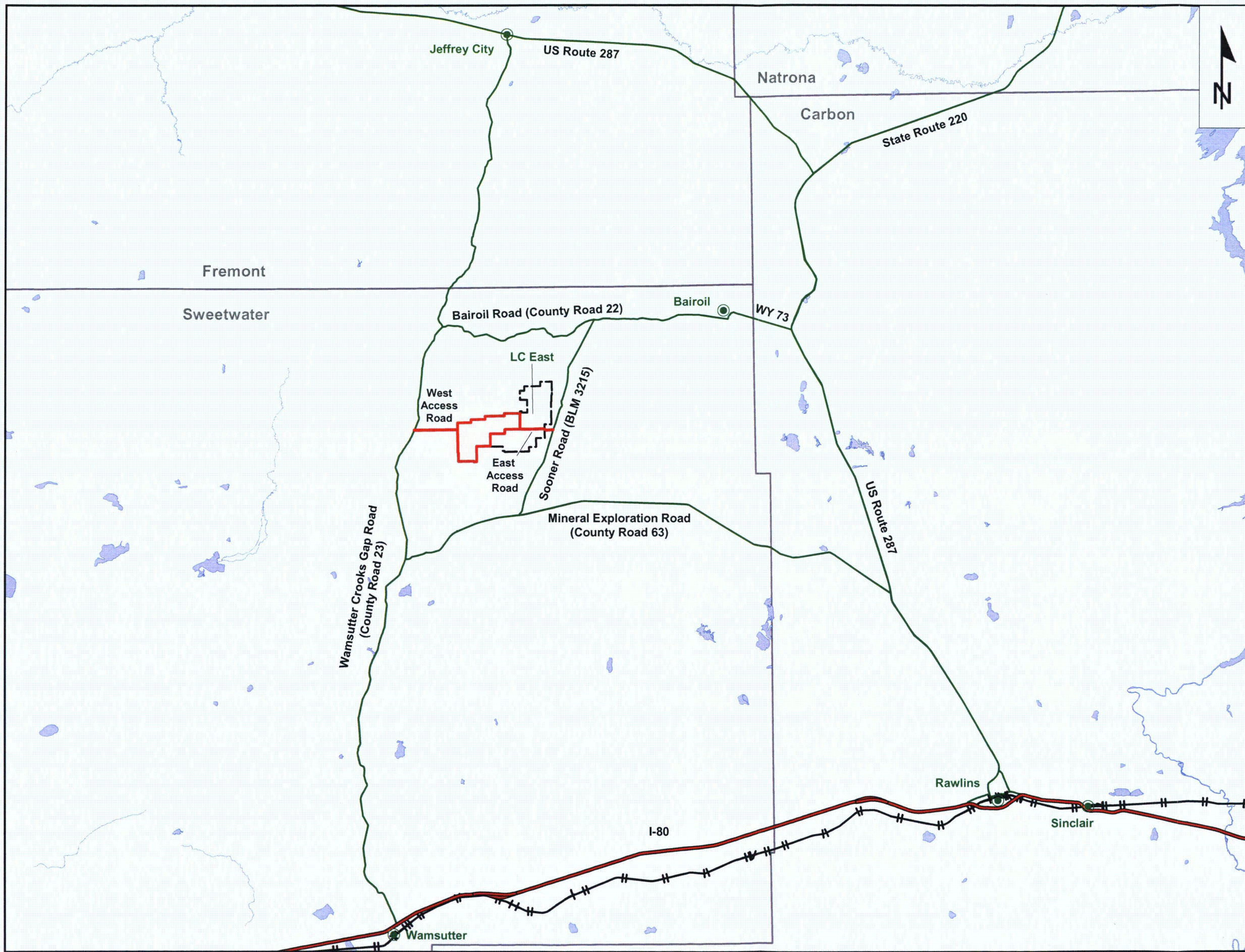
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Lost Creek ISR, LLC
Casper, Wyoming USA

Legend

- Lost Creek ISR PT0788
- LC East Amendment to Lost Creek ISR PT0788
- Town
- Stream
- Lake
- County
- Transportation Corridors**
- Interstate
- County/BLM Road
- Access Road
- Railroad

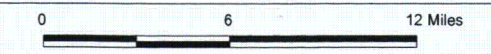
**Figure D1-5
REGIONAL TRANSPORTATION NETWORK
LC EAST AMENDMENT**

Lost Creek ISR PT0788
Sweetwater County, Wyoming

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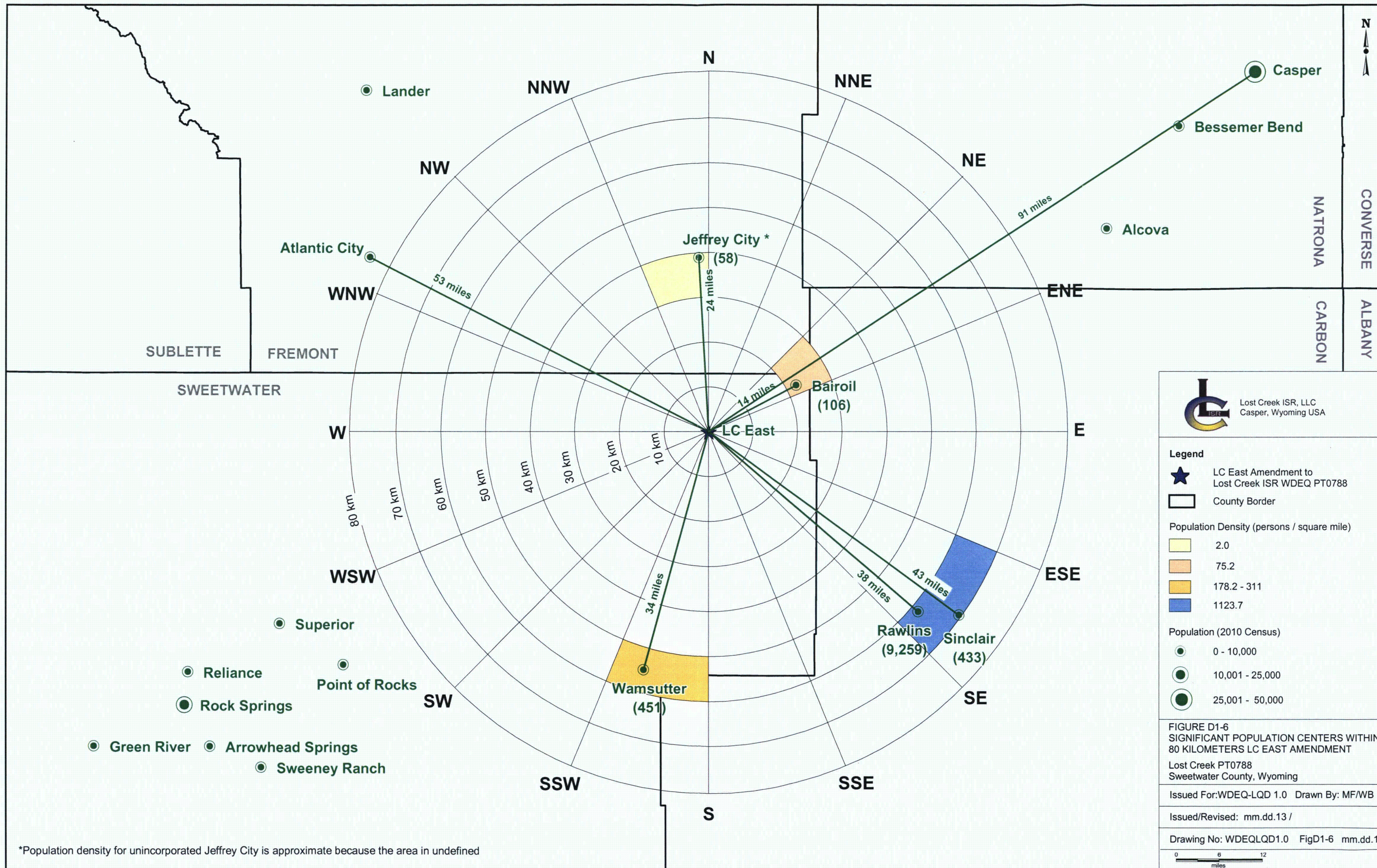




Table D1-1 Hunting Statistics for Hunt Areas that Include the Permit Area*

Game	Hunter Days	Active Licenses	Total Harvest	Hunter Success (percent)	Outfitters	Hunting Area
Antelope	1,141	476	494	103.8	N/A ¹	Chain Lakes
Deer (Mule & White Tailed)	732	185	53	31.4	N/A	Chain Lakes
Elk	664	120	89	74.2	N/A	Shamrock Hills
Mountain Lion	N/A	N/A	0	N/A	N/A	Red Desert

*(Wyoming Game and Fish Department, 2011 Annual Report of Big and Trophy Game Harvest)

¹ N/A = No Data

Table D1-2 Population Data

Location	Population 2010¹
Wyoming	563,626
Sweetwater County	43,806
Bairoil	106
Wamsutter	451
Carbon County	15,885
Rawlins	9,259
Sinclair	433
Other	
Casper	55,316

¹(U.S. Census Bureau, April 1, 2010)

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D2 Brief History 1

D2 BRIEF HISTORY

LC East is a relatively new project drawn in part from two large blocks of claims (RD and PN claims) obtained in 2012, plus some of the New Claims staked in 2011 and 2012 by URE.

Similar to the other projects, the earliest historical ownership within what is now the LC East Project was by Wolf Land and Exploration starting in 1967. In 1969 Conoco entered into a joint venture with Wolf Land and Exploration, with Conoco acting as the operator. The next year Conoco took over the project and continued to explore the area as part of its Project A. In 1978 Texasgulf continued the activity as the operator of Project A in a joint venture with Conoco until 1983. PNC Exploration later acquired some of the ground in 1987 and held it until 2000.

With the resurgence of the uranium industry, High Plains Uranium, Inc. (HPU) and Energy Metals Corp. (EMC) both staked claims within the current Project boundaries in 2004. The HPU controlled claims subsequently went to EMC in 2007 when that company acquired HPU. Later that year EMC was in turn taken over by Uranium One (U1). U1 maintained the claims until they were acquired by URE on February 27, 2012. The land obtained from U1 represents the majority of the new LC East Project.

During 2011-2012, an additional 142 of the New Claims were staked by URE and subsequently joined to the LC East Project to cover prospective areas near and adjacent to the lands acquired from U1.

LC East Exploration Summary

The ground currently designated as the LC East Project has been extensively drilled in the past and can be considered to be in the mid to late exploration in the northern portions to pre-development in the southern portions. The earliest drilling was started in 1967 by Wolf Land and Exploration who was later joined in a joint venture by Conoco in 1969. Also, in 1967 Hecla Mining drilled one exploration hole on what is currently the LC East Project. Conoco took full control of the venture in 1970 and continued to drill the property through 1977 as part of its Project A. By that time approximately 916 exploration holes had been drilled, including 13 core holes. Abundant significant mineral (exceeding URE's definition of "ore-quality": $GT \geq 0.30$, grade $\geq 0.020\%$ eU_3O_8 , had been found and a well-defined mineral trend identified, which is currently referred to as the EMT. Much of the drilling was on 200 foot spacing and in several localities has a spacing of 100 ft. or less. Conoco carried resources on its books for this property; however it is difficult to isolate a precise value which can be allocated to the current LC East Project since their project boundaries did not coincide with URE's currently defined project boundaries.

In 1978 Texasgulf joint ventured with Conoco as the operator on Project A. They continued defining the trend by drilling an additional 126 exploration holes through 1981, including three core holes of very shallow targets (less than 150 feet). Texasgulf discontinued their operations in the Great Divide Basin in 1983. Portions of the current LC East Project were later acquired by PNC Exploration in 1987. In 1990 they drilled 21 holes within the current LC East Project in conjunction with their activities on the Main Mineral Trend in the Lost Creek Project. Since then, no additional exploration drilling activity had been conducted in LC East until activities by URE in 2012. PNC released their property in 2000. Prior to acquisition by URE, a total of 1,064 historical exploration holes for a total of 474,582 ft. of drilling had been drilled within the currently defined LC East Project, including one water well which has since been abandoned. Drilled depths average 446 ft., ranging from 40 ft. to 2,257 ft.

D-3 Archeology

Due to the confidential nature of cultural resources, the results of the Class III archeological survey completed by Centennial Archaeology Inc. in were previously submitted to the Rawlins BLM office for review and are not included in this submittal.

D-4 Meteorology

Please see Section D-4 of the original Lost Creek Permit to Mine Application for a discussion of local meteorological conditions. The meteorological station in Section 18 of Lost Creek is less than five miles from all known resource areas at LC East and with no significant terrain to alter weather is considered representative of both areas.